FRIA Appendix 1: CAFE Data Book

The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule III for Model Years 2022 to 2031 Passenger Cars and Light Trucks

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U.S. Department of Transportation
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NHTSA

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A1. Various Impacts of Alternatives

Table 1 - Impacts for Alt 1, Average SCC

Impacts for Alt 1, Average SCC			
Category	Passenger Car	Light Truck	Combined Fleet
Fuel Economy			
Required Fuel Economy for MY 2031(mpg)	35.9	23.8	31.3
Achieved Fuel Economy for MY 2031 (mpg)	45.2	31.3	40.0
Achieved Fuel Economy for MY 2027 - for reference (mpg)	51.1	38.3	41.1
Average MY 2031 Vehicle - Incremental to Alternative 0 (Baseline)			
Per Vehicle Price Increase (dollars)	-1,375	-1,483	-1,318
Lifetime Fuel Cost (per vehicle), 3% Discount Rate (dollars)	3,703	6,064	1,698
Lifetime Fuel Cost (per vehicle), 7% Discount Rate (dollars)	2,847	4,551	1,319
Payback Period Relative to MY 2027, 3% Discount Rate (years)	-4.0	-4.0	-2.6
Payback Period Relative to MY 2027, 7% Discount Rate (years)	-94.0	-5.0	-26.3
Lifetime of Vehicles Through 2031 - Incremental to Alternative 0 (Baseline)			
Total Lifetime Fuel Volume (billion gallons)	81	-49	33
Fatalities (Including Rebound Miles)	10,373	-11,140	-767
Fatalities (Excluding Rebound Miles)	10,070	-10,326	-257
Total Technology Costs, 3% Discount Rate ($Billions)	-5.4	-47.8	-53.2
Total Technology Costs, 7% Discount Rate ($Billions)	-4.8	-38.8	-43.6
Total Net Societal Benefits, 3% Discount Rate ($Billions)	-801.2	842.9	41.7
Total Net Societal Benefits, 7% Discount Rate ($Billions)	-478.6	515.1	36.6

Table 2 - Impacts for Alt 2, Average SCC

Impacts for Alt 2, Average SCC			
Category	Passenger Car	Light Truck	Combined Fleet
Fuel Economy			
Required Fuel Economy for MY 2031(mpg)	37.0	24.3	32.1
Achieved Fuel Economy for MY 2031 (mpg)	45.2	31.3	40.0
Achieved Fuel Economy for MY 2027 - for reference (mpg)	51.1	38.3	41.2
Average MY 2031 Vehicle - Incremental to Alternative 0 (Baseline)			
Per Vehicle Price Increase (dollars)	-1,371	-1,483	-1,315
Lifetime Fuel Cost (per vehicle), 3% Discount Rate (dollars)	3,693	6,064	1,690
Lifetime Fuel Cost (per vehicle), 7% Discount Rate (dollars)	2,839	4,551	1,313
Payback Period Relative to MY 2027, 3% Discount Rate (years)	-4.0	-4.0	-2.6
Payback Period Relative to MY 2027, 7% Discount Rate (years)	-94.0	-5.0	-26.3
Lifetime of Vehicles Through 2031 - Incremental to Alternative 0 (Baseline)			
Total Lifetime Fuel Volume (billion gallons)	81	-49	33
Fatalities (Including Rebound Miles)	10,374	-11,138	-764
Fatalities (Excluding Rebound Miles)	10,070	-10,326	-256
Total Technology Costs, 3% Discount Rate ($Billions)	-5.3	-47.7	-53.1
Total Technology Costs, 7% Discount Rate ($Billions)	-4.7	-38.8	-43.4
Total Net Societal Benefits, 3% Discount Rate ($Billions)	-801.2	842.8	41.7
Total Net Societal Benefits, 7% Discount Rate ($Billions)	-478.6	515.1	36.5

Table 3 - Impacts for Alt 3, Average SCC

Impacts for Alt 3, Average SCC			
Category	Passenger Car	Light Truck	Combined Fleet
Fuel Economy			
Required Fuel Economy for MY 2031(mpg)	40.2	26.4	34.9
Achieved Fuel Economy for MY 2031 (mpg)	45.5	31.3	40.2
Achieved Fuel Economy for MY 2027 - for reference (mpg)	51.3	38.5	41.3
Average MY 2031 Vehicle - Incremental to Alternative 0 (Baseline)			
Per Vehicle Price Increase (dollars)	-1,335	-1,482	-1,289
Lifetime Fuel Cost (per vehicle), 3% Discount Rate (dollars)	3,600	6,062	1,624
Lifetime Fuel Cost (per vehicle), 7% Discount Rate (dollars)	2,767	4,550	1,261
Payback Period Relative to MY 2027, 3% Discount Rate (years)	-4.0	-4.0	-2.6
Payback Period Relative to MY 2027, 7% Discount Rate (years)	-94.0	-5.0	-26.3
Lifetime of Vehicles Through 2031 - Incremental to Alternative 0 (Baseline)			
Total Lifetime Fuel Volume (billion gallons)	80	-49	31
Fatalities (Including Rebound Miles)	10,386	-11,129	-743
Fatalities (Excluding Rebound Miles)	10,070	-10,329	-259
Total Technology Costs, 3% Discount Rate ($Billions)	-4.7	-47.1	-51.8
Total Technology Costs, 7% Discount Rate ($Billions)	-4.2	-38.2	-42.4
Total Net Societal Benefits, 3% Discount Rate ($Billions)	-801.2	843.0	41.8
Total Net Societal Benefits, 7% Discount Rate ($Billions)	-478.8	515.1	36.3

Table 4 - Impacts for Alt 4, Average SCC

Impacts for Alt 4, Average SCC			
Category	Passenger Car	Light Truck	Combined Fleet
Fuel Economy			
Required Fuel Economy for MY 2031(mpg)	44.9	29.3	38.9
Achieved Fuel Economy for MY 2031 (mpg)	46.7	31.6	41.0
Achieved Fuel Economy for MY 2027 - for reference (mpg)	51.5	39.0	41.8
Average MY 2031 Vehicle - Incremental to Alternative 0 (Baseline)			
Per Vehicle Price Increase (dollars)	-1,143	-1,418	-1,135
Lifetime Fuel Cost (per vehicle), 3% Discount Rate (dollars)	3,273	5,893	1,342
Lifetime Fuel Cost (per vehicle), 7% Discount Rate (dollars)	2,512	4,419	1,042
Payback Period Relative to MY 2027, 3% Discount Rate (years)	-4.0	-3.0	-2.3
Payback Period Relative to MY 2027, 7% Discount Rate (years)	-94.0	-5.0	-26.3
Lifetime of Vehicles Through 2031 - Incremental to Alternative 0 (Baseline)			
Total Lifetime Fuel Volume (billion gallons)	78	-53	25
Fatalities (Including Rebound Miles)	10,452	-11,089	-637
Fatalities (Excluding Rebound Miles)	10,094	-10,337	-244
Total Technology Costs, 3% Discount Rate ($Billions)	-1.4	-43.6	-45.0
Total Technology Costs, 7% Discount Rate ($Billions)	-1.6	-35.2	-36.8
Total Net Societal Benefits, 3% Discount Rate ($Billions)	-804.2	843.2	39.0
Total Net Societal Benefits, 7% Discount Rate ($Billions)	-481.3	514.6	33.2

Table 5 - Impacts for Alt 5, Average SCC

Impacts for Alt 5, Average SCC			
Category	Passenger Car	Light Truck	Combined Fleet
Fuel Economy			
Required Fuel Economy for MY 2031(mpg)	49.9	32.7	43.3
Achieved Fuel Economy for MY 2031 (mpg)	49.8	33.7	43.7
Achieved Fuel Economy for MY 2027 - for reference (mpg)	52.7	39.9	42.7
Average MY 2031 Vehicle - Incremental to Alternative 0 (Baseline)			
Per Vehicle Price Increase (dollars)	-580	-742	-538
Lifetime Fuel Cost (per vehicle), 3% Discount Rate (dollars)	2,482	4,651	422
Lifetime Fuel Cost (per vehicle), 7% Discount Rate (dollars)	1,895	3,467	329
Payback Period Relative to MY 2027, 3% Discount Rate (years)	-3.0	-2.0	-1.3
Payback Period Relative to MY 2027, 7% Discount Rate (years)	-92.0	-4.0	-24.6
Lifetime of Vehicles Through 2031 - Incremental to Alternative 0 (Baseline)			
Total Lifetime Fuel Volume (billion gallons)	70	-63	8
Fatalities (Including Rebound Miles)	10,623	-10,907	-283
Fatalities (Excluding Rebound Miles)	10,145	-10,296	-151
Total Technology Costs, 3% Discount Rate ($Billions)	9.1	-31.4	-22.3
Total Technology Costs, 7% Discount Rate ($Billions)	6.8	-25.1	-18.3
Total Net Societal Benefits, 3% Discount Rate ($Billions)	-812.3	837.2	24.9
Total Net Societal Benefits, 7% Discount Rate ($Billions)	-488.6	508.5	19.9

A2. Required and Achieved CAFE Levels by Manufacturer

Table 6 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Total Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Total Fleet (mpg)												
	BMW				Ferrari				Ford			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	40.7	34.3	40.7	34.3	47.6	21.3	47.6	21.3	34.4	32.2	34.4	32.2
2025	44.0	38.5	44.0	38.5	51.7	21.3	51.7	21.3	37.3	33.5	37.3	33.5
2026	48.7	40.2	48.7	40.2	57.5	21.5	57.5	21.5	41.5	33.5	41.5	33.5
2027	48.9	45.9	33.7	42.6	58.6	21.5	38.4	21.5	41.5	39.4	29.0	37.7
2028	49.1	47.6	33.9	40.6	59.8	22.1	38.7	22.0	41.5	40.6	29.2	35.2
2029	50.0	48.4	34.1	40.6	61.0	22.1	39.1	22.0	42.3	40.6	29.3	35.2
2030	51.0	48.5	35.5	40.6	62.3	23.1	40.0	23.0	43.1	42.9	29.9	36.0
2031	52.0	49.3	35.8	41.0	63.6	24.3	40.4	24.2	44.0	42.5	30.1	36.0

Table 7 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Total Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Total Fleet (mpg)												
	GM				Honda				Hyundai			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	35.9	30.9	35.9	30.9	43.1	42.9	43.1	42.9	41.5	38.0	41.5	38.0
2025	38.8	32.7	38.8	32.7	46.6	44.6	46.6	44.6	45.0	39.7	45.0	39.7
2026	43.0	34.1	43.0	34.1	51.6	46.3	51.6	46.3	49.8	42.7	49.8	42.7
2027	42.9	38.0	29.6	36.1	51.9	46.8	35.4	46.5	50.0	46.5	34.5	43.8
2028	43.0	40.1	29.7	35.0	52.3	52.9	35.6	43.8	50.2	51.4	34.7	41.8
2029	43.8	41.5	29.9	35.3	53.2	55.9	35.8	44.1	51.1	54.2	34.9	41.8
2030	44.6	41.9	30.8	35.3	54.2	57.4	39.4	44.5	52.1	54.1	38.5	41.7
2031	45.4	42.7	31.1	35.5	55.2	57.0	39.8	44.7	53.1	53.6	38.9	41.7

Table 8 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Total Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Total Fleet (mpg)												
	Ineos				JLR				KIA			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	36.6	20.7	36.6	20.7	35.7	28.3	35.7	28.3	41.6	37.0	41.6	37.0
2025	39.7	20.7	39.7	20.7	38.8	30.0	38.8	30.0	45.0	42.2	45.0	42.2
2026	44.1	20.7	44.1	20.7	43.1	32.1	43.1	32.1	49.8	46.8	49.8	46.8
2027	44.1	20.7	31.4	20.7	43.1	34.3	30.4	33.4	49.9	47.2	34.5	46.9
2028	44.1	20.7	31.6	19.9	43.1	34.3	30.6	31.5	50.1	51.4	34.6	45.4
2029	45.0	20.7	31.7	19.9	43.9	37.7	30.7	32.4	51.1	54.1	34.8	45.4
2030	46.0	20.7	29.2	19.9	44.8	37.7	30.1	32.4	52.0	54.0	38.9	45.3
2031	46.9	32.7	29.6	29.6	45.7	40.7	30.4	33.6	53.0	54.0	39.3	45.3

Table 9 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Total Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Total Fleet (mpg)												
	Mazda				Mercedes-Benz				Mitsubishi			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	39.4	37.1	39.4	37.1	39.0	30.7	39.0	30.7	43.9	40.9	43.9	40.9
2025	42.7	37.5	42.7	37.5	42.1	31.3	42.1	31.3	47.4	42.8	47.4	42.8
2026	47.5	37.5	47.5	37.5	46.7	37.8	46.7	37.8	52.6	45.3	52.6	45.3
2027	47.5	45.9	33.7	41.2	46.8	38.8	32.6	38.2	52.6	48.8	36.7	47.0
2028	47.5	45.8	33.9	38.8	47.0	39.3	32.7	36.7	52.7	52.6	36.8	46.3
2029	48.4	48.5	34.1	40.0	47.9	40.3	32.9	37.4	53.7	58.1	37.1	48.6
2030	49.4	48.5	39.7	39.9	48.8	43.2	32.9	38.0	54.8	58.0	42.3	48.5
2031	50.4	52.6	40.1	41.1	49.7	43.5	33.2	38.1	55.8	57.9	42.8	48.4

Table 10 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Total Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Total Fleet (mpg)												
	Nissan				Stellantis				Subaru			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	43.2	39.4	43.2	39.4	34.9	29.3	34.9	29.3	41.5	37.8	41.5	37.8
2025	46.6	41.7	46.6	41.7	37.9	30.0	37.9	30.0	45.0	41.9	45.0	41.9
2026	51.6	43.6	51.6	43.6	42.1	31.0	42.1	31.0	49.9	48.1	49.9	48.1
2027	51.8	49.0	35.2	45.5	42.1	35.6	29.7	33.0	50.0	48.4	35.6	48.4
2028	52.2	50.1	35.3	43.8	42.1	38.4	29.8	31.7	50.0	49.1	35.7	46.1
2029	53.1	54.2	35.6	45.4	42.9	42.3	30.0	33.1	51.0	52.7	35.9	47.7
2030	54.1	56.7	37.5	46.2	43.8	42.3	29.9	33.1	52.0	52.7	41.7	47.7
2031	55.1	56.5	37.8	46.1	44.7	41.9	30.2	33.3	53.1	54.3	42.2	47.7

Table 11 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Total Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Total Fleet (mpg)												
	Toyota				Volvo				VWA			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	39.7	40.2	39.7	40.2	38.5	36.7	38.5	36.7	41.1	34.3	41.1	34.3
2025	42.8	43.1	42.8	43.1	41.7	36.6	41.7	36.6	44.4	38.7	44.4	38.7
2026	47.4	45.4	47.4	45.4	46.3	41.8	46.3	41.8	49.3	39.8	49.3	39.8
2027	47.5	48.5	32.9	46.6	46.4	46.4	32.6	45.0	49.4	47.8	34.3	44.2
2028	47.7	49.6	33.0	43.9	46.5	46.8	32.8	42.0	49.5	50.9	34.5	41.4
2029	48.6	50.6	33.2	44.1	47.4	50.5	32.9	42.9	50.4	50.9	34.7	41.4
2030	49.5	51.2	35.3	44.4	48.2	50.5	37.7	42.9	51.4	50.9	39.3	41.8
2031	50.4	51.2	35.6	44.5	49.1	50.0	38.0	42.9	52.4	50.5	39.6	41.8

Table 12 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Total Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Total Fleet (mpg)		
	Total	
	Alt 0 - No Action	
Model Year	Required	Achieved
2024	38.8	35.4
2025	41.9	37.5
2026	46.5	39.3
2027	46.5	43.3
2028	46.6	45.5
2029	47.5	47.4
2030	48.4	48.2
2031	49.3	48.4

Table 13 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Passenger Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Passenger Car Fleet (mpg)												
	BMW				Ferrari				Ford			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	47.6	35.8	47.6	35.8	47.6	21.3	47.6	21.3	48.8	34.3	48.8	34.3
2025	51.7	40.3	51.7	40.3	51.7	21.3	51.7	21.3	53.0	34.3	53.0	34.3
2026	57.4	44.5	57.4	44.5	57.5	21.5	57.5	21.5	58.9	34.3	58.9	34.3
2027	58.6	45.3	38.2	44.9	58.6	21.5	38.4	21.5	60.1	40.0	38.9	40.0
2028	59.8	49.6	38.5	45.0	59.8	22.1	38.7	22.0	61.4	40.0	39.3	38.1
2029	61.0	49.6	38.8	45.0	61.0	22.1	39.1	22.0	62.6	40.0	39.6	38.1
2030	62.3	49.7	38.9	42.8	62.3	23.1	40.0	23.0	63.9	40.0	39.5	41.3
2031	63.6	52.8	39.3	43.5	63.6	24.3	40.4	24.2	65.2	40.0	39.9	41.3

Table 14 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Passenger Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Passenger Car Fleet (mpg)												
	GM				Honda				Hyundai			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	49.5	40.4	49.5	40.4	49.1	48.4	49.1	48.4	48.6	42.6	48.6	42.6
2025	53.8	43.9	53.8	43.9	53.4	48.8	53.4	48.8	52.9	44.1	52.9	44.1
2026	59.8	49.9	59.8	49.9	59.3	50.5	59.3	50.5	58.7	44.7	58.7	44.7
2027	61.0	52.8	39.3	51.4	60.5	51.2	39.1	50.5	59.9	55.6	38.8	47.1
2028	62.3	52.8	39.7	48.1	61.7	61.1	39.5	47.4	61.2	62.1	39.1	46.0
2029	63.5	61.0	40.1	49.8	63.0	70.3	39.8	48.2	62.4	65.4	39.5	46.1
2030	64.8	61.0	40.1	46.3	64.3	70.3	40.0	44.9	63.7	65.4	39.3	42.3
2031	66.1	61.0	40.5	46.5	65.6	70.3	40.4	45.1	65.0	65.4	39.7	42.3

Table 15 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Passenger Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Passenger Car Fleet (mpg)												
	Ineos				JLR				KIA			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	0.0	0.0	0.0	0.0	47.4	29.4	47.4	29.4	49.7	44.4	49.7	44.4
2025	0.0	0.0	0.0	0.0	51.5	29.4	51.5	29.4	54.0	50.5	54.0	50.5
2026	0.0	0.0	0.0	0.0	57.2	44.8	57.2	44.8	60.0	53.8	60.0	53.8
2027	0.0	0.0	0.0	0.0	58.4	44.8	38.1	44.8	61.3	56.0	39.5	54.9
2028	0.0	0.0	0.0	0.0	59.6	44.8	38.4	42.6	62.5	58.6	39.8	52.8
2029	0.0	0.0	0.0	0.0	60.8	44.8	38.8	42.6	63.8	69.4	40.2	52.8
2030	0.0	0.0	0.0	0.0	62.0	44.8	38.9	40.1	65.1	69.4	38.9	45.3
2031	0.0	0.0	0.0	0.0	63.3	44.8	39.3	40.1	66.4	69.4	39.3	45.3

Table 16 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Passenger Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Passenger Car Fleet (mpg)												
	Mazda				Mercedes-Benz				Mitsubishi			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	50.7	41.4	50.7	41.4	46.1	35.1	46.1	35.1	55.4	55.3	55.4	55.3
2025	55.1	41.4	55.1	41.4	50.1	36.3	50.1	36.3	60.2	55.3	60.2	55.3
2026	61.2	41.4	61.2	41.4	55.7	37.7	55.7	37.7	66.9	79.6	66.9	79.6
2027	62.4	66.5	39.8	48.1	56.8	39.6	37.4	38.8	68.3	80.0	41.4	79.8
2028	63.7	66.5	40.2	46.1	58.0	41.3	37.8	38.7	69.7	80.1	41.8	76.9
2029	65.0	66.5	40.5	46.1	59.2	44.8	38.1	41.2	71.1	80.1	42.2	76.9
2030	66.3	66.5	39.7	39.9	60.4	47.5	38.4	38.8	72.6	80.1	42.3	48.5
2031	67.7	66.5	40.1	41.1	61.6	48.9	38.8	39.1	74.0	80.1	42.8	48.4

Table 17 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Passenger Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Passenger Car Fleet (mpg)												
	Nissan				Stellantis				Subaru			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	49.6	46.1	49.6	46.1	50.5	40.5	50.5	40.5	50.5	37.4	50.5	37.4
2025	53.9	50.0	53.9	50.0	54.9	41.0	54.9	41.0	54.9	38.3	54.9	38.3
2026	59.9	53.0	59.9	53.0	61.0	41.0	61.0	41.0	61.0	43.7	61.0	43.7
2027	61.1	62.6	39.4	56.1	62.3	47.4	40.0	46.9	62.2	45.7	39.9	45.6
2028	62.3	66.4	39.7	56.1	63.5	47.4	40.3	44.5	63.5	45.7	40.3	43.9
2029	63.6	66.4	40.1	56.1	64.8	47.4	40.7	44.5	64.8	62.7	40.7	47.5
2030	64.9	66.4	40.2	49.9	66.2	47.9	37.2	37.6	66.1	62.7	41.7	47.7
2031	66.2	66.5	40.6	49.8	67.5	47.9	37.6	37.6	67.5	62.7	42.2	47.7

Table 18 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Passenger Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Passenger Car Fleet (mpg)												
	Toyota				Volvo				VWA			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	49.3	47.8	49.3	47.8	46.8	38.9	46.8	38.9	50.2	37.6	50.2	37.6
2025	53.6	51.8	53.6	51.8	50.9	38.9	50.9	38.9	54.6	41.7	54.6	41.7
2026	59.5	55.4	59.5	55.4	56.6	49.4	56.6	49.4	60.6	42.8	60.6	42.8
2027	60.7	66.0	39.3	58.0	57.8	50.5	37.7	50.5	61.9	47.5	39.7	46.1
2028	62.0	67.6	39.6	55.2	59.0	53.5	38.1	49.7	63.1	55.7	40.0	44.7
2029	63.3	68.6	40.0	55.5	60.2	53.5	38.4	49.7	64.3	55.7	40.4	44.7
2030	64.6	69.9	39.8	51.8	61.4	53.5	37.7	42.9	65.7	55.7	40.1	42.5
2031	65.9	71.2	40.2	52.1	62.6	53.5	38.0	42.9	67.0	56.2	40.5	42.5

Table 19 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Passenger Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Passenger Car Fleet (mpg)		
	Total	
	Alt 0 - No Action	
Model Year	Required	Achieved
2024	49.3	43.2
2025	53.6	46.1
2026	59.5	49.2
2027	60.7	54.5
2028	62.0	58.3
2029	63.2	62.8
2030	64.5	63.1
2031	65.8	63.6

Table 20 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Light Truck Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Light Truck Fleet (mpg)												
	BMW				Ferrari				Ford			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	36.4	33.1	36.4	33.1	0.0	0.0	0.0	0.0	33.4	32.0	33.4	32.0
2025	39.6	37.3	39.6	37.3	0.0	0.0	0.0	0.0	36.3	33.4	36.3	33.4
2026	43.9	37.6	43.9	37.6	0.0	0.0	0.0	0.0	40.4	33.4	40.4	33.4
2027	43.9	46.3	31.2	41.1	0.0	0.0	0.0	0.0	40.4	39.3	28.4	37.5
2028	43.9	46.4	31.4	38.1	0.0	0.0	0.0	0.0	40.4	40.6	28.6	35.0
2029	44.8	47.7	31.6	38.2	0.0	0.0	0.0	0.0	41.2	40.6	28.7	35.0
2030	45.8	47.8	28.2	35.3	0.0	0.0	0.0	0.0	42.0	43.1	26.0	33.3
2031	46.7	47.3	28.5	35.3	0.0	0.0	0.0	0.0	42.9	42.7	26.2	33.3

Table 21 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Light Truck Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Light Truck Fleet (mpg)												
	GM				Honda				Hyundai			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	32.1	28.1	32.1	28.1	37.4	37.6	37.4	37.6	37.4	35.1	37.4	35.1
2025	34.9	29.7	34.9	29.7	40.7	40.6	40.7	40.6	40.7	37.1	40.7	37.1
2026	38.8	30.4	38.8	30.4	45.2	42.4	45.2	42.4	45.2	41.5	45.2	41.5
2027	38.8	34.5	27.2	32.6	45.2	43.0	32.2	42.9	45.2	42.1	32.3	42.0
2028	38.8	37.0	27.3	32.0	45.2	46.5	32.4	40.6	45.2	46.4	32.4	39.6
2029	39.6	37.4	27.5	32.1	46.1	46.5	32.6	40.6	46.1	49.1	32.6	39.6
2030	40.4	38.0	24.8	28.3	47.1	48.8	27.1	35.7	47.1	49.1	28.8	34.4
2031	41.2	38.9	25.1	28.6	48.0	48.3	27.4	35.7	48.1	48.6	29.1	34.4

Table 22 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Light Truck Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Light Truck Fleet (mpg)												
	Ineos				JLR				KIA			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	36.6	20.7	36.6	20.7	35.3	28.3	35.3	28.3	37.0	32.9	37.0	32.9
2025	39.7	20.7	39.7	20.7	38.4	30.0	38.4	30.0	40.3	37.9	40.3	37.9
2026	44.1	20.7	44.1	20.7	42.7	31.7	42.7	31.7	44.7	43.0	44.7	43.0
2027	44.1	20.7	31.4	20.7	42.7	34.0	30.2	33.1	44.7	43.0	31.9	43.0
2028	44.1	20.7	31.6	19.9	42.7	34.0	30.4	31.2	44.7	47.8	32.0	41.8
2029	45.0	20.7	31.7	19.9	43.5	37.5	30.5	32.1	45.7	47.8	32.2	41.8
2030	46.0	20.7	29.2	19.9	44.4	37.5	28.0	30.4	46.6	47.8	0.0	0.0
2031	46.9	32.7	29.6	29.6	45.3	40.6	28.3	31.8	47.5	47.9	0.0	0.0

Table 23 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Light Truck Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Light Truck Fleet (mpg)												
	Mazda				Mercedes-Benz				Mitsubishi			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	38.5	36.7	38.5	36.7	35.8	28.6	35.8	28.6	40.8	37.3	40.8	37.3
2025	41.8	37.2	41.8	37.2	38.9	29.2	38.9	29.2	44.3	39.8	44.3	39.8
2026	46.5	37.2	46.5	37.2	43.2	37.8	43.2	37.8	49.2	39.8	49.2	39.8
2027	46.5	44.6	33.2	40.7	43.2	38.5	30.7	37.9	49.2	43.6	35.5	41.8
2028	46.5	44.6	33.4	38.3	43.2	38.5	30.8	35.9	49.2	47.7	35.6	41.4
2029	47.4	47.4	33.6	39.5	44.1	38.5	31.0	35.9	50.2	53.8	35.8	43.9
2030	48.4	47.4	0.0	0.0	45.0	41.6	28.3	37.1	51.3	53.8	0.0	0.0
2031	49.4	51.7	0.0	0.0	45.9	41.6	28.6	37.1	52.3	53.8	0.0	0.0

Table 24 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Light Truck Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Light Truck Fleet (mpg)												
	Nissan				Stellantis				Subaru			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	36.2	32.4	36.2	32.4	34.5	29.0	34.5	29.0	40.4	37.9	40.4	37.9
2025	39.4	34.0	39.4	34.0	37.5	29.8	37.5	29.8	43.9	42.5	43.9	42.5
2026	43.7	35.4	43.7	35.4	41.7	30.8	41.7	30.8	48.7	48.8	48.7	48.8
2027	43.7	38.7	31.1	36.9	41.7	35.4	29.5	32.7	48.7	48.8	35.1	48.8
2028	43.7	38.7	31.2	34.7	41.7	38.2	29.6	31.5	48.7	49.6	35.2	46.4
2029	44.6	44.6	31.4	37.2	42.5	42.2	29.8	32.9	49.7	51.7	35.4	47.7
2030	45.5	48.7	27.5	33.0	43.4	42.2	27.3	31.3	50.7	51.7	0.0	0.0
2031	46.5	48.4	27.8	33.0	44.3	41.8	27.6	31.6	51.8	53.5	0.0	0.0

Table 25 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Light Truck Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Light Truck Fleet (mpg)												
	Toyota				Volvo				VWA			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	35.7	36.9	35.7	36.9	37.0	36.2	37.0	36.2	37.8	32.9	37.8	32.9
2025	38.8	39.7	38.8	39.7	40.2	36.2	40.2	36.2	41.1	37.5	41.1	37.5
2026	43.1	41.7	43.1	41.7	44.7	40.5	44.7	40.5	45.7	38.7	45.7	38.7
2027	43.1	43.1	30.6	42.7	44.7	45.7	31.8	44.1	45.7	48.0	32.6	43.5
2028	43.1	44.2	30.7	40.2	44.7	45.7	32.0	40.8	45.7	49.3	32.8	40.3
2029	44.0	45.3	30.9	40.4	45.6	50.0	32.1	41.9	46.6	49.3	33.0	40.3
2030	44.9	45.9	26.2	30.9	46.5	50.0	0.0	0.0	47.6	49.3	28.9	32.6
2031	45.8	45.8	26.5	31.0	47.4	49.5	0.0	0.0	48.6	48.8	29.2	32.6

Table 26 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Light Truck Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Light Truck Fleet (mpg)		
	Total	
	Alt 0 - No Action	
Model Year	Required	Achieved
2024	35.4	32.7
2025	38.4	34.8
2026	42.7	36.3
2027	42.7	40.2
2028	42.7	42.1
2029	43.6	43.5
2030	44.5	44.5
2031	45.4	44.8

Table 27 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Domestic Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Domestic Car Fleet (mpg)												
	BMW				Ferrari				Ford			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.8	34.3	48.8	34.3
2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.0	34.3	53.0	34.3
2026	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.9	34.3	58.9	34.3
2027	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.1	40.0	38.9	40.0
2028	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	61.4	40.0	39.3	38.1
2029	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.6	40.0	39.6	38.1
2030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.9	40.0	42.0	42.9
2031	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	65.2	40.0	42.4	43.0

Table 28 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Domestic Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Domestic Car Fleet (mpg)												
	GM				Honda				Hyundai			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	48.4	37.0	48.4	37.0	49.1	48.4	49.1	48.4	0.0	0.0	0.0	0.0
2025	52.6	43.3	52.6	43.3	53.4	48.8	53.4	48.8	0.0	0.0	0.0	0.0
2026	58.5	51.4	58.5	51.4	59.3	50.5	59.3	50.5	0.0	0.0	0.0	0.0
2027	59.7	51.4	38.7	51.4	60.5	51.2	39.1	50.5	0.0	0.0	0.0	0.0
2028	60.9	51.4	39.1	48.1	61.7	61.1	39.5	47.4	0.0	0.0	0.0	0.0
2029	62.1	55.8	39.4	51.4	63.0	70.3	39.8	48.2	0.0	0.0	0.0	0.0
2030	63.4	55.8	39.1	45.0	64.3	70.3	40.0	44.9	0.0	0.0	0.0	0.0
2031	64.7	55.8	39.4	45.2	65.6	70.3	40.4	45.1	0.0	0.0	0.0	0.0

Table 29 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Domestic Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Domestic Car Fleet (mpg)												
	Ineos				JLR				KIA			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.6	46.0	50.6	46.0
2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.0	46.0	55.0	46.0
2026	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	61.1	46.0	61.1	46.0
2027	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.4	50.2	40.0	48.1
2028	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.6	50.2	40.4	46.2
2029	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	64.9	76.3	40.7	46.2
2030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.2	76.3	42.6	46.2
2031	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	67.6	76.3	43.0	46.2

Table 30 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Domestic Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Domestic Car Fleet (mpg)												
	Mazda				Mercedes-Benz				Mitsubishi			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2026	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2027	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2028	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2029	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2031	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 31 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Domestic Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Domestic Car Fleet (mpg)												
	Nissan				Stellantis				Subaru			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	49.6	46.6	49.6	46.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	53.9	51.5	53.9	51.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2026	59.9	54.7	59.9	54.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2027	61.1	63.8	39.4	58.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2028	62.3	68.6	39.7	58.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2029	63.6	68.6	40.1	58.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2030	64.9	68.6	39.8	52.3	0.0	0.0	36.6	37.0	0.0	0.0	0.0	0.0
2031	66.2	68.7	40.2	52.2	0.0	0.0	37.0	37.0	0.0	0.0	0.0	0.0

Table 32 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Domestic Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Domestic Car Fleet (mpg)												
	Toyota				Volvo				VWA			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	47.7	44.2	47.7	44.2	46.6	41.4	46.6	41.4	44.3	30.7	44.3	30.7
2025	51.8	62.7	51.8	62.7	50.7	41.4	50.7	41.4	48.1	30.7	48.1	30.7
2026	57.6	62.7	57.6	62.7	56.3	56.9	56.3	56.9	53.5	30.7	53.5	30.7
2027	58.8	62.7	38.3	62.7	57.5	56.9	37.6	56.9	54.2	46.9	36.1	44.1
2028	60.0	62.8	38.6	59.1	58.7	56.9	38.0	53.3	55.5	46.9	36.4	42.2
2029	61.2	62.8	39.0	59.1	59.9	56.9	38.3	53.3	56.4	46.9	36.7	42.2
2030	62.4	62.8	38.8	50.1	61.1	56.9	39.0	53.3	57.5	46.9	36.6	37.4
2031	63.7	66.0	39.2	51.6	62.3	56.9	39.4	53.3	58.7	46.9	36.9	37.4

Table 33 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Domestic Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Domestic Car Fleet (mpg)		
	Total	
	Alt 0 - No Action	
Model Year	Required	Achieved
2024	49.0	43.5
2025	53.2	47.2
2026	59.1	50.1
2027	60.3	53.3
2028	61.5	57.5
2029	62.8	62.8
2030	64.1	62.8
2031	65.4	63.1

Table 34 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Imported Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Imported Car Fleet (mpg)												
	BMW				Ferrari				Ford			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	47.6	35.8	47.6	35.8	47.6	21.3	47.6	21.3	0.0	0.0	0.0	0.0
2025	51.7	40.3	51.7	40.3	51.7	21.3	51.7	21.3	0.0	0.0	0.0	0.0
2026	57.4	44.5	57.4	44.5	57.5	21.5	57.5	21.5	0.0	0.0	0.0	0.0
2027	58.6	45.3	38.2	44.9	58.6	21.5	38.4	21.5	0.0	0.0	0.0	0.0
2028	59.8	49.6	38.5	45.0	59.8	22.1	38.7	22.0	0.0	0.0	0.0	0.0
2029	61.0	49.6	38.8	45.0	61.0	22.1	39.1	22.0	0.0	0.0	0.0	0.0
2030	62.3	49.7	38.9	42.8	62.3	23.1	40.0	23.0	0.0	0.0	37.5	40.0
2031	63.6	52.8	39.3	43.5	63.6	24.3	40.4	24.2	0.0	0.0	37.9	40.0

Table 35 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Imported Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Imported Car Fleet (mpg)												
	GM				Honda				Hyundai			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	50.6	44.5	50.6	44.5	0.0	0.0	0.0	0.0	48.6	42.6	48.6	42.6
2025	55.0	44.5	55.0	44.5	0.0	0.0	0.0	0.0	52.9	44.1	52.9	44.1
2026	61.2	48.5	61.2	48.5	0.0	0.0	0.0	0.0	58.7	44.7	58.7	44.7
2027	62.4	54.4	40.0	51.4	0.0	0.0	0.0	0.0	59.9	55.6	38.8	47.1
2028	63.7	54.4	40.4	48.1	0.0	0.0	0.0	0.0	61.2	62.1	39.1	46.0
2029	65.0	67.3	40.8	48.3	0.0	0.0	0.0	0.0	62.4	65.4	39.5	46.1
2030	66.3	67.3	42.3	49.1	0.0	0.0	0.0	0.0	63.7	65.4	39.3	42.3
2031	67.6	67.4	42.8	49.1	0.0	0.0	0.0	0.0	65.0	65.4	39.7	42.3

Table 36 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Imported Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Imported Car Fleet (mpg)												
	Ineos				JLR				KIA			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	0.0	0.0	0.0	0.0	47.4	29.4	47.4	29.4	49.2	43.4	49.2	43.4
2025	0.0	0.0	0.0	0.0	51.5	29.4	51.5	29.4	53.4	53.8	53.4	53.8
2026	0.0	0.0	0.0	0.0	57.2	44.8	57.2	44.8	59.4	60.3	59.4	60.3
2027	0.0	0.0	0.0	0.0	58.4	44.8	38.1	44.8	60.6	60.3	39.2	60.3
2028	0.0	0.0	0.0	0.0	59.6	44.8	38.4	42.6	61.8	65.4	39.5	58.0
2029	0.0	0.0	0.0	0.0	60.8	44.8	38.8	42.6	63.1	65.7	39.9	58.0
2030	0.0	0.0	0.0	0.0	62.0	44.8	38.9	40.1	64.4	65.7	38.4	45.2
2031	0.0	0.0	0.0	0.0	63.3	44.8	39.3	40.1	65.7	65.7	38.8	45.1

Table 37 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Imported Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Imported Car Fleet (mpg)												
	Mazda				Mercedes-Benz				Mitsubishi			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	50.7	41.4	50.7	41.4	46.1	35.1	46.1	35.1	55.4	55.3	55.4	55.3
2025	55.1	41.4	55.1	41.4	50.1	36.3	50.1	36.3	60.2	55.3	60.2	55.3
2026	61.2	41.4	61.2	41.4	55.7	37.7	55.7	37.7	66.9	79.6	66.9	79.6
2027	62.4	66.5	39.8	48.1	56.8	39.6	37.4	38.8	68.3	80.0	41.4	79.8
2028	63.7	66.5	40.2	46.1	58.0	41.3	37.8	38.7	69.7	80.1	41.8	76.9
2029	65.0	66.5	40.5	46.1	59.2	44.8	38.1	41.2	71.1	80.1	42.2	76.9
2030	66.3	66.5	39.7	39.9	60.4	47.5	38.4	38.8	72.6	80.1	42.3	48.5
2031	67.7	66.5	40.1	41.1	61.6	48.9	38.8	39.1	74.0	80.1	42.8	48.4

Table 38 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Imported Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Imported Car Fleet (mpg)												
	Nissan				Stellantis				Subaru			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	49.6	43.6	49.6	43.6	50.5	40.5	50.5	40.5	50.5	37.4	50.5	37.4
2025	54.0	43.6	54.0	43.6	54.9	41.0	54.9	41.0	54.9	38.3	54.9	38.3
2026	60.0	45.7	60.0	45.7	61.0	41.0	61.0	41.0	61.0	43.7	61.0	43.7
2027	61.2	57.0	39.4	48.0	62.3	47.4	40.0	46.9	62.2	45.7	39.9	45.6
2028	62.4	57.2	39.8	46.0	63.5	47.4	40.3	44.5	63.5	45.7	40.3	43.9
2029	63.7	57.2	40.2	46.0	64.8	47.4	40.7	44.5	64.8	62.7	40.7	47.5
2030	65.0	57.2	41.1	45.3	66.2	47.9	41.3	41.7	66.1	62.7	41.7	47.7
2031	66.3	57.2	41.6	45.3	67.5	47.9	41.7	41.7	67.5	62.7	42.2	47.7

Table 39 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Imported Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Imported Car Fleet (mpg)												
	Toyota				Volvo				VWA			
	Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3		Alt 0 - No Action		Alt 3	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2024	49.7	48.7	49.7	48.7	47.8	31.7	47.8	31.7	50.7	38.2	50.7	38.2
2025	54.0	49.8	54.0	49.8	51.9	31.7	51.9	31.7	55.1	42.8	55.1	42.8
2026	60.0	53.9	60.0	53.9	57.7	32.9	57.7	32.9	61.2	44.1	61.2	44.1
2027	61.2	66.8	39.5	57.0	58.8	35.4	38.3	35.4	62.5	47.5	40.0	46.3
2028	62.5	68.8	39.8	54.4	60.0	43.6	38.7	39.7	63.7	56.5	40.3	44.9
2029	63.8	70.1	40.2	54.7	61.3	43.6	39.0	39.7	65.0	56.5	40.7	44.9
2030	65.1	71.8	39.9	52.0	62.5	43.6	37.5	41.8	66.4	56.5	41.5	44.5
2031	66.4	72.5	40.3	52.1	63.8	43.6	37.8	41.8	67.7	57.0	41.9	44.6

Table 40 - Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Imported Car Fleet (mpg)

Comparison of Alt 0 - No Action and Alt 3 Required and Achieved CAFE Levels in MYs 2024-2031 for the Imported Car Fleet (mpg)		
	Total	
	Alt 0 - No Action	
Model Year	Required	Achieved
2024	49.5	43.0
2025	53.9	45.2
2026	59.8	48.4
2027	61.0	55.6
2028	62.3	58.9
2029	63.6	62.7
2030	64.9	63.4
2031	66.2	64.0

A3. Incremental Benefits and Costs

Table 41 - Incremental Benefits and Costs Over the Lifetimes of Total Fleet Produced Through 2031 (2024$ BILLIONS), 3% Percent Discount Rate, by Alternative, Average SCC

Incremental Benefits and Costs Over the Lifetimes of Total Fleet Produced Through 2031 (2024$ BILLIONS), 3% Percent					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Private Costs					
Technology Costs to Increase Fuel Economy	-53.2	-53.1	-51.8	-45.0	-22.3
Sacrifice in Other Vehicle Attributes	-31.0	-30.8	-29.3	-23.5	-7.4
Consumer Surplus Loss from Reduced New Vehicle Sales	-0.1	-0.1	-0.1	-0.1	0.0
Safety Costs Internalized by Drivers	-22.1	-22.0	-20.9	-17.0	-5.7
Subtotal - Incremental Private Costs	-106.4	-106.0	-102.1	-85.6	-35.4
External Costs					
Congestion and Noise Costs from Rebound-Effect Driving	-11.9	-11.8	-11.4	-9.4	-3.7
Safety Costs Not Internalized by Drivers	-13.0	-12.9	-12.9	-11.9	-7.0
Loss in Fuel Tax Revenue	-11.8	-11.8	-11.2	-8.9	-2.8
Subtotal - Incremental External Costs	-36.6	-36.5	-35.5	-30.3	-13.4
Total Incremental Social Costs	-143.1	-142.5	-137.5	-115.9	-48.8
Private Benefits					
Reduced Fuel Costs	-64.2	-63.9	-60.6	-48.6	-14.9
Benefits from Additional Driving	-29.6	-29.4	-28.0	-22.6	-7.4
Less Frequent Refueling	-3.9	-3.9	-3.7	-2.9	-0.9
Subtotal - Incremental Private Benefits	-97.7	-97.2	-92.3	-74.2	-23.2
External Benefits					
Reduction in Petroleum Market Externality	-2.8	-2.8	-2.6	-2.1	-0.7
Reduced Health Damages	-0.9	-0.9	-0.8	-0.6	-0.1
Subtotal - Incremental External Benefits	-3.7	-3.7	-3.5	-2.7	-0.8
Total Incremental Social Benefits, Average SCC	-101.4	-100.8	-95.8	-76.9	-24.0
Net Incremental Social Benefits, Average SCC	41.7	41.7	41.8	39.0	24.9

Table 42 - Incremental Benefits and Costs Over the Lifetimes of Passenger Car Fleet Produced Through 2031 (2024$ BILLIONS), 3% Percent Discount Rate, by Alternative, Average SCC

Incremental Benefits and Costs Over the Lifetimes of Passenger Car Fleet Produced Through 2031 (2024$ BILLIONS), 3%					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Private Costs					
Technology Costs to Increase Fuel Economy	-5.4	-5.3	-4.7	-1.4	9.1
Sacrifice in Other Vehicle Attributes	4.9	5.0	5.7	8.3	15.3
Consumer Surplus Loss from Reduced New Vehicle Sales	0.0	0.0	0.0	0.0	0.0
Safety Costs Internalized by Drivers	12.1	12.2	12.7	14.5	19.7
Subtotal - Incremental Private Costs	11.6	11.9	13.7	21.4	44.1
External Costs					
Congestion and Noise Costs from Rebound-Effect Driving	185.8	185.8	186.0	187.2	190.0
Safety Costs Not Internalized by Drivers	467.6	467.6	467.6	469.0	471.9
Loss in Fuel Tax Revenue	-28.3	-28.3	-28.0	-27.1	-24.4
Subtotal - Incremental External Costs	625.1	625.1	625.7	629.1	637.5
Total Incremental Social Costs	636.7	637.0	639.4	650.5	681.6
Private Benefits					
Reduced Fuel Costs	-155.8	-155.6	-154.1	-149.1	-134.6
Benefits from Additional Driving	18.0	18.1	18.8	21.3	28.0
Less Frequent Refueling	-10.0	-10.0	-9.9	-9.6	-8.6
Subtotal - Incremental Private Benefits	-147.8	-147.5	-145.2	-137.4	-115.3
External Benefits					
Reduction in Petroleum Market Externality	-6.8	-6.8	-6.8	-6.5	-5.9
Reduced Health Damages	-9.9	-9.9	-9.8	-9.8	-9.6
Subtotal - Incremental External Benefits	-16.7	-16.7	-16.6	-16.3	-15.5
Total Incremental Social Benefits, Average SCC	-164.5	-164.2	-161.8	-153.7	-130.8
Net Incremental Social Benefits, Average SCC	-801.2	-801.2	-801.2	-804.2	-812.3

Table 43 - Incremental Benefits and Costs Over the Lifetimes of Light Truck Fleet Produced Through 2031 (2024$ BILLIONS), 3% Percent Discount Rate, by Alternative, Average SCC

Incremental Benefits and Costs Over the Lifetimes of Light Truck Fleet Produced Through 2031 (2024$ BILLIONS), 3%					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Private Costs					
Technology Costs to Increase Fuel Economy	-47.8	-47.7	-47.1	-43.6	-31.4
Sacrifice in Other Vehicle Attributes	-35.9	-35.9	-35.0	-31.8	-22.7
Consumer Surplus Loss from Reduced New Vehicle Sales	0.0	0.0	0.0	0.0	0.0
Safety Costs Internalized by Drivers	-34.2	-34.2	-33.6	-31.5	-25.4
Subtotal - Incremental Private Costs	-118.0	-117.8	-115.8	-107.0	-79.5
External Costs					
Congestion and Noise Costs from Rebound-Effect Driving	-197.6	-197.6	-197.4	-196.7	-193.7
Safety Costs Not Internalized by Drivers	-480.6	-480.5	-480.6	-480.9	-478.8
Loss in Fuel Tax Revenue	16.5	16.5	16.8	18.1	21.7
Subtotal - Incremental External Costs	-661.7	-661.6	-661.2	-659.4	-650.9
Total Incremental Social Costs	-779.7	-779.4	-776.9	-766.4	-730.4
Private Benefits					
Reduced Fuel Costs	91.6	91.8	93.5	100.4	119.7
Benefits from Additional Driving	-47.6	-47.6	-46.8	-43.9	-35.4
Less Frequent Refueling	6.1	6.1	6.2	6.7	7.7
Subtotal - Incremental Private Benefits	50.1	50.3	52.9	63.2	92.1
External Benefits					
Reduction in Petroleum Market Externality	4.0	4.0	4.1	4.4	5.3
Reduced Health Damages	9.0	9.0	9.0	9.2	9.5
Subtotal - Incremental External Benefits	13.0	13.0	13.2	13.6	14.7
Total Incremental Social Benefits, Average SCC	63.1	63.4	66.1	76.8	106.8
Net Incremental Social Benefits, Average SCC	842.9	842.8	843.0	843.2	837.2

Table 44 - Incremental Benefits and Costs Over the Lifetimes of Total Fleet Produced Through 2031 (2024$ BILLIONS), 7% Percent Discount Rate, by Alternative, Average SCC

Incremental Benefits and Costs Over the Lifetimes of Total Fleet Produced Through 2031 (2024$ BILLIONS), 7% Percent					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Private Costs					
Technology Costs to Increase Fuel Economy	-43.6	-43.4	-42.4	-36.8	-18.3
Sacrifice in Other Vehicle Attributes	-19.8	-19.7	-18.7	-15.0	-4.7
Consumer Surplus Loss from Reduced New Vehicle Sales	-0.1	-0.1	-0.1	-0.1	0.0
Safety Costs Internalized by Drivers	-13.9	-13.8	-13.1	-10.6	-3.6
Subtotal - Incremental Private Costs	-77.3	-77.0	-74.2	-62.5	-26.6
External Costs					
Congestion and Noise Costs from Rebound-Effect Driving	-7.5	-7.4	-7.1	-5.9	-2.3
Safety Costs Not Internalized by Drivers	-8.3	-8.3	-8.3	-7.6	-4.5
Loss in Fuel Tax Revenue	-7.6	-7.6	-7.2	-5.8	-1.8
Subtotal - Incremental External Costs	-23.4	-23.3	-22.6	-19.3	-8.5
Total Incremental Social Costs	-100.7	-100.3	-96.9	-81.7	-35.1
Private Benefits					
Reduced Fuel Costs	-40.8	-40.5	-38.5	-30.8	-9.5
Benefits from Additional Driving	-18.6	-18.5	-17.6	-14.2	-4.6
Less Frequent Refueling	-2.5	-2.5	-2.3	-1.9	-0.6
Subtotal - Incremental Private Benefits	-61.8	-61.5	-58.4	-46.8	-14.7
External Benefits					
Reduction in Petroleum Market Externality	-1.8	-1.8	-1.7	-1.3	-0.4
Reduced Health Damages	-0.5	-0.5	-0.5	-0.4	-0.1
Subtotal - Incremental External Benefits	-2.3	-2.3	-2.1	-1.7	-0.5
Total Incremental Social Benefits, Average SCC	-64.1	-63.8	-60.5	-48.5	-15.2
Net Incremental Social Benefits, Average SCC	36.6	36.5	36.3	33.2	19.9

Table 45 - Incremental Benefits and Costs Over the Lifetimes of Passenger Car Fleet Produced Through 2031 (2024$ BILLIONS), 7% Percent Discount Rate, by Alternative, Average SCC

Incremental Benefits and Costs Over the Lifetimes of Passenger Car Fleet Produced Through 2031 (2024$ BILLIONS), 7%					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Private Costs					
Technology Costs to Increase Fuel Economy	-4.8	-4.7	-4.2	-1.6	6.8
Sacrifice in Other Vehicle Attributes	2.7	2.8	3.3	4.8	9.2
Consumer Surplus Loss from Reduced New Vehicle Sales	0.0	0.0	0.0	0.0	0.0
Safety Costs Internalized by Drivers	6.9	6.9	7.2	8.3	11.6
Subtotal - Incremental Private Costs	4.8	5.0	6.2	11.6	27.6
External Costs					
Congestion and Noise Costs from Rebound-Effect Driving	113.4	113.4	113.6	114.3	116.2
Safety Costs Not Internalized by Drivers	277.3	277.3	277.3	278.2	280.2
Loss in Fuel Tax Revenue	-17.5	-17.5	-17.3	-16.8	-15.1
Subtotal - Incremental External Costs	373.2	373.2	373.6	375.8	381.3
Total Incremental Social Costs	378.0	378.2	379.8	387.4	408.9
Private Benefits					
Reduced Fuel Costs	-95.1	-95.0	-94.1	-91.0	-82.0
Benefits from Additional Driving	10.3	10.4	10.8	12.3	16.5
Less Frequent Refueling	-6.2	-6.1	-6.1	-5.9	-5.3
Subtotal - Incremental Private Benefits	-91.0	-90.8	-89.4	-84.6	-70.8
External Benefits					
Reduction in Petroleum Market Externality	-4.2	-4.2	-4.1	-4.0	-3.6
Reduced Health Damages	-5.4	-5.4	-5.4	-5.4	-5.3
Subtotal - Incremental External Benefits	-9.6	-9.6	-9.5	-9.4	-8.9
Total Incremental Social Benefits, Average SCC	-100.6	-100.4	-98.9	-93.9	-79.7
Net Incremental Social Benefits, Average SCC	-478.6	-478.6	-478.8	-481.3	-488.6

Table 46 - Incremental Benefits and Costs Over the Lifetimes of Light Truck Fleet Produced Through 2031 (2024$ BILLIONS), 7% Percent Discount Rate, by Alternative, Average SCC

Incremental Benefits and Costs Over the Lifetimes of Light Truck Fleet Produced Through 2031 (2024$ BILLIONS), 7%					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Private Costs					
Technology Costs to Increase Fuel Economy	-38.8	-38.8	-38.2	-35.2	-25.1
Sacrifice in Other Vehicle Attributes	-22.5	-22.5	-21.9	-19.8	-13.9
Consumer Surplus Loss from Reduced New Vehicle Sales	0.0	0.0	0.0	0.0	0.0
Safety Costs Internalized by Drivers	-20.7	-20.7	-20.3	-19.0	-15.1
Subtotal - Incremental Private Costs	-82.1	-82.0	-80.5	-74.0	-54.2
External Costs					
Congestion and Noise Costs from Rebound-Effect Driving	-120.9	-120.9	-120.7	-120.2	-118.4
Safety Costs Not Internalized by Drivers	-285.6	-285.6	-285.6	-285.8	-284.7
Loss in Fuel Tax Revenue	9.9	9.9	10.1	11.0	13.3
Subtotal - Incremental External Costs	-396.6	-396.5	-396.2	-395.1	-389.8
Total Incremental Social Costs	-478.7	-478.5	-476.7	-469.1	-444.0
Private Benefits					
Reduced Fuel Costs	54.4	54.5	55.6	60.2	72.5
Benefits from Additional Driving	-28.9	-28.8	-28.4	-26.4	-21.1
Less Frequent Refueling	3.7	3.7	3.7	4.0	4.7
Subtotal - Incremental Private Benefits	29.1	29.3	31.0	37.7	56.1
External Benefits					
Reduction in Petroleum Market Externality	2.4	2.4	2.4	2.6	3.2
Reduced Health Damages	4.9	4.9	4.9	5.0	5.2
Subtotal - Incremental External Benefits	7.3	7.3	7.4	7.7	8.4
Total Incremental Social Benefits, Average SCC	36.4	36.6	38.4	45.4	64.5
Net Incremental Social Benefits, Average SCC	515.1	515.1	515.1	514.6	508.5

Table 47 - Incremental Benefits and Costs for Calendar Years 2024-2050 for Total Fleet Produced Through MY 2050 (2024$ BILLIONS), 3% Percent Discount Rate, by Alternative, Average SCC

Incremental Benefits and Costs for Calendar Years 2024-2050 for Total Fleet Produced Through MY 2050 (2024$					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Private Costs					
Technology Costs to Increase Fuel Economy	-214.5	-214.1	-209.9	-184.7	-89.7
Sacrifice in Other Vehicle Attributes	-145.8	-145.2	-139.4	-115.8	-41.2
Consumer Surplus Loss from Reduced New Vehicle Sales	-0.4	-0.4	-0.3	-0.3	-0.1
Safety Costs Internalized by Drivers	-75.2	-74.9	-71.8	-59.7	-21.7
Subtotal - Incremental Private Costs	-435.9	-434.5	-421.5	-360.5	-152.7
External Costs					
Congestion and Noise Costs from Rebound-Effect Driving	-32.6	-32.4	-31.0	-25.7	-9.2
Safety Costs Not Internalized by Drivers	-12.2	-12.1	-12.0	-10.9	-7.3
Loss in Fuel Tax Revenue	-40.0	-39.8	-38.2	-31.7	-11.2
Subtotal - Incremental External Costs	-84.7	-84.4	-81.2	-68.2	-27.8
Total Incremental Social Costs	-520.7	-518.9	-502.7	-428.7	-180.5
Private Benefits					
Reduced Fuel Costs	-229.8	-228.8	-219.3	-182.1	-64.8
Benefits from Additional Driving	-102.5	-102.1	-97.8	-81.1	-29.1
Less Frequent Refueling	-13.4	-13.4	-12.8	-10.5	-3.8
Subtotal - Incremental Private Benefits	-345.8	-344.2	-329.9	-273.8	-97.6
External Benefits					
Reduction in Petroleum Market Externality	-10.2	-10.1	-9.7	-8.1	-2.9
Reduced Health Damages	-4.1	-4.1	-3.9	-3.2	-1.1
Subtotal - Incremental External Benefits	-14.3	-14.2	-13.6	-11.3	-4.0
Total Incremental Social Benefits, Average SCC	-360.1	-358.4	-343.5	-285.1	-101.6
Net Incremental Social Benefits, Average SCC	160.6	160.4	159.2	143.6	78.9

Table 48 - Incremental Benefits and Costs for Calendar Years 2024-2050 for Passenger Car Fleet Produced Through MY 2050 (2024$ BILLIONS), 3% Percent Discount Rate, by Alternative, Average SCC

Incremental Benefits and Costs for Calendar Years 2024-2050 for Passenger Car Fleet Produced Through MY 2050 (2024$					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Private Costs					
Technology Costs to Increase Fuel Economy	13.4	13.8	17.3	37.0	96.9
Sacrifice in Other Vehicle Attributes	83.8	84.4	89.3	106.5	151.2
Consumer Surplus Loss from Reduced New Vehicle Sales	-0.2	-0.2	-0.2	-0.2	-0.1
Safety Costs Internalized by Drivers	83.9	84.2	86.7	95.4	118.2
Subtotal - Incremental Private Costs	180.9	182.1	193.0	238.7	366.3
External Costs					
Congestion and Noise Costs from Rebound-Effect Driving	1098.9	1099.0	1100.2	1104.5	1114.2
Safety Costs Not Internalized by Drivers	2,646.0	2,646.0	2,646.2	2,648.6	2,650.6
Loss in Fuel Tax Revenue	-152.2	-152.0	-150.7	-146.2	-134.4
Subtotal - Incremental External Costs	3,592.7	3,593.0	3,595.7	3,606.8	3,630.4
Total Incremental Social Costs	3,773.6	3,775.1	3,788.7	3,845.5	3,996.7
Private Benefits					
Reduced Fuel Costs	-884.3	-883.4	-875.7	-849.9	-781.4
Benefits from Additional Driving	122.0	122.4	125.9	137.7	168.0
Less Frequent Refueling	-55.1	-55.0	-54.5	-53.0	-48.7
Subtotal - Incremental Private Benefits	-817.4	-816.1	-804.3	-765.2	-662.1
External Benefits					
Reduction in Petroleum Market Externality	-39.4	-39.4	-39.1	-37.9	-34.9
Reduced Health Damages	-52.9	-52.8	-52.7	-52.2	-51.0
Subtotal - Incremental External Benefits	-92.3	-92.2	-91.8	-90.2	-85.8
Total Incremental Social Benefits, Average SCC	-909.7	-908.3	-896.1	-855.4	-747.9
Net Incremental Social Benefits, Average SCC	-4,683.4	-4,683.5	-4,684.9	-4,700.9	-4,744.7

Table 49 - Incremental Benefits and Costs for Calendar Years 2024-2050 for Light Truck Fleet Produced Through MY 2050 (2024$ BILLIONS), 3% Percent Discount Rate, by Alternative, Average SCC

Incremental Benefits and Costs for Calendar Years 2024-2050 for Light Truck Fleet Produced Through MY 2050 (2024$					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Private Costs					
Technology Costs to Increase Fuel Economy	-227.9	-227.9	-227.2	-221.6	-186.6
Sacrifice in Other Vehicle Attributes	-229.6	-229.6	-228.7	-222.4	-192.4
Consumer Surplus Loss from Reduced New Vehicle Sales	-0.1	-0.1	-0.1	-0.1	0.0
Safety Costs Internalized by Drivers	-159.1	-159.1	-158.5	-155.0	-139.9
Subtotal - Incremental Private Costs	-616.8	-616.7	-614.5	-599.1	-519.0
External Costs					
Congestion and Noise Costs from Rebound-Effect Driving	-1131.5	-1131.5	-1131.2	-1130.1	-1123.4
Safety Costs Not Internalized by Drivers	-2,658.2	-2,658.1	-2,658.2	-2,659.5	-2,657.9
Loss in Fuel Tax Revenue	112.2	112.2	112.5	114.5	123.2
Subtotal - Incremental External Costs	-3,677.4	-3,677.4	-3,676.9	-3,675.0	-3,658.2
Total Incremental Social Costs	-4,294.3	-4,294.0	-4,291.4	-4,274.2	-4,177.2
Private Benefits					
Reduced Fuel Costs	654.5	654.6	656.4	667.8	716.7
Benefits from Additional Driving	-224.5	-224.4	-223.7	-218.7	-197.1
Less Frequent Refueling	41.6	41.6	41.8	42.4	44.9
Subtotal - Incremental Private Benefits	471.6	471.8	474.5	491.4	564.5
External Benefits					
Reduction in Petroleum Market Externality	29.2	29.3	29.3	29.8	32.0
Reduced Health Damages	48.8	48.8	48.8	49.0	49.9
Subtotal - Incremental External Benefits	78.0	78.0	78.1	78.9	81.9
Total Incremental Social Benefits, Average SCC	549.6	549.9	552.6	570.3	646.4
Net Incremental Social Benefits, Average SCC	4,844.0	4,843.9	4,844.1	4,844.5	4,823.6

Table 50 - Incremental Benefits and Costs for Calendar Years 2024-2050 for Total Fleet Produced Through MY 2050 (2024$ BILLIONS), 7% Percent Discount Rate, by Alternative, Average SCC

Incremental Benefits and Costs for Calendar Years 2024-2050 for Total Fleet Produced Through MY 2050 (2024$					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Private Costs					
Technology Costs to Increase Fuel Economy	-135.1	-134.8	-132.1	-116.0	-56.5
Sacrifice in Other Vehicle Attributes	-70.2	-69.9	-67.0	-55.4	-19.4
Consumer Surplus Loss from Reduced New Vehicle Sales	-0.2	-0.2	-0.2	-0.2	-0.1
Safety Costs Internalized by Drivers	-40.3	-40.2	-38.5	-31.9	-11.5
Subtotal - Incremental Private Costs	-245.9	-245.1	-237.7	-203.5	-87.5
External Costs					
Congestion and Noise Costs from Rebound-Effect Driving	-17.8	-17.7	-17.0	-14.0	-5.0
Safety Costs Not Internalized by Drivers	-7.5	-7.5	-7.4	-6.7	-4.5
Loss in Fuel Tax Revenue	-22.0	-21.9	-21.0	-17.4	-6.1
Subtotal - Incremental External Costs	-47.3	-47.1	-45.4	-38.1	-15.5
Total Incremental Social Costs	-293.3	-292.2	-283.1	-241.5	-103.1
Private Benefits					
Reduced Fuel Costs	-124.6	-124.0	-118.7	-98.3	-34.6
Benefits from Additional Driving	-55.1	-54.8	-52.5	-43.4	-15.4
Less Frequent Refueling	-7.3	-7.3	-7.0	-5.7	-2.0
Subtotal - Incremental Private Benefits	-187.0	-186.1	-178.2	-147.4	-52.1
External Benefits					
Reduction in Petroleum Market Externality	-5.5	-5.5	-5.2	-4.3	-1.5
Reduced Health Damages	-2.0	-2.0	-1.9	-1.6	-0.5
Subtotal - Incremental External Benefits	-7.5	-7.5	-7.1	-5.9	-2.1
Total Incremental Social Benefits, Average SCC	-194.5	-193.6	-185.3	-153.3	-54.1
Net Incremental Social Benefits, Average SCC	98.8	98.7	97.8	88.2	48.9

Table 51 - Incremental Benefits and Costs for Calendar Years 2024-2050 for Passenger Car Fleet Produced Through MY 2050 (2024$ BILLIONS), 7% Percent Discount Rate, by Alternative, Average SCC

Incremental Benefits and Costs for Calendar Years 2024-2050 for Passenger Car Fleet Produced Through MY 2050 (2024$					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Private Costs					
Technology Costs to Increase Fuel Economy	5.4	5.7	7.8	19.7	56.1
Sacrifice in Other Vehicle Attributes	36.6	36.8	39.2	47.2	68.0
Consumer Surplus Loss from Reduced New Vehicle Sales	-0.1	-0.1	-0.1	-0.1	0.0
Safety Costs Internalized by Drivers	42.0	42.2	43.5	48.0	60.0
Subtotal - Incremental Private Costs	83.8	84.5	90.3	114.9	184.1
External Costs					
Congestion and Noise Costs from Rebound-Effect Driving	571.8	571.9	572.5	574.9	580.1
Safety Costs Not Internalized by Drivers	1,350.5	1,350.5	1,350.6	1,352.0	1,353.5
Loss in Fuel Tax Revenue	-80.1	-80.0	-79.3	-76.9	-70.6
Subtotal - Incremental External Costs	1,842.3	1,842.4	1,843.9	1,849.9	1,863.0
Total Incremental Social Costs	1,926.1	1,926.9	1,934.2	1,964.8	2,047.1
Private Benefits					
Reduced Fuel Costs	-459.8	-459.3	-455.2	-441.7	-405.5
Benefits from Additional Driving	61.4	61.6	63.4	69.6	85.6
Less Frequent Refueling	-28.8	-28.8	-28.5	-27.7	-25.4
Subtotal - Incremental Private Benefits	-427.1	-426.4	-420.3	-399.7	-345.3
External Benefits					
Reduction in Petroleum Market Externality	-20.4	-20.4	-20.2	-19.6	-18.0
Reduced Health Damages	-25.0	-25.0	-24.9	-24.7	-24.1
Subtotal - Incremental External Benefits	-45.5	-45.4	-45.2	-44.4	-42.2
Total Incremental Social Benefits, Average SCC	-472.6	-471.9	-465.5	-444.0	-387.5
Net Incremental Social Benefits, Average SCC	-2,398.7	-2,398.7	-2,399.6	-2,408.9	-2,434.6

Table 52 - Incremental Benefits and Costs for Calendar Years 2024-2050 for Light Truck Fleet Produced Through MY 2050 (2024$ BILLIONS), 7% Percent Discount Rate, by Alternative, Average SCC

Incremental Benefits and Costs for Calendar Years 2024-2050 for Light Truck Fleet Produced Through MY 2050 (2024$					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Private Costs					
Technology Costs to Increase Fuel Economy	-140.5	-140.5	-139.9	-135.8	-112.6
Sacrifice in Other Vehicle Attributes	-106.8	-106.7	-106.1	-102.6	-87.5
Consumer Surplus Loss from Reduced New Vehicle Sales	-0.1	-0.1	-0.1	-0.1	0.0
Safety Costs Internalized by Drivers	-82.4	-82.3	-82.0	-79.9	-71.5
Subtotal - Incremental Private Costs	-329.8	-329.6	-328.1	-318.4	-271.6
External Costs					
Congestion and Noise Costs from Rebound-Effect Driving	-589.7	-589.6	-589.5	-588.8	-585.1
Safety Costs Not Internalized by Drivers	-1,358.0	-1,358.0	-1,358.0	-1,358.7	-1,358.0
Loss in Fuel Tax Revenue	58.1	58.1	58.3	59.5	64.5
Subtotal - Incremental External Costs	-1,889.6	-1,889.5	-1,889.3	-1,888.0	-1,878.5
Total Incremental Social Costs	-2,219.4	-2,219.1	-2,217.3	-2,206.3	-2,150.2
Private Benefits					
Reduced Fuel Costs	335.2	335.3	336.5	343.3	370.9
Benefits from Additional Driving	-116.5	-116.4	-115.9	-113.0	-101.0
Less Frequent Refueling	21.5	21.5	21.5	21.9	23.4
Subtotal - Incremental Private Benefits	240.2	240.3	242.1	252.3	293.3
External Benefits					
Reduction in Petroleum Market Externality	14.9	14.9	15.0	15.3	16.5
Reduced Health Damages	23.0	23.0	23.0	23.2	23.6
Subtotal - Incremental External Benefits	37.9	38.0	38.0	38.4	40.1
Total Incremental Social Benefits, Average SCC	278.1	278.3	280.1	290.7	333.3
Net Incremental Social Benefits, Average SCC	2,497.5	2,497.4	2,497.4	2,497.1	2,483.5

A4. Incremental Societal Impacts

Table 53 - Incremental Total Societal Costs ($Billions) by Year and Alternative for Total Fleet, Discounted at 3%

Incremental Total Societal Costs ($Billions) by Year and Alternative for Total Fleet, Discounted at 3%									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	-19.1	-1.6	-1.6	-15.0	-21.4	-26.2	-28.3	-29.9	-143.1
Alt 2	-19.1	-1.6	-1.6	-14.9	-21.3	-26.0	-28.2	-29.8	-142.5
Alt 3	-18.9	-1.5	-1.6	-13.9	-20.3	-25.1	-27.3	-28.8	-137.5
Alt 4	-17.2	-1.4	-1.5	-11.0	-16.8	-20.9	-22.7	-24.4	-115.9
Alt 5	-9.8	-0.8	-0.8	-5.0	-6.5	-7.8	-8.8	-9.3	-48.8

Table 54 - Incremental Total Societal Costs ($Billions) by Year and Alternative for Passenger Car Fleet, Discounted at 3%

Incremental Total Societal Costs ($Billions) by Year and Alternative for Passenger Car Fleet, Discounted at 3%									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	-10.5	-0.5	-0.5	-4.7	-7.2	-8.4	333.6	334.9	636.7
Alt 2	-10.5	-0.5	-0.5	-4.7	-7.2	-8.4	333.7	335.0	637.0
Alt 3	-10.4	-0.5	-0.5	-4.5	-7.0	-8.3	334.6	335.9	639.4
Alt 4	-9.4	-0.4	-0.4	-4.0	-6.2	-7.3	338.5	339.8	650.5
Alt 5	-5.4	-0.2	-0.2	-2.3	-3.3	-3.6	347.3	349.4	681.6

Table 55 - Incremental Total Societal Costs ($Billions) by Year and Alternative for Light Truck Fleet, Discounted at 3%

Incremental Total Societal Costs ($Billions) by Year and Alternative for Light Truck Fleet, Discounted at 3%									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	-8.6	-1.1	-1.2	-10.3	-14.2	-17.7	-361.9	-364.8	-779.7
Alt 2	-8.6	-1.1	-1.2	-10.2	-14.1	-17.6	-361.9	-364.8	-779.4
Alt 3	-8.6	-1.1	-1.2	-9.3	-13.3	-16.8	-361.9	-364.8	-776.9
Alt 4	-7.8	-1.0	-1.1	-7.0	-10.6	-13.6	-361.2	-364.2	-766.4
Alt 5	-4.4	-0.6	-0.6	-2.7	-3.2	-4.2	-356.1	-358.7	-730.4

Table 56 - Incremental Total Societal Costs ($Billions) by Year and Alternative for Total Fleet, Discounted at 7%

Incremental Total Societal Costs ($Billions) by Year and Alternative for Total Fleet, Discounted at 7%									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	-12.9	-0.9	-1.0	-11.5	-16.1	-18.9	-19.6	-19.9	-100.7
Alt 2	-12.9	-0.9	-0.9	-11.4	-16.0	-18.8	-19.5	-19.8	-100.3
Alt 3	-12.7	-0.9	-0.9	-10.7	-15.3	-18.1	-18.9	-19.2	-96.9
Alt 4	-11.5	-0.8	-0.9	-8.5	-12.7	-15.2	-15.8	-16.3	-81.7
Alt 5	-6.6	-0.5	-0.5	-3.9	-5.1	-5.8	-6.3	-6.4	-35.1

Table 57 - Incremental Total Societal Costs ($Billions) by Year and Alternative for Passenger Car Fleet, Discounted at 7%

Incremental Total Societal Costs ($Billions) by Year and Alternative for Passenger Car Fleet, Discounted at 7%									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	-7.4	-0.3	-0.3	-3.6	-5.3	-6.1	203.9	197.0	378.0
Alt 2	-7.4	-0.3	-0.3	-3.5	-5.2	-6.0	203.9	197.0	378.2
Alt 3	-7.3	-0.3	-0.3	-3.4	-5.1	-5.9	204.6	197.7	379.8
Alt 4	-6.6	-0.3	-0.2	-3.0	-4.6	-5.3	207.2	200.2	387.4
Alt 5	-3.8	-0.1	-0.1	-1.8	-2.4	-2.6	213.3	206.5	408.9

Table 58 - Incremental Total Societal Costs ($Billions) by Year and Alternative for Light Truck Fleet, Discounted at 7%

Incremental Total Societal Costs ($Billions) by Year and Alternative for Light Truck Fleet, Discounted at 7%									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	-5.5	-0.6	-0.7	-7.9	-10.8	-12.8	-223.5	-216.9	-478.7
Alt 2	-5.5	-0.6	-0.7	-7.9	-10.7	-12.8	-223.5	-216.9	-478.5
Alt 3	-5.4	-0.6	-0.7	-7.2	-10.1	-12.2	-223.5	-216.9	-476.7
Alt 4	-4.9	-0.6	-0.6	-5.4	-8.2	-9.9	-223.0	-216.5	-469.1
Alt 5	-2.8	-0.3	-0.3	-2.2	-2.7	-3.2	-219.5	-212.9	-444.0

Table 59 - Incremental Total Societal Benefits ($Billions) by Year and Alternative for Total Fleet, Average SCC Level, Discounted at 3%

Incremental Total Societal Benefits ($Billions) by Year and Alternative for Total Fleet, Average SCC Level, Discounted at 3%									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	5.6	0.4	0.4	-12.6	-18.9	-23.5	-25.6	-27.1	-101.4
Alt 2	5.6	0.4	0.4	-12.4	-18.7	-23.4	-25.5	-27.0	-100.8
Alt 3	5.5	0.4	0.4	-11.4	-17.7	-22.4	-24.5	-26.0	-95.8
Alt 4	5.0	0.4	0.4	-8.5	-14.3	-18.3	-20.0	-21.6	-76.9
Alt 5	2.8	0.2	0.2	-3.3	-4.5	-5.7	-6.6	-7.1	-24.0

Table 60 - Incremental Total Societal Benefits ($Billions) by Year and Alternative for Passenger Car Fleet, Average SCC Level, Discounted at 3%

Incremental Total Societal Benefits ($Billions) by Year and Alternative for Passenger Car Fleet, Average SCC Level, Discounted at 3%									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	2.9	0.1	0.1	-3.3	-5.3	-7.6	-75.9	-75.4	-164.5
Alt 2	2.9	0.1	0.1	-3.3	-5.2	-7.6	-75.8	-75.3	-164.2
Alt 3	2.8	0.1	0.1	-3.2	-5.1	-7.5	-74.8	-74.3	-161.8
Alt 4	2.6	0.1	0.1	-2.9	-4.6	-6.9	-71.3	-70.7	-153.7
Alt 5	1.5	0.0	0.0	-1.7	-2.3	-3.4	-63.0	-61.8	-130.8

Table 61 - Incremental Total Societal Benefits ($Billions) by Year and Alternative for Light Truck Fleet, Average SCC Level, Discounted at 3%

Incremental Total Societal Benefits ($Billions) by Year and Alternative for Light Truck Fleet, Average SCC Level, Discounted at 3%									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	2.7	0.3	0.3	-9.3	-13.6	-15.9	50.3	48.3	63.1
Alt 2	2.7	0.3	0.3	-9.2	-13.5	-15.8	50.3	48.3	63.4
Alt 3	2.7	0.3	0.3	-8.2	-12.6	-15.0	50.3	48.3	66.1
Alt 4	2.4	0.3	0.3	-5.6	-9.6	-11.4	51.3	49.1	76.8
Alt 5	1.4	0.2	0.2	-1.6	-2.2	-2.3	56.4	54.7	106.8

Table 62 - Incremental Total Societal Benefits ($Billions) by Year and Alternative for Total Fleet, Average SCC Level, Discounted at 7%

Incremental Total Societal Benefits ($Billions) by Year and Alternative for Total Fleet, Average SCC Level, Discounted at 7%									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	3.6	0.2	0.2	-8.7	-12.5	-15.1	-15.8	-16.1	-64.1
Alt 2	3.6	0.2	0.2	-8.6	-12.5	-15.0	-15.7	-16.0	-63.8
Alt 3	3.6	0.2	0.2	-7.9	-11.8	-14.4	-15.1	-15.4	-60.5
Alt 4	3.2	0.2	0.2	-5.9	-9.5	-11.7	-12.3	-12.8	-48.5
Alt 5	1.8	0.1	0.1	-2.3	-3.0	-3.7	-4.1	-4.2	-15.2

Table 63 - Incremental Total Societal Benefits ($Billions) by Year and Alternative for Passenger Car Fleet, Average SCC Level, Discounted at 7%

Incremental Total Societal Benefits ($Billions) by Year and Alternative for Passenger Car Fleet, Average SCC Level, Discounted at 7%									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	1.9	0.1	0.0	-2.3	-3.5	-4.9	-46.9	-45.0	-100.6
Alt 2	1.9	0.1	0.0	-2.3	-3.5	-4.9	-46.8	-44.9	-100.4
Alt 3	1.9	0.1	0.0	-2.2	-3.4	-4.8	-46.2	-44.3	-98.9
Alt 4	1.7	0.0	0.0	-2.1	-3.1	-4.5	-44.0	-42.1	-93.9
Alt 5	1.0	0.0	0.0	-1.2	-1.6	-2.2	-38.9	-36.8	-79.7

Table 64 - Incremental Total Societal Benefits ($Billions) by Year and Alternative for Light Truck Fleet, Average SCC Level, Discounted at 7%

Incremental Total Societal Benefits ($Billions) by Year and Alternative for Light Truck Fleet, Average SCC Level, Discounted at 7%									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	1.7	0.2	0.2	-6.4	-9.0	-10.1	31.1	28.9	36.4
Alt 2	1.7	0.2	0.2	-6.3	-8.9	-10.1	31.1	28.9	36.6
Alt 3	1.6	0.2	0.2	-5.7	-8.3	-9.5	31.1	28.9	38.4
Alt 4	1.5	0.2	0.2	-3.9	-6.4	-7.2	31.7	29.4	45.4
Alt 5	0.8	0.1	0.1	-1.1	-1.4	-1.5	34.8	32.6	64.5

Table 65 - Incremental Total Societal Net Benefits ($Billions) by Year and Alternative for Total Fleet, Average SCC Level, Discounted at 3%

Incremental Total Societal Net Benefits ($Billions) by Year and Alternative for Total Fleet, Average SCC Level, Discounted at 3%									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	24.7	1.9	2.0	2.4	2.5	2.6	2.7	2.8	41.7
Alt 2	24.7	1.9	2.0	2.4	2.5	2.6	2.7	2.8	41.7
Alt 3	24.5	1.9	2.0	2.5	2.6	2.7	2.8	2.8	41.8
Alt 4	22.2	1.8	1.8	2.4	2.6	2.7	2.7	2.8	39.0
Alt 5	12.6	1.0	1.0	1.7	2.0	2.1	2.2	2.3	24.9

Table 66 - Incremental Total Societal Net Benefits ($Billions) by Year and Alternative for Passenger Car Fleet, Average SCC Level, Discounted at 3%

Incremental Total Societal Net Benefits ($Billions) by Year and Alternative for Passenger Car Fleet, Average SCC Level, Discounted at 3%									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	13.3	0.6	0.5	1.4	1.9	0.8	-409.5	-410.3	-801.2
Alt 2	13.3	0.6	0.5	1.4	1.9	0.8	-409.5	-410.3	-801.2
Alt 3	13.2	0.6	0.5	1.4	1.9	0.8	-409.4	-410.2	-801.2
Alt 4	12.0	0.5	0.5	1.0	1.6	0.5	-409.8	-410.5	-804.2
Alt 5	6.8	0.3	0.3	0.6	1.0	0.2	-410.3	-411.2	-812.3

Table 67 - Incremental Total Societal Net Benefits ($Billions) by Year and Alternative for Light Truck Fleet, Average SCC Level, Discounted at 3%

Incremental Total Societal Net Benefits ($Billions) by Year and Alternative for Light Truck Fleet, Average SCC Level, Discounted at 3%									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	11.3	1.4	1.5	1.0	0.6	1.8	412.2	413.1	842.9
Alt 2	11.3	1.4	1.5	1.0	0.6	1.8	412.2	413.0	842.8
Alt 3	11.2	1.4	1.5	1.1	0.7	1.9	412.2	413.1	843.0
Alt 4	10.2	1.3	1.3	1.4	1.0	2.2	412.5	413.4	843.2
Alt 5	5.8	0.7	0.8	1.1	1.0	1.9	412.5	413.4	837.2

Table 68 - Incremental Total Societal Net Benefits ($Billions) by Year and Alternative for Total Fleet, Average SCC Level, Discounted at 7%

Incremental Total Societal Net Benefits ($Billions) by Year and Alternative for Total Fleet, Average SCC Level, Discounted at 7%									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	16.5	1.1	1.2	2.8	3.5	3.8	3.8	3.8	36.6
Alt 2	16.4	1.1	1.2	2.8	3.5	3.8	3.8	3.8	36.5
Alt 3	16.3	1.1	1.2	2.8	3.5	3.8	3.8	3.8	36.3
Alt 4	14.8	1.0	1.1	2.5	3.2	3.5	3.5	3.5	33.2
Alt 5	8.4	0.6	0.6	1.6	2.1	2.2	2.2	2.2	19.9

Table 69 - Incremental Total Societal Net Benefits ($Billions) by Year and Alternative for Passenger Car Fleet, Average SCC Level, Discounted at 7%

Incremental Total Societal Net Benefits ($Billions) by Year and Alternative for Passenger Car Fleet, Average SCC Level, Discounted at 7%									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	9.3	0.3	0.3	1.3	1.7	1.1	-250.7	-241.9	-478.6
Alt 2	9.3	0.3	0.3	1.3	1.7	1.1	-250.8	-241.9	-478.6
Alt 3	9.2	0.3	0.3	1.2	1.7	1.1	-250.8	-241.9	-478.8
Alt 4	8.4	0.3	0.3	1.0	1.5	0.9	-251.2	-242.4	-481.3
Alt 5	4.8	0.2	0.2	0.5	0.9	0.4	-252.2	-243.4	-488.6

Table 70 - Incremental Total Societal Net Benefits ($Billions) by Year and Alternative for Light Truck Fleet, Average SCC Level, Discounted at 7%

Incremental Total Societal Net Benefits ($Billions) by Year and Alternative for Light Truck Fleet, Average SCC Level, Discounted at 7%									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	7.1	0.8	0.8	1.6	1.8	2.7	254.6	245.7	515.1
Alt 2	7.1	0.8	0.8	1.6	1.8	2.7	254.6	245.7	515.1
Alt 3	7.1	0.8	0.8	1.6	1.8	2.7	254.6	245.8	515.1
Alt 4	6.4	0.7	0.8	1.6	1.8	2.7	254.7	245.9	514.6
Alt 5	3.7	0.4	0.4	1.1	1.3	1.8	254.4	245.6	508.5

A5. Regulatory Costs per Vehicle, by Model Year

Table 71 - Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Total)

Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Total)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	484	803	1,525	1,929	2,143	2,200	2,238
Alt 1	0	484	803	917	926	925	930	921
Alt 2	0	484	803	920	929	928	933	924
Alt 3	0	484	803	946	955	954	959	949
Alt 4	0	484	803	1,046	1,076	1,101	1,117	1,104
Alt 5	0	484	803	1,266	1,481	1,635	1,670	1,700

Table 72 - Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Total)

Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Total)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	533	962	1,574	1,945	2,361	2,354	2,383
Alt 1	0	533	962	1,006	1,008	984	1,021	1,009
Alt 2	0	533	962	1,010	1,012	988	1,025	1,013
Alt 3	0	533	962	1,026	1,028	1,005	1,061	1,049
Alt 4	0	533	962	1,075	1,104	1,099	1,255	1,240
Alt 5	0	533	962	1,281	1,476	1,686	1,763	1,804

Table 73 - Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Total)

Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Total)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	463	740	1,506	1,923	2,065	2,146	2,189
Alt 1	0	463	740	883	896	904	708	706
Alt 2	0	463	740	886	899	906	708	706
Alt 3	0	463	740	916	928	936	708	707
Alt 4	0	463	740	1,036	1,066	1,101	776	771
Alt 5	0	463	740	1,260	1,483	1,617	1,441	1,447

Table 74 - Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (BMW)

Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (BMW)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	977	1,236	1,834	1,961	2,281	2,295	2,691
Alt 1	0	977	1,236	1,346	1,388	1,366	1,339	1,311
Alt 2	0	977	1,236	1,346	1,388	1,366	1,339	1,311
Alt 3	0	977	1,236	1,346	1,388	1,366	1,339	1,311
Alt 4	0	977	1,236	1,426	1,486	1,468	1,458	1,427
Alt 5	0	977	1,236	2,174	2,307	2,619	2,627	2,975

Table 75 - Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Ferrari)

Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Ferrari)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	14	2,297	2,229	2,253	2,184	2,907	2,971
Alt 1	0	14	2,297	2,228	2,251	2,180	2,906	2,969
Alt 2	0	14	2,297	2,228	2,251	2,180	2,906	2,969
Alt 3	0	14	2,297	2,228	2,251	2,180	2,906	2,969
Alt 4	0	14	2,297	2,229	2,253	2,183	2,908	2,971
Alt 5	0	14	2,297	2,228	2,251	2,184	2,909	2,972

Table 76 - Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Ford)

Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Ford)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	525	514	1,419	1,687	1,669	1,908	1,888
Alt 1	0	525	514	835	835	827	864	855
Alt 2	0	525	514	844	844	836	872	863
Alt 3	0	525	514	943	941	932	966	954
Alt 4	0	525	514	1,059	1,083	1,072	1,131	1,118
Alt 5	0	525	514	1,174	1,320	1,306	1,400	1,384

Table 77 - Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (GM)

Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (GM)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	604	1,039	2,480	3,299	3,607	3,663	3,745
Alt 1	0	604	1,039	1,188	1,210	1,206	1,186	1,184
Alt 2	0	604	1,039	1,188	1,210	1,206	1,186	1,184
Alt 3	0	604	1,039	1,188	1,210	1,206	1,186	1,184
Alt 4	0	604	1,039	1,188	1,210	1,206	1,187	1,184
Alt 5	0	604	1,039	1,615	1,775	1,957	2,014	2,051

Table 78 - Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Honda)

Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Honda)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	287	377	496	1,171	1,399	1,422	1,395
Alt 1	0	287	377	421	397	330	302	242
Alt 2	0	287	377	421	397	330	302	242
Alt 3	0	287	377	421	397	330	302	242
Alt 4	0	287	377	421	397	329	302	242
Alt 5	0	287	377	427	764	868	920	906

Table 79 - Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Hyundai)

Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Hyundai)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	254	797	1,433	2,481	2,956	2,905	2,846
Alt 1	0	254	797	884	902	892	888	883
Alt 2	0	254	797	884	902	892	888	883
Alt 3	0	254	797	884	902	892	888	883
Alt 4	0	254	797	903	979	1,122	1,139	1,134
Alt 5	0	254	797	1,325	1,763	2,136	2,114	2,087

Table 80 - Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Ineos)

Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Ineos)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	0	0	0	0	0	0	2,731
Alt 1	0	0	0	0	0	0	0	1,608
Alt 2	0	0	0	0	0	0	0	1,608
Alt 3	0	0	0	0	0	0	0	2,077
Alt 4	0	0	0	0	0	0	0	2,731
Alt 5	0	0	0	0	0	0	0	2,731

Table 81 - Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (JLR)

Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (JLR)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	252	1,089	1,997	1,955	2,020	1,984	1,723
Alt 1	0	252	1,089	1,386	1,358	926	909	303
Alt 2	0	252	1,089	1,386	1,358	926	908	303
Alt 3	0	252	1,089	1,386	1,358	926	908	303
Alt 4	0	252	1,089	1,997	1,955	1,717	1,684	1,024
Alt 5	0	252	1,089	1,997	1,955	2,021	1,985	1,461

Table 82 - Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (KIA)

Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (KIA)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	1,344	2,025	2,048	2,614	2,974	2,927	2,897
Alt 1	0	1,344	2,025	2,011	1,979	1,950	1,923	1,892
Alt 2	0	1,344	2,025	2,011	1,979	1,950	1,923	1,892
Alt 3	0	1,344	2,025	2,011	1,979	1,950	1,923	1,892
Alt 4	0	1,344	2,025	2,010	1,979	1,984	1,956	1,924
Alt 5	0	1,344	2,025	2,048	2,536	2,667	2,628	2,607

Table 83 - Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Mazda)

Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Mazda)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	16	16	1,435	1,412	1,687	1,664	1,930
Alt 1	0	16	16	166	164	213	212	300
Alt 2	0	16	16	166	164	213	212	300
Alt 3	0	16	16	166	164	213	212	300
Alt 4	0	16	16	1,161	1,144	1,405	1,390	1,451
Alt 5	0	16	16	1,435	1,411	1,688	1,665	2,400

Table 84 - Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Mercedes-Benz)

Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Mercedes-Benz)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	93	754	1,227	1,234	1,286	1,739	1,715
Alt 1	0	93	754	783	793	738	740	711
Alt 2	0	93	754	783	793	738	740	711
Alt 3	0	93	754	783	793	739	759	733
Alt 4	0	93	754	1,161	1,169	1,221	1,525	1,476
Alt 5	0	93	754	1,227	1,235	1,286	1,739	1,714

Table 85 - Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Mitsubishi)

Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Mitsubishi)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	124	451	921	2,007	2,021	1,987	1,940
Alt 1	0	124	451	511	567	453	439	427
Alt 2	0	124	451	511	567	453	439	427
Alt 3	0	124	451	511	567	453	439	427
Alt 4	0	124	451	511	568	453	439	427
Alt 5	0	124	451	538	951	1,083	1,066	1,050

Table 86 - Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Nissan)

Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Nissan)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	490	735	1,492	1,454	1,621	1,787	1,760
Alt 1	0	490	735	834	804	733	749	738
Alt 2	0	490	735	834	804	733	749	738
Alt 3	0	490	735	834	804	733	749	738
Alt 4	0	490	735	857	827	757	773	761
Alt 5	0	490	735	1,201	1,166	1,090	1,171	1,153

Table 87 - Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Stellantis)

Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Stellantis)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	207	449	1,544	2,071	2,555	2,544	2,511
Alt 1	0	207	449	636	701	844	835	842
Alt 2	0	207	449	636	701	844	835	842
Alt 3	0	207	449	729	793	935	928	933
Alt 4	0	207	449	1,002	1,157	1,360	1,433	1,412
Alt 5	0	207	449	1,513	2,040	2,245	2,237	2,208

Table 88 - Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Subaru)

Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Subaru)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	736	1,075	1,064	1,119	1,365	1,340	1,579
Alt 1	0	736	1,075	1,062	1,103	1,158	1,141	1,126
Alt 2	0	736	1,075	1,062	1,103	1,158	1,141	1,126
Alt 3	0	736	1,075	1,062	1,103	1,158	1,141	1,126
Alt 4	0	736	1,075	1,064	1,106	1,161	1,143	1,128
Alt 5	0	736	1,075	1,064	1,303	1,858	1,829	1,831

Table 89 - Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Toyota)

Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Toyota)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	365	764	1,134	1,172	1,279	1,334	1,383
Alt 1	0	365	764	793	796	811	843	857
Alt 2	0	365	764	793	796	811	843	857
Alt 3	0	365	764	793	796	811	843	857
Alt 4	0	365	764	793	796	811	844	857
Alt 5	0	365	764	793	818	954	986	999

Table 90 - Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Volvo)

Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (Volvo)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	0	1,688	1,853	1,933	2,438	2,395	2,326
Alt 1	0	0	1,688	1,624	1,602	1,683	1,650	1,595
Alt 2	0	0	1,688	1,627	1,608	1,689	1,655	1,600
Alt 3	0	0	1,688	1,627	1,627	1,707	1,673	1,617
Alt 4	0	0	1,688	1,655	1,736	1,822	1,784	1,723
Alt 5	0	0	1,688	1,892	1,972	2,476	2,433	2,363

Table 91 - Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (VWA)

Estimated Average Per Vehicle Regulatory Costs ($), Total Fleet for Manufacturer (VWA)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	691	863	1,920	2,458	2,420	2,383	2,372
Alt 1	0	691	863	1,049	1,063	1,052	1,129	1,121
Alt 2	0	691	863	1,086	1,100	1,088	1,165	1,156
Alt 3	0	691	863	1,231	1,244	1,231	1,293	1,283
Alt 4	0	691	863	1,547	1,681	1,662	1,644	1,632
Alt 5	0	691	863	1,893	2,431	2,394	2,356	2,345

Table 92 - Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (BMW)

Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (BMW)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	1,201	1,849	1,912	2,267	2,229	2,214	3,332
Alt 1	0	1,201	1,849	1,844	1,981	1,947	1,636	1,607
Alt 2	0	1,201	1,849	1,844	1,981	1,947	1,636	1,607
Alt 3	0	1,201	1,849	1,844	1,981	1,947	1,636	1,607
Alt 4	0	1,201	1,849	1,844	2,024	1,989	1,724	1,690
Alt 5	0	1,201	1,849	2,005	2,395	2,354	2,546	3,031

Table 93 - Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Ferrari)

Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Ferrari)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	14	2,297	2,229	2,253	2,184	2,907	2,971
Alt 1	0	14	2,297	2,228	2,251	2,180	2,906	2,969
Alt 2	0	14	2,297	2,228	2,251	2,180	2,906	2,969
Alt 3	0	14	2,297	2,228	2,251	2,180	2,906	2,969
Alt 4	0	14	2,297	2,229	2,253	2,183	2,908	2,971
Alt 5	0	14	2,297	2,228	2,251	2,184	2,909	2,972

Table 94 - Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Ford)

Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Ford)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	0	0	1,048	1,037	1,026	1,015	1,004
Alt 1	0	0	0	587	581	574	1,108	1,099
Alt 2	0	0	0	706	699	691	1,130	1,120
Alt 3	0	0	0	1,048	1,037	1,026	1,375	1,361
Alt 4	0	0	0	1,048	1,037	1,026	1,808	1,790
Alt 5	0	0	0	1,048	1,037	1,026	2,128	2,108

Table 95 - Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (GM)

Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (GM)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	805	1,893	2,195	2,165	3,313	3,264	3,216
Alt 1	0	805	1,893	1,927	1,900	1,934	1,985	1,948
Alt 2	0	805	1,893	1,927	1,900	1,934	1,985	1,948
Alt 3	0	805	1,893	1,927	1,900	1,934	1,985	1,948
Alt 4	0	805	1,893	1,927	1,900	1,934	1,985	1,948
Alt 5	0	805	1,893	2,113	2,084	2,675	2,577	2,574

Table 96 - Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Honda)

Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Honda)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	26	70	195	1,247	1,721	1,691	1,661
Alt 1	0	26	70	73	100	-30	270	209
Alt 2	0	26	70	73	100	-30	270	209
Alt 3	0	26	70	73	100	-30	270	209
Alt 4	0	26	70	73	100	-30	270	209
Alt 5	0	26	70	86	474	691	908	894

Table 97 - Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Hyundai)

Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Hyundai)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	196	243	1,775	2,816	3,383	3,322	3,247
Alt 1	0	196	243	395	399	387	891	886
Alt 2	0	196	243	395	399	387	891	886
Alt 3	0	196	243	395	399	387	891	886
Alt 4	0	196	243	447	479	526	1,158	1,153
Alt 5	0	196	243	1,534	1,877	2,148	2,159	2,131

Table 98 - Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Ineos)

Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Ineos)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	0	0	0	0	0	0	0
Alt 1	0	0	0	0	0	0	0	0
Alt 2	0	0	0	0	0	0	0	0
Alt 3	0	0	0	0	0	0	0	0
Alt 4	0	0	0	0	0	0	0	0
Alt 5	0	0	0	0	0	0	0	0

Table 99 - Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (JLR)

Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (JLR)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	0	4,944	4,849	4,750	4,655	4,562	4,428
Alt 1	0	0	4,944	4,847	4,749	4,653	3,615	3,488
Alt 2	0	0	4,944	4,848	4,750	4,653	3,615	3,488
Alt 3	0	0	4,944	4,848	4,750	4,653	3,615	3,488
Alt 4	0	0	4,944	4,847	4,749	4,653	5,736	5,533
Alt 5	0	0	4,944	4,848	4,750	4,655	5,736	5,533

Table 100 - Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (KIA)

Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (KIA)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	1,531	1,905	1,997	2,307	3,315	3,255	3,185
Alt 1	0	1,531	1,905	1,900	1,881	1,845	1,923	1,892
Alt 2	0	1,531	1,905	1,900	1,881	1,845	1,923	1,892
Alt 3	0	1,531	1,905	1,900	1,881	1,845	1,923	1,892
Alt 4	0	1,531	1,905	1,900	1,881	1,935	1,956	1,924
Alt 5	0	1,531	1,905	1,997	2,268	2,667	2,628	2,607

Table 101 - Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Mazda)

Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Mazda)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	0	0	3,744	3,679	3,618	3,557	3,484
Alt 1	0	0	0	224	224	224	212	300
Alt 2	0	0	0	224	224	224	212	300
Alt 3	0	0	0	224	224	224	212	300
Alt 4	0	0	0	2,526	2,490	2,456	1,390	1,451
Alt 5	0	0	0	3,744	3,679	3,618	1,665	2,400

Table 102 - Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Mercedes-Benz)

Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Mercedes-Benz)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	75	228	882	932	1,145	1,489	1,497
Alt 1	0	75	228	305	336	182	297	260
Alt 2	0	75	228	305	336	182	297	260
Alt 3	0	75	228	305	336	187	333	300
Alt 4	0	75	228	882	932	1,145	1,779	1,713
Alt 5	0	75	228	882	932	1,145	2,184	2,168

Table 103 - Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Mitsubishi)

Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Mitsubishi)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	0	1,342	1,333	1,315	1,293	1,271	1,251
Alt 1	0	0	1,342	1,319	1,294	1,272	439	427
Alt 2	0	0	1,342	1,319	1,294	1,272	439	427
Alt 3	0	0	1,342	1,319	1,294	1,272	439	427
Alt 4	0	0	1,342	1,319	1,295	1,272	439	427
Alt 5	0	0	1,342	1,319	1,295	1,273	1,066	1,050

Table 104 - Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Nissan)

Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Nissan)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	658	1,016	1,748	1,697	1,666	1,636	1,610
Alt 1	0	658	1,016	968	922	905	587	574
Alt 2	0	658	1,016	968	922	905	587	574
Alt 3	0	658	1,016	968	922	905	587	574
Alt 4	0	658	1,016	968	922	905	615	602
Alt 5	0	658	1,016	1,219	1,169	1,147	1,018	999

Table 105 - Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Stellantis)

Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Stellantis)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	168	163	971	945	920	1,083	1,034
Alt 1	0	168	163	84	81	78	497	492
Alt 2	0	168	163	84	81	78	497	492
Alt 3	0	168	163	218	214	211	781	771
Alt 4	0	168	163	971	945	920	1,676	1,648
Alt 5	0	168	163	971	945	920	2,617	2,580

Table 106 - Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Subaru)

Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Subaru)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	138	1,020	1,063	1,048	2,670	2,627	2,586
Alt 1	0	138	1,020	1,042	1,027	1,171	1,141	1,126
Alt 2	0	138	1,020	1,042	1,027	1,171	1,141	1,126
Alt 3	0	138	1,020	1,042	1,027	1,171	1,141	1,126
Alt 4	0	138	1,020	1,063	1,048	1,192	1,143	1,128
Alt 5	0	138	1,020	1,063	1,048	2,576	1,829	1,831

Table 107 - Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Toyota)

Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Toyota)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	517	973	1,889	1,945	1,994	2,065	2,128
Alt 1	0	517	973	997	999	1,002	863	883
Alt 2	0	517	973	997	999	1,002	863	883
Alt 3	0	517	973	997	999	1,002	863	883
Alt 4	0	517	973	997	999	1,002	863	883
Alt 5	0	517	973	997	1,002	1,005	864	884

Table 108 - Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Volvo)

Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (Volvo)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	0	1,463	1,459	2,153	2,120	2,087	2,039
Alt 1	0	0	1,463	1,443	1,478	1,462	1,650	1,595
Alt 2	0	0	1,463	1,459	1,513	1,496	1,655	1,600
Alt 3	0	0	1,463	1,459	1,633	1,615	1,673	1,617
Alt 4	0	0	1,463	1,459	2,153	2,120	1,784	1,723
Alt 5	0	0	1,463	1,459	2,153	2,120	2,433	2,363

Table 109 - Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (VWA)

Estimated Average Per Vehicle Regulatory Costs ($), Passenger Car Fleet for Manufacturer (VWA)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	758	895	1,702	3,100	3,045	2,993	3,036
Alt 1	0	758	895	996	1,031	1,019	1,155	1,147
Alt 2	0	758	895	996	1,031	1,019	1,193	1,184
Alt 3	0	758	895	1,063	1,097	1,084	1,329	1,318
Alt 4	0	758	895	1,110	1,527	1,507	1,700	1,688
Alt 5	0	758	895	1,702	3,100	3,046	2,392	2,382

Table 110 - Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (BMW)

Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (BMW)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	808	791	1,780	1,757	2,315	2,345	2,295
Alt 1	0	808	791	1,004	993	985	476	462
Alt 2	0	808	791	1,004	993	985	476	462
Alt 3	0	808	791	1,004	993	985	476	462
Alt 4	0	808	791	1,140	1,127	1,126	683	668
Alt 5	0	808	791	2,290	2,248	2,793	2,862	2,814

Table 111 - Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Ferrari)

Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Ferrari)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	0	0	0	0	0	0	0
Alt 1	0	0	0	0	0	0	0	0
Alt 2	0	0	0	0	0	0	0	0
Alt 3	0	0	0	0	0	0	0	0
Alt 4	0	0	0	0	0	0	0	0
Alt 5	0	0	0	0	0	0	0	0

Table 112 - Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Ford)

Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Ford)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	574	559	1,451	1,741	1,721	1,978	1,955
Alt 1	0	574	559	856	855	848	713	704
Alt 2	0	574	559	856	855	848	713	704
Alt 3	0	574	559	934	933	924	713	704
Alt 4	0	574	559	1,059	1,086	1,076	713	704
Alt 5	0	574	559	1,184	1,343	1,329	951	939

Table 113 - Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (GM)

Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (GM)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	525	715	2,583	3,696	3,707	3,795	3,916
Alt 1	0	525	715	923	969	956	362	404
Alt 2	0	525	715	923	969	956	362	404
Alt 3	0	525	715	923	969	956	362	404
Alt 4	0	525	715	923	969	956	362	404
Alt 5	0	525	715	1,436	1,667	1,710	1,433	1,517

Table 114 - Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Honda)

Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Honda)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	589	715	811	1,094	1,078	1,162	1,144
Alt 1	0	589	715	785	699	689	1,299	1,276
Alt 2	0	589	715	785	699	689	1,299	1,276
Alt 3	0	589	715	785	699	689	1,299	1,276
Alt 4	0	589	715	785	699	689	1,299	1,276
Alt 5	0	589	715	785	1,059	1,044	1,299	1,276

Table 115 - Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Hyundai)

Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Hyundai)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	295	1,168	1,217	2,274	2,699	2,661	2,617
Alt 1	0	295	1,168	1,193	1,211	1,197	842	836
Alt 2	0	295	1,168	1,193	1,211	1,197	842	836
Alt 3	0	295	1,168	1,193	1,211	1,197	842	836
Alt 4	0	295	1,168	1,193	1,286	1,482	842	836
Alt 5	0	295	1,168	1,193	1,693	2,129	1,402	1,389

Table 116 - Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Ineos)

Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Ineos)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	0	0	0	0	0	0	2,731
Alt 1	0	0	0	0	0	0	0	1,608
Alt 2	0	0	0	0	0	0	0	1,608
Alt 3	0	0	0	0	0	0	0	2,077
Alt 4	0	0	0	0	0	0	0	2,731
Alt 5	0	0	0	0	0	0	0	2,731

Table 117 - Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (JLR)

Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (JLR)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	263	932	1,888	1,851	1,924	1,893	1,629
Alt 1	0	263	932	1,254	1,232	789	-7	-770
Alt 2	0	263	932	1,254	1,232	789	-7	-770
Alt 3	0	263	932	1,254	1,232	789	-7	-770
Alt 4	0	263	932	1,888	1,851	1,609	313	-497
Alt 5	0	263	932	1,888	1,851	1,924	716	87

Table 118 - Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (KIA)

Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (KIA)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	1,214	2,105	2,080	2,804	2,769	2,735	2,733
Alt 1	0	1,214	2,105	2,080	2,039	2,014	0	0
Alt 2	0	1,214	2,105	2,080	2,039	2,014	0	0
Alt 3	0	1,214	2,105	2,080	2,039	2,014	0	0
Alt 4	0	1,214	2,105	2,080	2,039	2,014	0	0
Alt 5	0	1,214	2,105	2,080	2,700	2,666	0	0

Table 119 - Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Mazda)

Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Mazda)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	17	17	1,224	1,210	1,520	1,505	1,803
Alt 1	0	17	17	160	159	212	0	0
Alt 2	0	17	17	160	159	212	0	0
Alt 3	0	17	17	160	159	212	0	0
Alt 4	0	17	17	1,037	1,025	1,313	0	0
Alt 5	0	17	17	1,224	1,210	1,520	0	0

Table 120 - Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Mercedes-Benz)

Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Mercedes-Benz)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	103	1,016	1,390	1,374	1,350	1,848	1,807
Alt 1	0	103	1,016	1,009	1,002	989	1,238	1,212
Alt 2	0	103	1,016	1,009	1,002	989	1,238	1,212
Alt 3	0	103	1,016	1,009	1,002	989	1,238	1,212
Alt 4	0	103	1,016	1,292	1,277	1,255	1,238	1,212
Alt 5	0	103	1,016	1,390	1,374	1,350	1,238	1,212

Table 121 - Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Mitsubishi)

Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Mitsubishi)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	166	165	796	2,213	2,232	2,188	2,129
Alt 1	0	166	165	265	353	214	0	0
Alt 2	0	166	165	265	353	214	0	0
Alt 3	0	166	165	265	353	214	0	0
Alt 4	0	166	165	265	353	214	0	0
Alt 5	0	166	165	300	849	1,027	0	0

Table 122 - Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Nissan)

Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Nissan)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	262	372	1,179	1,163	1,569	1,958	1,926
Alt 1	0	262	372	670	663	533	1,618	1,600
Alt 2	0	262	372	670	663	533	1,618	1,600
Alt 3	0	262	372	670	663	533	1,618	1,600
Alt 4	0	262	372	722	714	584	1,618	1,600
Alt 5	0	262	372	1,179	1,163	1,024	1,987	1,965

Table 123 - Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Stellantis)

Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Stellantis)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	208	457	1,561	2,102	2,599	2,582	2,549
Alt 1	0	208	457	651	718	864	1,001	1,013
Alt 2	0	208	457	651	718	864	1,001	1,013
Alt 3	0	208	457	744	809	954	1,000	1,013
Alt 4	0	208	457	1,003	1,163	1,372	1,314	1,297
Alt 5	0	208	457	1,528	2,070	2,280	2,051	2,026

Table 124 - Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Subaru)

Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Subaru)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	822	1,083	1,065	1,128	1,203	1,185	1,460
Alt 1	0	822	1,083	1,065	1,113	1,157	0	0
Alt 2	0	822	1,083	1,065	1,113	1,157	0	0
Alt 3	0	822	1,083	1,065	1,113	1,157	0	0
Alt 4	0	822	1,083	1,065	1,113	1,157	0	0
Alt 5	0	822	1,083	1,065	1,335	1,768	0	0

Table 125 - Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Toyota)

Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Toyota)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	286	660	780	818	960	1,017	1,068
Alt 1	0	286	660	697	703	725	783	777
Alt 2	0	286	660	697	703	725	783	777
Alt 3	0	286	660	697	703	725	783	777
Alt 4	0	286	660	697	703	725	783	777
Alt 5	0	286	660	697	733	931	1,357	1,343

Table 126 - Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Volvo)

Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (Volvo)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	0	1,733	1,928	1,893	2,495	2,449	2,375
Alt 1	0	0	1,733	1,658	1,625	1,723	0	0
Alt 2	0	0	1,733	1,658	1,625	1,723	0	0
Alt 3	0	0	1,733	1,658	1,625	1,723	0	0
Alt 4	0	0	1,733	1,693	1,659	1,768	0	0
Alt 5	0	0	1,733	1,974	1,938	2,540	0	0

Table 127 - Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (VWA)

Estimated Average Per Vehicle Regulatory Costs ($), Light Truck Fleet for Manufacturer (VWA)								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Alt 0 - No Action	0	661	850	2,007	2,210	2,184	2,159	2,134
Alt 1	0	661	850	1,070	1,076	1,065	691	685
Alt 2	0	661	850	1,122	1,127	1,115	691	685
Alt 3	0	661	850	1,297	1,301	1,286	691	685
Alt 4	0	661	850	1,720	1,740	1,720	691	685
Alt 5	0	661	850	1,969	2,173	2,147	1,751	1,728

A6. Labor Impacts

Table 128 - Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Total)

Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Total)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	885	885	885	885	885	885
2025	833	833	833	833	833	833
2026	804	804	804	804	804	804
2027	776	772	772	772	773	774
2028	760	753	753	754	754	757
2029	764	755	755	755	756	760
2030	791	781	781	781	782	787
2031	814	804	804	804	805	810

Table 129 - Estimated Labor Utilization (1000s of Person-Years), Passenger Car Fleet for Manufacturer (Total)

Estimated Labor Utilization (1000s of Person-Years), Passenger Car Fleet for Manufacturer (Total)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	203	203	203	203	203	203
2025	179	179	179	179	179	179
2026	168	168	168	168	168	168
2027	155	154	154	154	154	154
2028	149	147	147	147	147	147
2029	147	145	145	145	145	146
2030	148	460	460	461	462	463
2031	150	472	472	473	473	475

Table 130 - Estimated Labor Utilization (1000s of Person-Years), Light Truck Fleet for Manufacturer (Total)

Estimated Labor Utilization (1000s of Person-Years), Light Truck Fleet for Manufacturer (Total)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	681	681	681	681	681	681
2025	654	654	654	654	654	654
2026	636	636	636	636	636	636
2027	621	618	618	618	619	620
2028	612	607	607	607	608	610
2029	617	610	610	610	611	614
2030	643	321	321	321	321	323
2031	665	332	332	332	332	334

Table 131 - Estimated Labor Utilization (1000s of Person-Years), Domestic Car Fleet for Manufacturer (Total)

Estimated Labor Utilization (1000s of Person-Years), Domestic Car Fleet for Manufacturer (Total)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	125	125	125	125	125	125
2025	111	111	111	111	111	111
2026	103	103	103	103	103	103
2027	95	95	95	95	95	95
2028	92	90	90	90	91	91
2029	90	89	89	89	90	90
2030	91	213	213	213	214	215
2031	92	218	218	218	219	220

Table 132 - Estimated Labor Utilization (1000s of Person-Years), Imported Car Fleet for Manufacturer (Total)

Estimated Labor Utilization (1000s of Person-Years), Imported Car Fleet for Manufacturer (Total)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	78	78	78	78	78	78
2025	68	68	68	68	68	68
2026	64	64	64	64	64	64
2027	60	59	59	59	59	59
2028	57	56	56	56	56	56
2029	56	56	56	56	56	56
2030	57	248	248	248	248	248
2031	58	255	255	255	255	255

Table 133 - Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (BMW)

Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (BMW)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	18	18	18	18	18	18
2025	17	17	17	17	17	17
2026	16	16	16	16	16	16
2027	16	16	16	16	16	16
2028	15	15	15	15	15	15
2029	15	15	15	15	15	15
2030	16	16	16	16	16	16
2031	16	16	16	16	16	17

Table 134 - Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Ferrari)

Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Ferrari)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	0	0	0	0	0	0
2025	0	0	0	0	0	0
2026	0	0	0	0	0	0
2027	0	0	0	0	0	0
2028	0	0	0	0	0	0
2029	0	0	0	0	0	0
2030	0	0	0	0	0	0
2031	0	0	0	0	0	0

Table 135 - Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Ford)

Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Ford)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	132	132	132	132	132	132
2025	125	125	125	125	125	125
2026	121	121	121	121	121	121
2027	117	117	117	117	117	117
2028	114	114	114	114	114	114
2029	115	115	115	115	115	115
2030	119	119	119	119	119	119
2031	123	123	123	123	123	123

Table 136 - Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (GM)

Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (GM)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	169	169	169	169	169	169
2025	161	161	161	161	161	161
2026	155	155	155	155	155	155
2027	152	150	150	150	150	150
2028	150	146	146	146	146	147
2029	151	147	147	147	147	148
2030	156	152	152	152	152	153
2031	162	157	157	157	157	158

Table 137 - Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Honda)

Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Honda)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	102	102	102	102	102	102
2025	94	94	94	94	94	94
2026	89	89	89	89	89	89
2027	85	85	85	85	85	85
2028	83	82	82	82	82	83
2029	83	82	82	82	82	83
2030	86	84	84	84	84	85
2031	88	86	86	86	86	87

Table 138 - Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Hyundai)

Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Hyundai)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	21	21	21	21	21	21
2025	20	20	20	20	20	20
2026	19	19	19	19	19	19
2027	18	18	18	18	18	18
2028	18	18	18	18	18	18
2029	18	18	18	18	18	18
2030	19	19	19	19	19	19
2031	19	19	19	19	19	19

Table 139 - Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Ineos)

Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Ineos)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	0	0	0	0	0	0
2025	0	0	0	0	0	0
2026	0	0	0	0	0	0
2027	0	0	0	0	0	0
2028	0	0	0	0	0	0
2029	0	0	0	0	0	0
2030	0	0	0	0	0	0
2031	0	0	0	0	0	0

Table 140 - Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (JLR)

Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (JLR)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	1	1	1	1	1	1
2025	1	1	1	1	1	1
2026	1	1	1	1	1	1
2027	1	1	1	1	1	1
2028	1	1	1	1	1	1
2029	1	1	1	1	1	1
2030	1	1	1	1	1	1
2031	1	1	1	1	1	1

Table 141 - Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (KIA)

Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (KIA)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	37	37	37	37	37	37
2025	35	35	35	35	35	35
2026	34	34	34	34	34	34
2027	33	33	33	33	33	33
2028	32	32	32	32	32	32
2029	32	32	32	32	32	32
2030	33	33	33	33	33	33
2031	34	34	34	34	34	34

Table 142 - Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Mazda)

Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Mazda)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	12	12	12	12	12	12
2025	12	12	12	12	12	12
2026	11	11	11	11	11	11
2027	11	11	11	11	11	11
2028	11	11	11	11	11	11
2029	11	11	11	11	11	11
2030	11	11	11	11	11	11
2031	12	12	12	12	12	12

Table 143 - Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Mercedes-Benz)

Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Mercedes-Benz)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	12	12	12	12	12	12
2025	11	11	11	11	11	11
2026	11	11	11	11	11	11
2027	10	10	10	10	10	10
2028	10	10	10	10	10	10
2029	10	10	10	10	10	10
2030	11	11	11	11	11	11
2031	11	11	11	11	11	11

Table 144 - Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Mitsubishi)

Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Mitsubishi)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	2	2	2	2	2	2
2025	2	2	2	2	2	2
2026	2	2	2	2	2	2
2027	2	2	2	2	2	2
2028	2	2	2	2	2	2
2029	2	2	2	2	2	2
2030	2	2	2	2	2	2
2031	2	2	2	2	2	2

Table 145 - Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Nissan)

Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Nissan)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	51	51	51	51	51	51
2025	47	47	47	47	47	47
2026	45	45	45	45	45	45
2027	43	42	42	42	42	43
2028	41	41	41	41	41	41
2029	41	41	41	41	41	41
2030	43	42	42	42	42	42
2031	44	43	43	43	43	43

Table 146 - Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Stellantis)

Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Stellantis)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	94	94	94	94	94	94
2025	90	90	90	90	90	90
2026	88	88	88	88	88	88
2027	86	85	85	85	86	86
2028	85	84	84	84	84	85
2029	86	84	84	85	85	86
2030	90	88	88	88	89	90
2031	93	91	91	91	91	93

Table 147 - Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Subaru)

Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Subaru)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	38	38	38	38	38	38
2025	36	36	36	36	36	36
2026	35	35	35	35	35	35
2027	34	34	34	34	34	34
2028	33	33	33	33	33	33
2029	33	33	33	33	33	34
2030	35	35	35	35	35	35
2031	36	36	36	36	36	36

Table 148 - Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Toyota)

Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Toyota)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	171	171	171	171	171	171
2025	159	159	159	159	159	159
2026	154	154	154	154	154	154
2027	147	146	146	146	146	146
2028	143	142	142	142	142	142
2029	143	142	142	142	142	142
2030	147	147	147	147	146	147
2031	151	150	150	150	150	150

Table 149 - Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Volvo)

Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (Volvo)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	3	3	3	3	3	3
2025	3	3	3	3	3	3
2026	3	3	3	3	3	3
2027	2	2	2	2	2	2
2028	2	2	2	2	2	2
2029	2	2	2	2	2	2
2030	2	2	2	2	2	2
2031	2	2	2	2	2	2

Table 150 - Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (VWA)

Estimated Labor Utilization (1000s of Person-Years), Total Fleet for Manufacturer (VWA)						
Model Year	Regulatory Alternative					
	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
2024	22	22	22	22	22	22
2025	21	21	21	21	21	21
2026	20	20	20	20	20	20
2027	20	19	19	19	20	20
2028	19	19	19	19	19	19
2029	19	19	19	19	19	19
2030	20	20	20	20	20	20
2031	20	20	20	20	20	20

Table 151 - Changes in Work Loss Days (thousand instances), Total Fleet through MY 2031

Changes in Work Loss Days (thousand instances), Total Fleet through MY 2031					
Category	Regulatory Alternative				
	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Work Loss Days from Upstream Emissions	21.4	21.3	20.2	16.2	5.0
Work Loss Days from Tailpipe Emissions	-8.8	-8.8	-8.6	-7.5	-3.6
Total Work Loss Days	12.6	12.5	11.6	8.7	1.4

Table 152 - Changes in Work Loss Days (thousand instances), Passenger Car Fleet through MY 2031

Changes in Work Loss Days (thousand instances), Passenger Car Fleet through MY 2031					
Category	Regulatory Alternative				
	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Work Loss Days from Upstream Emissions	53.3	53.2	52.7	51.0	46.1
Work Loss Days from Tailpipe Emissions	109.4	109.4	109.5	110.2	112.1
Total Work Loss Days	162.7	162.7	162.2	161.2	158.2

Table 153 - Changes in Work Loss Days (thousand instances), Light Truck Fleet through MY 2031

Changes in Work Loss Days (thousand instances), Light Truck Fleet through MY 2031					
Category	Regulatory Alternative				
	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Work Loss Days from Upstream Emissions	-31.9	-31.9	-32.5	-34.8	-41.1
Work Loss Days from Tailpipe Emissions	-118.3	-118.2	-118.1	-117.7	-115.7
Total Work Loss Days	-150.1	-150.2	-150.6	-152.5	-156.8

A7. Compliance Impacts

Table 154 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Total Fleet, Alt 1

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Total Fleet, Alt 1									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	38.8	41.9	46.5	29.5	29.6	29.7	31.2	31.3	N/A
Change from Baseline (%)	0%	0%	0%	-37%	-36%	-37%	-36%	-37%	N/A
Average Achieved (mpg)	35.4	37.5	39.3	41.1	39.2	39.6	39.9	40.0	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-7.0	-11.2	-13.7	-14.7	-15.7	-62.2
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0361	0.0596	0.0702	0.0738	0.0777	0.32

Table 155 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Passenger Car Fleet, Alt 1

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Passenger Car Fleet, Alt 1									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	49.3	53.6	59.5	35.9	36.1	36.2	35.8	35.9	N/A
Change from Baseline (%)	0%	0%	0%	-41%	-42%	-43%	-44%	-45%	N/A
Average Achieved (mpg)	43.2	46.1	49.2	51.1	49.1	49.7	45.0	45.2	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-1.8	-2.8	-4.1	1.4	1.4	-5.9
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0055	0.0062	0.0305	5.3072	5.4875	10.84

Table 156 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Light Truck Fleet, Alt 1

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Light Truck Fleet, Alt 1									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	35.4	38.4	42.7	27.6	27.7	27.9	23.7	23.8	N/A
Change from Baseline (%)	0%	0%	0%	-35%	-35%	-36%	-47%	-48%	N/A
Average Achieved (mpg)	32.7	34.8	36.3	38.3	36.5	36.9	31.1	31.3	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-5.2	-8.4	-9.6	-16.1	-17.0	-56.3
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0306	0.0533	0.0397	-5.233	-5.41	-10.52

Table 157 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Domestic Car Fleet, Alt 1

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Domestic Car Fleet, Alt 1									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	49.0	53.2	59.1	35.7	35.9	36.0	35.5	35.5	N/A
Change from Baseline (%)	0%	0%	0%	-41%	-42%	-43%	-45%	-46%	N/A
Average Achieved (mpg)	43.5	47.2	50.1	51.5	49.2	50.1	43.7	43.8	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-0.4	-0.8	-1.5	0.0	0.0	-2.6
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0024	0.0028	0.0136	1.554	1.6072	3.18

Table 158 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Imported Car Fleet, Alt 1

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Imported Car Fleet, Alt 1									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	49.5	53.9	59.8	36.0	36.2	36.4	36.0	36.1	N/A
Change from Baseline (%)	0%	0%	0%	-41%	-42%	-43%	-45%	-45%	N/A
Average Achieved (mpg)	43.0	45.2	48.4	50.8	48.9	49.4	45.7	45.9	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-1.4	-2.0	-2.6	1.4	1.4	-3.3
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.003	0.0035	0.0169	3.7532	3.8803	7.66

Table 159 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Total Fleet, Alt 2

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Total Fleet, Alt 2									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	38.8	41.9	46.5	30.2	30.3	30.4	32.0	32.1	N/A
Change from Baseline (%)	0%	0%	0%	-35%	-35%	-36%	-34%	-35%	N/A
Average Achieved (mpg)	35.4	37.5	39.3	41.2	39.2	39.7	39.9	40.0	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-7.0	-11.2	-13.6	-14.6	-15.6	-62.1
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.036	0.0595	0.0701	0.0737	0.0776	0.32

Table 160 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Passenger Car Fleet, Alt 2

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Passenger Car Fleet, Alt 2									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	49.3	53.6	59.5	37.0	37.1	37.3	36.9	37.0	N/A
Change from Baseline (%)	0%	0%	0%	-39%	-40%	-41%	-43%	-44%	N/A
Average Achieved (mpg)	43.2	46.1	49.2	51.1	49.1	49.7	45.0	45.2	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-1.8	-2.8	-4.1	1.4	1.4	-5.8
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0053	0.0061	0.0304	5.3071	5.4874	10.84

Table 161 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Light Truck Fleet, Alt 2

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Light Truck Fleet, Alt 2									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	35.4	38.4	42.7	28.2	28.3	28.5	24.2	24.3	N/A
Change from Baseline (%)	0%	0%	0%	-34%	-34%	-35%	-46%	-46%	N/A
Average Achieved (mpg)	32.7	34.8	36.3	38.3	36.5	37.0	31.1	31.3	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-5.2	-8.4	-9.6	-16.1	-17.0	-56.2
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0307	0.0534	0.0398	-5.233	-5.41	-10.52

Table 162 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Domestic Car Fleet, Alt 2

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Domestic Car Fleet, Alt 2									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	49.0	53.2	59.1	36.8	36.9	37.1	36.5	36.6	N/A
Change from Baseline (%)	0%	0%	0%	-39%	-40%	-41%	-43%	-44%	N/A
Average Achieved (mpg)	43.5	47.2	50.1	51.6	49.3	50.2	43.8	43.9	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-0.3	-0.8	-1.4	0.1	0.0	-2.5
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0024	0.0027	0.0136	1.554	1.6072	3.18

Table 163 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Imported Car Fleet, Alt 2

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Imported Car Fleet, Alt 2									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	49.5	53.9	59.8	37.1	37.3	37.5	37.1	37.2	N/A
Change from Baseline (%)	0%	0%	0%	-39%	-40%	-41%	-43%	-44%	N/A
Average Achieved (mpg)	43.0	45.2	48.4	50.8	48.9	49.4	45.7	45.9	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-1.4	-2.0	-2.6	1.4	1.4	-3.3
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0029	0.0034	0.0168	3.7531	3.8802	7.66

Table 164 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Total Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Total Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	38.8	41.9	46.5	32.3	32.4	32.6	34.6	34.9	N/A
Change from Baseline (%)	0%	0%	0%	-31%	-30%	-31%	-29%	-29%	N/A
Average Achieved (mpg)	35.4	37.5	39.3	41.3	39.4	39.8	40.0	40.2	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-6.7	-10.9	-13.3	-14.3	-15.3	-60.6
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0353	0.0588	0.0695	0.0731	0.077	0.31

Table 165 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Passenger Car Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Passenger Car Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	49.3	53.6	59.5	39.2	39.6	39.9	39.8	40.2	N/A
Change from Baseline (%)	0%	0%	0%	-35%	-36%	-37%	-38%	-39%	N/A
Average Achieved (mpg)	43.2	46.1	49.2	51.3	49.2	49.9	45.4	45.5	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-1.7	-2.8	-4.0	1.7	1.7	-5.1
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0054	0.0062	0.0304	5.3067	5.487	10.84

Table 166 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Light Truck Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Light Truck Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	35.4	38.4	42.7	30.3	30.4	30.6	26.2	26.4	N/A
Change from Baseline (%)	0%	0%	0%	-29%	-29%	-30%	-41%	-42%	N/A
Average Achieved (mpg)	32.7	34.8	36.3	38.5	36.7	37.1	31.1	31.3	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-4.9	-8.1	-9.3	-16.1	-17.0	-55.5
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0299	0.0526	0.039	-5.234	-5.41	-10.52

Table 167 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Domestic Car Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Domestic Car Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	49.0	53.2	59.1	39.0	39.4	39.7	39.4	39.8	N/A
Change from Baseline (%)	0%	0%	0%	-35%	-36%	-37%	-39%	-39%	N/A
Average Achieved (mpg)	43.5	47.2	50.1	51.9	49.5	50.4	44.6	44.7	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-0.3	-0.8	-1.4	0.3	0.3	-1.8
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0024	0.0027	0.0136	1.5538	1.6071	3.18

Table 168 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Imported Car Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Imported Car Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	49.5	53.9	59.8	39.4	39.7	40.1	40.0	40.4	N/A
Change from Baseline (%)	0%	0%	0%	-35%	-36%	-37%	-38%	-39%	N/A
Average Achieved (mpg)	43.0	45.2	48.4	50.8	49.0	49.4	45.8	45.9	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-1.4	-2.0	-2.6	1.4	1.4	-3.3
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.003	0.0034	0.0169	3.7529	3.88	7.66

Table 169 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Total Fleet, Alt 4

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Total Fleet, Alt 4									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	38.8	41.9	46.5	35.5	36.0	36.5	38.7	38.9	N/A
Change from Baseline (%)	0%	0%	0%	-24%	-23%	-23%	-20%	-21%	N/A
Average Achieved (mpg)	35.4	37.5	39.3	41.8	39.9	40.6	40.9	41.0	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-5.5	-9.5	-11.7	-12.5	-13.5	-52.7
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0305	0.0535	0.0633	0.0663	0.0702	0.28

Table 170 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Passenger Car Fleet, Alt 4

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Passenger Car Fleet, Alt 4									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	49.3	53.6	59.5	43.8	44.4	45.0	44.7	44.9	N/A
Change from Baseline (%)	0%	0%	0%	-28%	-28%	-29%	-31%	-32%	N/A
Average Achieved (mpg)	43.2	46.1	49.2	51.5	49.7	50.5	46.5	46.7	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-1.6	-2.5	-3.7	3.3	3.3	-1.2
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0077	0.0078	0.0322	5.3033	5.4836	10.83

Table 171 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Light Truck Fleet, Alt 4

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Light Truck Fleet, Alt 4									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	35.4	38.4	42.7	33.1	33.7	34.2	29.1	29.3	N/A
Change from Baseline (%)	0%	0%	0%	-22%	-21%	-22%	-35%	-35%	N/A
Average Achieved (mpg)	32.7	34.8	36.3	39.0	37.2	37.9	31.4	31.6	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-3.9	-7.0	-7.9	-15.9	-16.8	-51.5
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0228	0.0457	0.0311	-5.237	-5.413	-10.55

Table 172 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Domestic Car Fleet, Alt 4

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Domestic Car Fleet, Alt 4									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	49.0	53.2	59.1	43.6	44.2	44.8	44.2	44.4	N/A
Change from Baseline (%)	0%	0%	0%	-28%	-28%	-29%	-31%	-32%	N/A
Average Achieved (mpg)	43.5	47.2	50.1	51.9	49.5	50.6	45.6	45.8	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-0.3	-0.8	-1.4	0.8	0.8	-0.9
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0034	0.0035	0.0144	1.5531	1.6063	3.18

Table 173 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Imported Car Fleet, Alt 4

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Imported Car Fleet, Alt 4									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	49.5	53.9	59.8	44.0	44.6	45.2	44.9	45.1	N/A
Change from Baseline (%)	0%	0%	0%	-28%	-28%	-29%	-31%	-32%	N/A
Average Achieved (mpg)	43.0	45.2	48.4	51.2	49.9	50.4	47.0	47.2	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-1.3	-1.8	-2.3	2.6	2.6	-0.2
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0043	0.0043	0.0178	3.7502	3.8773	7.65

Table 174 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Total Fleet, Alt 5

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Total Fleet, Alt 5									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	38.8	41.9	46.5	38.4	39.5	40.7	43.1	43.3	N/A
Change from Baseline (%)	0%	0%	0%	-17%	-15%	-14%	-11%	-12%	N/A
Average Achieved (mpg)	35.4	37.5	39.3	42.7	41.6	42.9	43.4	43.7	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-3.0	-5.0	-5.7	-6.1	-6.4	-26.1
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0182	0.0325	0.0357	0.0374	0.0387	0.16

Table 175 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Passenger Car Fleet, Alt 5

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Passenger Car Fleet, Alt 5									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	49.3	53.6	59.5	47.3	48.7	50.1	49.7	49.9	N/A
Change from Baseline (%)	0%	0%	0%	-22%	-21%	-21%	-23%	-24%	N/A
Average Achieved (mpg)	43.2	46.1	49.2	52.7	52.1	54.4	49.4	49.8	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-0.9	-1.4	-2.0	7.5	8.1	11.3
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.005	0.0049	0.0197	5.2817	5.4587	10.77

Table 176 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Light Truck Fleet, Alt 5

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Light Truck Fleet, Alt 5									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	35.4	38.4	42.7	35.9	37.0	38.1	32.5	32.7	N/A
Change from Baseline (%)	0%	0%	0%	-16%	-13%	-13%	-27%	-28%	N/A
Average Achieved (mpg)	32.7	34.8	36.3	39.9	38.7	39.8	33.4	33.7	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-2.1	-3.6	-3.7	-13.6	-14.4	-37.4
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0132	0.0277	0.016	-5.244	-5.42	-10.61

Table 177 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Domestic Car Fleet, Alt 5

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Domestic Car Fleet, Alt 5									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	49.0	53.2	59.1	47.1	48.5	49.8	49.2	49.4	N/A
Change from Baseline (%)	0%	0%	0%	-22%	-21%	-21%	-23%	-24%	N/A
Average Achieved (mpg)	43.5	47.2	50.1	52.3	51.5	54.2	48.7	48.9	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-0.2	-0.5	-0.8	2.2	2.3	3.0
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0022	0.0022	0.0088	1.5452	1.5968	3.16

Table 178 - Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Imported Car Fleet, Alt 5

Compliance Impacts and Cumulative Industry Costs by Model Year for Total and Imported Car Fleet, Alt 5									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	49.5	53.9	59.8	47.5	48.8	50.2	49.9	50.2	N/A
Change from Baseline (%)	0%	0%	0%	-22%	-22%	-21%	-23%	-24%	N/A
Average Achieved (mpg)	43.0	45.2	48.4	53.1	52.7	54.5	49.7	50.3	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-0.7	-0.9	-1.2	5.3	5.8	8.3
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0028	0.0027	0.0109	3.7365	3.8619	7.61

Table 179 - Compliance Impacts and Cumulative Industry Costs by Model Year for BMW and Total Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for BMW and Total Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	40.7	44.0	48.7	33.7	33.9	34.1	35.5	35.8	N/A
Change from Baseline (%)	0%	0%	0%	-31%	-31%	-32%	-30%	-31%	N/A
Average Achieved (mpg)	34.3	38.5	40.2	42.6	40.6	40.6	40.6	41.0	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-0.1	-0.2	-0.3	-0.3	-0.4	-1.3
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0008	0.0014	0.002	0.002	0.0022	0.01

Table 180 - Compliance Impacts and Cumulative Industry Costs by Model Year for Ferrari and Total Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for Ferrari and Total Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	47.6	51.7	57.5	38.4	38.7	39.1	40.0	40.4	N/A
Change from Baseline (%)	0%	0%	0%	-34%	-35%	-36%	-36%	-36%	N/A
Average Achieved (mpg)	21.3	21.3	21.5	21.5	22.0	22.0	23.0	24.2	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	4E-06	5E-06	3E-05	2E-05	2E-05	0.00

Table 181 - Compliance Impacts and Cumulative Industry Costs by Model Year for Ford and Total Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for Ford and Total Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	34.4	37.3	41.5	29.0	29.2	29.3	29.9	30.1	N/A
Change from Baseline (%)	0%	0%	0%	-30%	-30%	-31%	-31%	-32%	N/A
Average Achieved (mpg)	32.2	33.5	33.5	37.7	35.2	35.2	36.0	36.0	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-0.6	-1.0	-1.0	-1.3	-1.3	-5.1
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0046	0.0079	0.0067	0.0076	0.0078	0.03

Table 182 - Compliance Impacts and Cumulative Industry Costs by Model Year for GM and Total Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for GM and Total Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	35.9	38.8	43.0	29.6	29.7	29.9	30.8	31.1	N/A
Change from Baseline (%)	0%	0%	0%	-31%	-31%	-32%	-31%	-31%	N/A
Average Achieved (mpg)	30.9	32.7	34.1	36.1	35.0	35.3	35.3	35.5	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-2.4	-3.8	-4.4	-4.7	-5.0	-20.4
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0058	0.0097	0.0113	0.0119	0.0125	0.05

Table 183 - Compliance Impacts and Cumulative Industry Costs by Model Year for Honda and Total Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for Honda and Total Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	43.1	46.6	51.6	35.4	35.6	35.8	39.4	39.8	N/A
Change from Baseline (%)	0%	0%	0%	-32%	-32%	-33%	-27%	-28%	N/A
Average Achieved (mpg)	42.9	44.6	46.3	46.5	43.8	44.1	44.5	44.7	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-0.1	-0.8	-1.0	-1.1	-1.2	-4.1
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0026	0.0041	0.0072	0.0071	0.0077	0.03

Table 184 - Compliance Impacts and Cumulative Industry Costs by Model Year for Hyundai and Total Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for Hyundai and Total Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	41.5	45.0	49.8	34.5	34.7	34.9	38.5	38.9	N/A
Change from Baseline (%)	0%	0%	0%	-31%	-31%	-32%	-26%	-27%	N/A
Average Achieved (mpg)	38.0	39.7	42.7	43.8	41.8	41.8	41.7	41.7	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-0.4	-1.0	-1.3	-1.3	-1.3	-5.3
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0019	0.003	0.0043	0.0044	0.0047	0.02

Table 185 - Compliance Impacts and Cumulative Industry Costs by Model Year for Ineos and Total Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for Ineos and Total Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	36.6	39.7	44.1	31.4	31.6	31.7	29.2	29.6	N/A
Change from Baseline (%)	0%	0%	0%	-29%	-28%	-30%	-37%	-37%	N/A
Average Achieved (mpg)	20.7	20.7	20.7	20.7	19.9	19.9	19.9	29.6	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	3E-05	5E-05	4E-05	5E-05	5E-05	0.00

Table 186 - Compliance Impacts and Cumulative Industry Costs by Model Year for JLR and Total Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for JLR and Total Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	35.7	38.8	43.1	30.4	30.6	30.7	30.1	30.4	N/A
Change from Baseline (%)	0%	0%	0%	-29%	-29%	-30%	-33%	-33%	N/A
Average Achieved (mpg)	28.3	30.0	32.1	33.4	31.5	32.4	32.4	33.6	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-0.1	0.0	-0.1	-0.1	-0.1	-0.4
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0003	0.0005	0.0004	0.0004	0.0005	0.00

Table 187 - Compliance Impacts and Cumulative Industry Costs by Model Year for KIA and Total Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for KIA and Total Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	41.6	45.0	49.8	34.5	34.6	34.8	38.9	39.3	N/A
Change from Baseline (%)	0%	0%	0%	-31%	-31%	-32%	-25%	-26%	N/A
Average Achieved (mpg)	37.0	42.2	46.8	46.9	45.4	45.4	45.3	45.3	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	0.0	-0.4	-0.6	-0.6	-0.6	-2.1
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0016	0.0027	0.0038	0.0039	0.0041	0.02

Table 188 - Compliance Impacts and Cumulative Industry Costs by Model Year for Mazda and Total Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for Mazda and Total Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	39.4	42.7	47.5	33.7	33.9	34.1	39.7	40.1	N/A
Change from Baseline (%)	0%	0%	0%	-29%	-29%	-30%	-20%	-20%	N/A
Average Achieved (mpg)	37.1	37.5	37.5	41.2	38.8	40.0	39.9	41.1	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-0.5	-0.5	-0.5	-0.6	-0.6	-2.7
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0013	0.0022	0.0019	0.0022	0.0022	0.01

Table 189 - Compliance Impacts and Cumulative Industry Costs by Model Year for Mercedes-Benz and Total Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for Mercedes-Benz and Total Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	39.0	42.1	46.7	32.6	32.7	32.9	32.9	33.2	N/A
Change from Baseline (%)	0%	0%	0%	-30%	-30%	-31%	-33%	-33%	N/A
Average Achieved (mpg)	30.7	31.3	37.8	38.2	36.7	37.4	38.0	38.1	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.7
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0006	0.001	0.0013	0.0014	0.0015	0.01

Table 190 - Compliance Impacts and Cumulative Industry Costs by Model Year for Mitsubishi and Total Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for Mitsubishi and Total Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	43.9	47.4	52.6	36.7	36.8	37.1	42.3	42.8	N/A
Change from Baseline (%)	0%	0%	0%	-30%	-30%	-31%	-23%	-23%	N/A
Average Achieved (mpg)	40.9	42.8	45.3	47.0	46.3	48.6	48.5	48.4	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-0.1	-0.2	-0.2	-0.2	-0.2	-0.9
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0004	0.0007	0.0008	0.0008	0.0009	0.00

Table 191 - Compliance Impacts and Cumulative Industry Costs by Model Year for Nissan and Total Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for Nissan and Total Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	43.2	46.6	51.6	35.2	35.3	35.6	37.5	37.8	N/A
Change from Baseline (%)	0%	0%	0%	-32%	-32%	-33%	-31%	-31%	N/A
Average Achieved (mpg)	39.4	41.7	43.6	45.5	43.8	45.4	46.2	46.1	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-0.4	-0.4	-0.6	-0.7	-0.7	-2.8
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0017	0.0026	0.005	0.0048	0.0053	0.02

Table 192 - Compliance Impacts and Cumulative Industry Costs by Model Year for Stellantis and Total Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for Stellantis and Total Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	34.9	37.9	42.1	29.7	29.8	30.0	29.9	30.2	N/A
Change from Baseline (%)	0%	0%	0%	-29%	-29%	-30%	-32%	-32%	N/A
Average Achieved (mpg)	29.3	30.0	31.0	33.0	31.7	33.1	33.1	33.3	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-0.7	-1.1	-1.4	-1.5	-1.5	-6.2
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0031	0.0055	0.0043	0.005	0.0051	0.02

Table 193 - Compliance Impacts and Cumulative Industry Costs by Model Year for Subaru and Total Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for Subaru and Total Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	41.5	45.0	49.9	35.6	35.7	35.9	41.7	42.2	N/A
Change from Baseline (%)	0%	0%	0%	-29%	-29%	-30%	-20%	-21%	N/A
Average Achieved (mpg)	37.8	41.9	48.1	48.4	46.1	47.7	47.7	47.7	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.3	-0.5
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0021	0.0036	0.0033	0.0036	0.0038	0.02

Table 194 - Compliance Impacts and Cumulative Industry Costs by Model Year for Toyota and Total Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for Toyota and Total Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	39.7	42.8	47.4	32.9	33.0	33.2	35.3	35.6	N/A
Change from Baseline (%)	0%	0%	0%	-31%	-31%	-32%	-29%	-29%	N/A
Average Achieved (mpg)	40.2	43.1	45.4	46.6	43.9	44.1	44.4	44.5	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-0.7	-0.7	-0.9	-1.0	-1.1	-4.5
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0061	0.01	0.0128	0.0133	0.0141	0.06

Table 195 - Compliance Impacts and Cumulative Industry Costs by Model Year for Volvo and Total Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for Volvo and Total Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	38.5	41.7	46.3	32.6	32.8	32.9	37.7	38.0	N/A
Change from Baseline (%)	0%	0%	0%	-30%	-29%	-31%	-22%	-23%	N/A
Average Achieved (mpg)	36.7	36.6	41.8	45.0	42.0	42.9	42.9	42.9	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.3
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0004	0.0006	0.0006	0.0006	0.0007	0.00

Table 196 - Compliance Impacts and Cumulative Industry Costs by Model Year for VWA and Total Fleet, Alt 3

Compliance Impacts and Cumulative Industry Costs by Model Year for VWA and Total Fleet, Alt 3									
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total
Fuel Economy									
Average Required (mpg)	41.1	44.4	49.3	34.3	34.5	34.7	39.3	39.6	N/A
Change from Baseline (%)	0%	0%	0%	-31%	-30%	-31%	-24%	-24%	N/A
Average Achieved (mpg)	34.3	38.7	39.8	44.2	41.4	41.4	41.8	41.8	N/A
Total Regulatory Costs									
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	-0.4	-0.7	-0.7	-0.7	-0.7	-3.2
Sales Impacts									
Sales Change from Baseline (m)	0	0	0	0.0019	0.0031	0.0038	0.0039	0.0042	0.02

Table 197 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Total)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Total)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	49.3	31.3	32.1	34.9	38.9	43.3
Percent Change from Baseline	0%	-37%	-35%	-29%	-21%	-12%
Average Achieved (mpg)	48.4	40.0	40.0	40.2	41.0	43.7
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	53.4	-15.7	-15.6	-15.3	-13.5	-6.4
Sales Impacts						
Sales Change from Baseline (m)	0.00	0.32	0.32	0.31	0.28	0.16

Table 198 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Passenger Car Fleet by Alternative for Manufacturer (Total)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Passenger Car Fleet by Alternative for Manufacturer (Total)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	65.8	35.9	37.0	40.2	44.9	49.9
Percent Change from Baseline	0%	-45%	-44%	-39%	-32%	-24%
Average Achieved (mpg)	63.6	45.2	45.2	45.5	46.7	49.8
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	14.5	1.4	1.4	1.7	3.3	8.1
Sales Impacts						
Sales Change from Baseline (m)	0.00	10.84	10.84	10.84	10.83	10.77

Table 199 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Light Truck Fleet by Alternative for Manufacturer (Total)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Light Truck Fleet by Alternative for Manufacturer (Total)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	45.4	23.8	24.3	26.4	29.3	32.7
Percent Change from Baseline	0%	-48%	-46%	-42%	-35%	-28%
Average Achieved (mpg)	44.8	31.3	31.3	31.3	31.6	33.7
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	39.0	-17.0	-17.0	-17.0	-16.8	-14.4
Sales Impacts						
Sales Change from Baseline (m)	0.00	-10.52	-10.52	-10.52	-10.55	-10.61

Table 200 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Domestic Car Fleet by Alternative for Manufacturer (Total)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Domestic Car Fleet by Alternative for Manufacturer (Total)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	65.4	35.5	36.6	39.8	44.4	49.4
Percent Change from Baseline	0%	-46%	-44%	-39%	-32%	-24%
Average Achieved (mpg)	63.1	43.8	43.9	44.7	45.8	48.9
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	5.6	0.0	0.0	0.3	0.8	2.3
Sales Impacts						
Sales Change from Baseline (m)	0.00	3.18	3.18	3.18	3.18	3.16

Table 201 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Imported Car Fleet by Alternative for Manufacturer (Total)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Imported Car Fleet by Alternative for Manufacturer (Total)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	66.2	36.1	37.2	40.4	45.1	50.2
Percent Change from Baseline	0%	-45%	-44%	-39%	-32%	-24%
Average Achieved (mpg)	64.0	45.9	45.9	45.9	47.2	50.3
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	8.8	1.4	1.4	1.4	2.6	5.8
Sales Impacts						
Sales Change from Baseline (m)	0.00	7.66	7.66	7.66	7.65	7.61

Table 202 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (BMW)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (BMW)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	52.0	32.0	32.9	35.8	39.8	44.4
Percent Change from Baseline	0%	-38%	-37%	-31%	-23%	-15%
Average Achieved (mpg)	49.3	41.0	41.0	41.0	42.0	45.2
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	1.6	-0.4	-0.4	-0.4	-0.4	0.1
Sales Impacts						
Sales Change from Baseline (m)	0.00	0.01	0.01	0.01	0.01	0.00

Table 203 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Ferrari)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Ferrari)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	63.6	36.1	37.2	40.4	45.1	50.2
Percent Change from Baseline	0%	-43%	-42%	-36%	-29%	-21%
Average Achieved (mpg)	24.3	24.2	24.2	24.2	24.2	24.2
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	0.0	0.0	0.0
Sales Impacts						
Sales Change from Baseline (m)	0.00	0.00	0.00	0.00	0.00	0.00

Table 204 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Ford)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Ford)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	44.0	27.1	27.7	30.1	33.5	37.3
Percent Change from Baseline	0%	-38%	-37%	-32%	-24%	-15%
Average Achieved (mpg)	42.5	35.5	35.6	36.0	36.6	37.7
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	5.3	-1.4	-1.4	-1.3	-1.1	-0.7
Sales Impacts						
Sales Change from Baseline (m)	0.00	0.04	0.04	0.03	0.03	0.02

Table 205 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (GM)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (GM)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	45.4	27.8	28.5	31.1	34.5	38.5
Percent Change from Baseline	0%	-39%	-37%	-31%	-24%	-15%
Average Achieved (mpg)	42.7	35.5	35.5	35.5	35.5	38.7
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	14.6	-5.0	-5.0	-5.0	-5.0	-3.3
Sales Impacts						
Sales Change from Baseline (m)	0.00	0.05	0.05	0.05	0.05	0.03

Table 206 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Honda)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Honda)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	55.2	35.6	36.7	39.8	44.4	49.5
Percent Change from Baseline	0%	-36%	-34%	-28%	-20%	-10%
Average Achieved (mpg)	57.0	44.7	44.7	44.7	44.7	49.7
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	2.8	-1.2	-1.2	-1.2	-1.2	-0.5
Sales Impacts						
Sales Change from Baseline (m)	0.00	0.03	0.03	0.03	0.03	0.02

Table 207 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Hyundai)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Hyundai)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	53.1	34.7	35.7	38.9	43.3	48.2
Percent Change from Baseline	0%	-35%	-33%	-27%	-18%	-9%
Average Achieved (mpg)	53.6	41.7	41.7	41.7	43.5	49.0
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	3.8	-1.3	-1.3	-1.3	-1.1	-0.5
Sales Impacts						
Sales Change from Baseline (m)	0.00	0.02	0.02	0.02	0.02	0.01

Table 208 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Ineos)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Ineos)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	46.9	26.6	27.2	29.6	32.7	36.5
Percent Change from Baseline	0%	-43%	-42%	-37%	-30%	-22%
Average Achieved (mpg)	32.7	28.1	28.1	29.6	31.0	31.0
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	0.0	0.0	0.0	0.0	0.0	0.0
Sales Impacts						
Sales Change from Baseline (m)	0.00	0.00	0.00	0.00	0.00	0.00

Table 209 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (JLR)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (JLR)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	45.7	27.4	28.0	30.4	33.8	37.7
Percent Change from Baseline	0%	-40%	-39%	-33%	-26%	-18%
Average Achieved (mpg)	40.7	33.6	33.6	33.6	35.5	37.3
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	0.3	-0.1	-0.1	-0.1	-0.1	0.0
Sales Impacts						
Sales Change from Baseline (m)	0.00	0.00	0.00	0.00	0.00	0.00

Table 210 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (KIA)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (KIA)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	53.0	35.1	36.2	39.3	43.9	48.8
Percent Change from Baseline	0%	-34%	-32%	-26%	-17%	-8%
Average Achieved (mpg)	54.0	45.3	45.3	45.3	45.6	49.3
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	3.4	-0.6	-0.6	-0.6	-0.6	-0.2
Sales Impacts						
Sales Change from Baseline (m)	0.00	0.02	0.02	0.02	0.02	0.01

Table 211 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Mazda)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Mazda)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	50.4	35.9	36.9	40.1	44.8	49.8
Percent Change from Baseline	0%	-29%	-27%	-20%	-11%	-1%
Average Achieved (mpg)	52.6	41.1	41.1	41.1	46.2	51.3
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	1.5	-0.6	-0.6	-0.6	-0.2	0.2
Sales Impacts						
Sales Change from Baseline (m)	0.00	0.01	0.01	0.01	0.01	0.00

Table 212 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Mercedes-Benz)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Mercedes-Benz)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	49.7	29.8	30.5	33.2	36.9	41.1
Percent Change from Baseline	0%	-40%	-39%	-33%	-26%	-17%
Average Achieved (mpg)	43.5	37.9	37.9	38.1	40.3	41.1
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	0.7	-0.2	-0.2	-0.2	0.0	0.0
Sales Impacts						
Sales Change from Baseline (m)	0.00	0.01	0.01	0.01	0.01	0.00

Table 213 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Mitsubishi)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Mitsubishi)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	55.8	38.2	39.3	42.8	47.7	53.1
Percent Change from Baseline	0%	-32%	-30%	-23%	-15%	-5%
Average Achieved (mpg)	57.9	48.4	48.4	48.4	48.4	53.3
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	0.5	-0.2	-0.2	-0.2	-0.2	-0.1
Sales Impacts						
Sales Change from Baseline (m)	0.00	0.00	0.00	0.00	0.00	0.00

Table 214 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Nissan)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Nissan)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	55.1	33.8	34.8	37.8	42.2	47.0
Percent Change from Baseline	0%	-39%	-37%	-31%	-23%	-15%
Average Achieved (mpg)	56.5	46.1	46.1	46.1	46.4	48.8
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	2.4	-0.7	-0.7	-0.7	-0.7	-0.4
Sales Impacts						
Sales Change from Baseline (m)	0.00	0.02	0.02	0.02	0.02	0.01

Table 215 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Stellantis)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Stellantis)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	44.7	27.1	27.8	30.2	33.6	37.4
Percent Change from Baseline	0%	-39%	-38%	-32%	-25%	-16%
Average Achieved (mpg)	41.9	32.8	32.8	33.3	35.4	38.0
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	4.7	-1.6	-1.6	-1.5	-1.0	-0.3
Sales Impacts						
Sales Change from Baseline (m)	0.00	0.02	0.02	0.02	0.02	0.01

Table 216 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Subaru)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Subaru)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	53.1	37.7	38.8	42.2	47.1	52.4
Percent Change from Baseline	0%	-29%	-27%	-21%	-11%	-1%
Average Achieved (mpg)	54.3	47.7	47.7	47.7	47.7	52.4
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	2.1	-0.3	-0.3	-0.3	-0.3	0.2
Sales Impacts						
Sales Change from Baseline (m)	0.00	0.02	0.02	0.02	0.01	0.01

Table 217 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Toyota)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Toyota)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	50.4	31.9	32.7	35.6	39.6	44.2
Percent Change from Baseline	0%	-37%	-35%	-29%	-21%	-12%
Average Achieved (mpg)	51.2	44.5	44.5	44.5	44.5	45.4
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	5.9	-1.1	-1.1	-1.1	-1.1	-0.8
Sales Impacts						
Sales Change from Baseline (m)	0.00	0.06	0.06	0.06	0.05	0.03

Table 218 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Volvo)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (Volvo)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	49.1	34.0	35.0	38.0	42.4	47.2
Percent Change from Baseline	0%	-31%	-29%	-23%	-14%	-4%
Average Achieved (mpg)	50.0	42.7	42.7	42.9	43.2	46.6
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	0.5	-0.1	-0.1	-0.1	-0.1	0.0
Sales Impacts						
Sales Change from Baseline (m)	0.00	0.00	0.00	0.00	0.00	0.00

Table 219 - Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (VWA)

Compliance Impacts and Cumulative Industry Costs for MY 2027 to 2031 Total Fleet by Alternative for Manufacturer (VWA)						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fuel Economy						
Average Required (mpg)	52.4	35.4	36.5	39.6	44.3	49.2
Percent Change from Baseline	0%	-32%	-30%	-24%	-15%	-6%
Average Achieved (mpg)	50.5	40.6	40.9	41.8	44.3	46.8
Total Regulatory Costs						
Total Regulatory Costs ($Billions)	3.0	-0.8	-0.8	-0.7	-0.5	0.0
Sales Impacts						
Sales Change from Baseline (m)	0.00	0.02	0.02	0.02	0.02	0.01

A8. Powertrain Technology Penetration Rate, by Model Year

Table 220 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Total Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Total Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	14.6	12.0	10.2	7.6	6.2	6.0	6.1	5.2
Cylinder Deactivation	2.9	1.9	1.7	1.4	1.4	0.5	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	41.6	35.5	30.9	20.9	15.3	10.6	7.6	5.0
Variable Geometry Turbo	1.9	0.8	0.8	0.7	0.6	0.2	0.2	0.0
Electric Variable Geometry Turbo	0.5	0.8	0.8	1.0	0.7	0.6	0.4	0.1
Diesel Engines	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8
12V Stop-Start (non-hybrid)	63.0	52.9	45.6	28.8	17.2	11.8	8.2	5.5
Mild Hybrid Powertrains	3.8	3.7	2.8	3.0	3.0	1.8	1.7	1.0
Strong Hybrid Powertrains Total	10.4	24.4	33.5	51.5	62.8	72.8	77.0	81.0
Plug-In Hybrid Powertrains	2.9	2.9	2.9	5.6	7.5	7.5	7.6	7.6
5-Speed Automatic	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	6.0	4.4	4.3	0.6	0.6	0.0	0.0	0.0
7-Speed Automatic	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	33.0	22.5	15.1	5.0	3.4	1.4	1.4	1.2
9-Speed Automatic	7.1	4.9	0.9	0.2	0.1	0.0	0.0	0.0
10-Speed Automatic	14.1	18.5	23.9	23.1	15.9	11.7	7.6	4.6
CVT Transmissions	21.8	19.2	16.6	12.2	8.5	6.2	6.2	5.3
DCT Transmissions	3.7	3.0	2.7	1.9	1.2	0.3	0.2	0.1

Table 221 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	25.1	20.6	17.9	10.5	10.5	6.9	6.9	6.6
Cylinder Deactivation	0.9	0.7	0.7	0.6	0.6	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	38.8	32.9	25.2	21.4	11.7	3.4	2.1	0.9
Variable Geometry Turbo	0.5	0.4	0.4	0.1	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	51.7	45.5	34.8	27.6	13.0	4.5	3.6	3.3
Mild Hybrid Powertrains	3.2	3.2	2.5	2.3	1.9	1.1	0.8	0.0
Strong Hybrid Powertrains Total	8.7	22.0	35.1	52.8	69.8	86.6	88.0	89.7
Plug-In Hybrid Powertrains	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	9.4	6.8	6.6	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	23.2	12.8	6.4	1.8	0.9	0.7	0.7	0.3
9-Speed Automatic	3.0	1.8	1.0	0.7	0.4	0.0	0.0	0.0
10-Speed Automatic	2.2	7.3	9.5	16.7	11.1	3.9	2.5	1.6
CVT Transmissions	45.1	41.8	34.6	22.9	13.9	6.4	6.4	6.3
DCT Transmissions	6.5	5.6	5.1	3.4	2.1	0.7	0.6	0.4

Table 222 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	9.8	8.3	7.2	6.5	4.6	5.7	5.8	4.8
Cylinder Deactivation	3.8	2.4	2.1	1.7	1.7	0.7	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	42.9	36.6	33.2	20.7	16.6	13.2	9.6	6.3
Variable Geometry Turbo	2.5	1.0	1.0	0.9	0.9	0.3	0.3	0.0
Electric Variable Geometry Turbo	0.7	1.1	1.1	1.4	1.0	0.8	0.5	0.1
Diesel Engines	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
12V Stop-Start (non-hybrid)	68.1	56.0	49.9	29.3	18.7	14.4	9.8	6.3
Mild Hybrid Powertrains	4.0	3.9	2.9	3.2	3.5	2.1	2.1	1.3
Strong Hybrid Powertrains Total	11.2	25.4	32.8	51.0	60.1	67.9	73.1	78.1
Plug-In Hybrid Powertrains	3.3	3.3	3.3	7.0	9.6	9.6	9.6	9.6
5-Speed Automatic	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	4.5	3.3	3.3	0.8	0.8	0.0	0.0	0.0
7-Speed Automatic	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	37.5	26.5	18.5	6.2	4.4	1.7	1.7	1.6
9-Speed Automatic	9.0	6.2	0.9	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	19.5	23.1	29.7	25.5	17.6	14.5	9.4	5.7
CVT Transmissions	11.2	9.8	9.4	8.1	6.6	6.2	6.2	5.0
DCT Transmissions	2.5	2.0	1.7	1.3	0.9	0.1	0.0	0.0

Table 223 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	13.5	7.1	7.1	10.6	17.0	11.8	11.8	11.0
Cylinder Deactivation	1.9	1.4	1.4	1.4	1.4	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	35.6	28.2	19.5	14.1	2.2	1.7	1.7	1.7
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	49.0	41.3	33.5	23.9	5.4	5.4	5.4	5.4
Mild Hybrid Powertrains	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	7.8	28.0	39.1	48.9	68.1	83.4	83.4	84.1
Plug-In Hybrid Powertrains	0.9	0.9	0.9	0.9	1.0	1.1	1.1	1.1
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	13.3	6.0	4.9	1.5	1.5	1.5	1.5	0.7
9-Speed Automatic	2.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	4.7	4.2	3.5	3.2	3.2	3.2	3.2	3.2
CVT Transmissions	60.9	55.9	47.6	41.8	23.3	10.3	10.3	10.3
DCT Transmissions	4.4	4.3	4.1	3.8	2.9	0.6	0.6	0.6

Table 224 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	34.4	31.5	26.6	10.5	5.2	3.0	3.0	3.0
Cylinder Deactivation	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	41.4	36.6	29.7	27.2	19.3	4.8	2.3	0.3
Variable Geometry Turbo	0.8	0.8	0.8	0.1	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	53.9	48.8	35.8	30.7	19.2	3.8	2.2	1.6
Mild Hybrid Powertrains	5.1	5.1	4.6	4.1	3.5	1.9	1.5	0.0
Strong Hybrid Powertrains Total	9.4	17.1	32.0	55.8	71.2	89.3	91.7	94.1
Plug-In Hybrid Powertrains	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.5
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	12.4	12.4	12.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	31.3	18.2	7.6	2.1	0.4	0.0	0.0	0.0
9-Speed Automatic	3.4	2.7	1.8	1.2	0.8	0.0	0.0	0.0
10-Speed Automatic	0.2	9.9	14.3	27.6	17.4	4.4	2.0	0.2
CVT Transmissions	32.4	30.4	24.1	7.7	6.3	3.2	3.2	3.0
DCT Transmissions	8.2	6.6	5.8	3.0	1.5	0.7	0.7	0.2

Table 225 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Total Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Total Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	14.6	12.0	10.2	11.6	13.0	16.2	16.6	17.4
Cylinder Deactivation	2.9	1.9	1.7	1.4	1.4	0.6	0.1	0.1
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	41.6	35.5	30.9	28.4	29.7	29.0	28.7	29.0
Variable Geometry Turbo	1.9	0.8	0.8	0.7	0.6	0.2	0.2	0.0
Electric Variable Geometry Turbo	0.5	0.8	0.8	0.8	0.5	0.3	0.3	0.0
Diesel Engines	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8
12V Stop-Start (non-hybrid)	63.0	52.9	45.6	39.6	37.7	37.3	36.4	36.3
Mild Hybrid Powertrains	3.8	3.7	2.8	2.4	2.3	1.5	1.4	1.1
Strong Hybrid Powertrains Total	10.4	24.4	33.5	40.5	43.1	45.5	46.5	47.6
Plug-In Hybrid Powertrains	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
5-Speed Automatic	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	6.0	4.4	4.3	0.6	0.6	0.0	0.0	0.0
7-Speed Automatic	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	33.0	22.5	15.1	16.0	15.8	15.8	14.9	14.4
9-Speed Automatic	7.1	4.9	0.9	0.2	0.1	0.0	0.0	0.0
10-Speed Automatic	14.1	18.5	23.9	21.1	18.9	17.5	17.6	17.2
CVT Transmissions	21.8	19.2	16.6	16.3	16.1	16.0	15.9	15.8
DCT Transmissions	3.7	3.0	2.7	2.5	2.4	2.2	2.2	2.1

Table 226 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	9.8	8.3	7.2	7.6	8.2	11.1	0.6	0.6
Cylinder Deactivation	3.8	2.4	2.1	1.7	1.7	0.9	0.4	0.4
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	42.9	36.6	33.2	30.0	32.1	31.5	34.0	35.6
Variable Geometry Turbo	2.5	1.0	1.0	0.9	0.9	0.3	0.0	0.0
Electric Variable Geometry Turbo	0.7	1.1	1.1	1.1	0.6	0.4	0.7	0.0
Diesel Engines	1.1	1.1	1.1	1.1	1.1	1.1	2.8	2.8
12V Stop-Start (non-hybrid)	68.1	56.0	49.9	41.8	39.3	38.7	33.3	32.8
Mild Hybrid Powertrains	4.0	3.9	2.9	2.5	2.5	1.6	0.9	0.6
Strong Hybrid Powertrains Total	11.2	25.4	32.8	41.9	44.9	47.6	54.8	56.3
Plug-In Hybrid Powertrains	3.3	3.3	3.3	3.3	3.3	3.3	4.2	4.2
5-Speed Automatic	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	4.5	3.3	3.3	0.8	0.8	0.0	0.0	0.0
7-Speed Automatic	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	37.5	26.5	18.5	18.1	18.1	18.0	19.7	19.0
9-Speed Automatic	9.0	6.2	0.9	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	19.5	23.1	29.7	24.6	21.7	19.9	20.7	19.9
CVT Transmissions	11.2	9.8	9.4	9.4	9.4	9.4	0.2	0.2
DCT Transmissions	2.5	2.0	1.7	1.7	1.7	1.7	0.4	0.4

Table 227 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	25.1	20.6	17.9	22.2	26.2	30.3	23.1	24.3
Cylinder Deactivation	0.9	0.7	0.7	0.6	0.6	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	38.8	32.9	25.2	24.2	23.2	22.3	26.6	26.3
Variable Geometry Turbo	0.5	0.4	0.4	0.1	0.0	0.0	0.3	0.0
Electric Variable Geometry Turbo	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	51.7	45.5	34.8	33.9	33.3	33.3	37.7	37.7
Mild Hybrid Powertrains	3.2	3.2	2.5	2.3	1.9	1.1	1.6	1.3
Strong Hybrid Powertrains Total	8.7	22.0	35.1	36.7	38.0	39.8	43.2	44.0
Plug-In Hybrid Powertrains	1.7	1.7	1.7	1.7	1.7	1.7	2.4	2.4
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	9.4	6.8	6.6	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	23.2	12.8	6.4	10.2	9.6	9.6	12.9	12.5
9-Speed Automatic	3.0	1.8	1.0	0.7	0.4	0.0	0.0	0.0
10-Speed Automatic	2.2	7.3	9.5	11.7	11.5	11.0	16.4	16.1
CVT Transmissions	45.1	41.8	34.6	34.5	34.4	34.4	22.3	22.2
DCT Transmissions	6.5	5.6	5.1	4.5	4.4	3.5	2.9	2.9

Table 228 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	13.5	7.1	7.1	15.0	21.5	29.2	19.6	22.8
Cylinder Deactivation	1.9	1.4	1.4	1.4	1.4	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	35.6	28.2	19.5	18.2	18.2	18.2	33.1	33.3
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	49.0	41.3	33.5	32.2	32.1	32.1	48.6	48.7
Mild Hybrid Powertrains	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	7.8	28.0	39.1	40.4	40.6	42.5	38.7	39.0
Plug-In Hybrid Powertrains	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	13.3	6.0	4.9	1.5	1.5	1.5	8.6	8.7
9-Speed Automatic	2.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	4.7	4.2	3.5	5.6	5.6	5.6	24.6	24.4
CVT Transmissions	60.9	55.9	47.6	47.6	47.5	47.5	26.2	26.0
DCT Transmissions	4.4	4.3	4.1	4.1	4.0	2.1	1.0	1.0

Table 229 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	34.4	31.5	26.6	28.1	29.9	31.2	25.0	25.1
Cylinder Deactivation	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	41.4	36.6	29.7	29.1	27.2	25.6	23.1	22.6
Variable Geometry Turbo	0.8	0.8	0.8	0.1	0.0	0.0	0.5	0.0
Electric Variable Geometry Turbo	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	53.9	48.8	35.8	35.2	34.2	34.2	31.9	31.8
Mild Hybrid Powertrains	5.1	5.1	4.6	4.1	3.5	1.9	2.5	2.0
Strong Hybrid Powertrains Total	9.4	17.1	32.0	33.8	35.8	37.5	45.6	46.7
Plug-In Hybrid Powertrains	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	12.4	12.4	12.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	31.3	18.2	7.6	17.3	16.2	16.2	15.2	14.5
9-Speed Automatic	3.4	2.7	1.8	1.2	0.8	0.0	0.0	0.0
10-Speed Automatic	0.2	9.9	14.3	16.7	16.2	15.3	12.0	11.6
CVT Transmissions	32.4	30.4	24.1	23.9	23.9	23.9	20.1	20.1
DCT Transmissions	8.2	6.6	5.8	4.7	4.7	4.7	4.0	3.9

Table 230 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Total Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Total Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	14.6	12.0	10.2	11.6	13.0	16.2	16.6	17.4
Cylinder Deactivation	2.9	1.9	1.7	1.4	1.4	0.6	0.1	0.1
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	41.6	35.5	30.9	28.1	29.3	28.7	28.4	28.7
Variable Geometry Turbo	1.9	0.8	0.8	0.7	0.6	0.2	0.2	0.0
Electric Variable Geometry Turbo	0.5	0.8	0.8	0.8	0.5	0.3	0.3	0.0
Diesel Engines	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8
12V Stop-Start (non-hybrid)	63.0	52.9	45.6	39.3	37.3	36.9	36.1	35.9
Mild Hybrid Powertrains	3.8	3.7	2.8	2.4	2.3	1.5	1.4	1.1
Strong Hybrid Powertrains Total	10.4	24.4	33.5	40.8	43.4	45.9	46.9	47.9
Plug-In Hybrid Powertrains	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
5-Speed Automatic	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	6.0	4.4	4.3	0.6	0.6	0.0	0.0	0.0
7-Speed Automatic	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	33.0	22.5	15.1	16.0	15.8	15.8	14.9	14.4
9-Speed Automatic	7.1	4.9	0.9	0.2	0.1	0.0	0.0	0.0
10-Speed Automatic	14.1	18.5	23.9	20.8	18.6	17.2	17.3	16.8
CVT Transmissions	21.8	19.2	16.6	16.3	16.1	16.0	15.9	15.8
DCT Transmissions	3.7	3.0	2.7	2.5	2.4	2.2	2.2	2.1

Table 231 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	25.1	20.6	17.9	22.2	26.2	30.3	23.1	24.3
Cylinder Deactivation	0.9	0.7	0.7	0.6	0.6	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	38.8	32.9	25.2	23.8	22.8	21.9	26.1	25.8
Variable Geometry Turbo	0.5	0.4	0.4	0.1	0.0	0.0	0.3	0.0
Electric Variable Geometry Turbo	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	51.7	45.5	34.8	33.5	32.9	32.9	37.3	37.2
Mild Hybrid Powertrains	3.2	3.2	2.5	2.3	1.9	1.1	1.6	1.3
Strong Hybrid Powertrains Total	8.7	22.0	35.1	37.1	38.4	40.1	43.6	44.5
Plug-In Hybrid Powertrains	1.7	1.7	1.7	1.7	1.7	1.7	2.4	2.4
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	9.4	6.8	6.6	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	23.2	12.8	6.4	10.2	9.6	9.6	12.9	12.5
9-Speed Automatic	3.0	1.8	1.0	0.7	0.4	0.0	0.0	0.0
10-Speed Automatic	2.2	7.3	9.5	11.3	11.1	10.6	15.9	15.6
CVT Transmissions	45.1	41.8	34.6	34.5	34.4	34.4	22.3	22.2
DCT Transmissions	6.5	5.6	5.1	4.5	4.4	3.5	2.9	2.9

Table 232 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	9.8	8.3	7.2	7.6	8.2	11.1	0.6	0.6
Cylinder Deactivation	3.8	2.4	2.1	1.7	1.7	0.9	0.4	0.4
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	42.9	36.6	33.2	29.7	31.7	31.2	34.0	35.6
Variable Geometry Turbo	2.5	1.0	1.0	0.9	0.9	0.3	0.0	0.0
Electric Variable Geometry Turbo	0.7	1.1	1.1	1.1	0.6	0.4	0.7	0.0
Diesel Engines	1.1	1.1	1.1	1.1	1.1	1.1	2.8	2.8
12V Stop-Start (non-hybrid)	68.1	56.0	49.9	41.5	38.9	38.4	33.3	32.8
Mild Hybrid Powertrains	4.0	3.9	2.9	2.5	2.5	1.6	0.9	0.6
Strong Hybrid Powertrains Total	11.2	25.4	32.8	42.2	45.3	47.9	54.8	56.3
Plug-In Hybrid Powertrains	3.3	3.3	3.3	3.3	3.3	3.3	4.2	4.2
5-Speed Automatic	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	4.5	3.3	3.3	0.8	0.8	0.0	0.0	0.0
7-Speed Automatic	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	37.5	26.5	18.5	18.1	18.1	18.0	19.7	19.0
9-Speed Automatic	9.0	6.2	0.9	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	19.5	23.1	29.7	24.3	21.3	19.6	20.7	19.9
CVT Transmissions	11.2	9.8	9.4	9.4	9.4	9.4	0.2	0.2
DCT Transmissions	2.5	2.0	1.7	1.7	1.7	1.7	0.4	0.4

Table 233 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	13.5	7.1	7.1	15.0	21.5	29.2	19.6	22.8
Cylinder Deactivation	1.9	1.4	1.4	1.4	1.4	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	35.6	28.2	19.5	17.3	17.3	17.3	31.8	31.9
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	49.0	41.3	33.5	31.4	31.3	31.3	47.2	47.4
Mild Hybrid Powertrains	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	7.8	28.0	39.1	41.2	41.5	43.4	40.0	40.4
Plug-In Hybrid Powertrains	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	13.3	6.0	4.9	1.5	1.5	1.5	8.6	8.7
9-Speed Automatic	2.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	4.7	4.2	3.5	4.7	4.7	4.7	23.2	23.0
CVT Transmissions	60.9	55.9	47.6	47.6	47.5	47.5	26.2	26.0
DCT Transmissions	4.4	4.3	4.1	4.1	4.0	2.1	1.0	1.0

Table 234 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	34.4	31.5	26.6	28.1	29.9	31.2	25.0	25.1
Cylinder Deactivation	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	41.4	36.6	29.7	29.1	27.2	25.6	23.1	22.6
Variable Geometry Turbo	0.8	0.8	0.8	0.1	0.0	0.0	0.5	0.0
Electric Variable Geometry Turbo	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	53.9	48.8	35.8	35.2	34.2	34.2	31.9	31.8
Mild Hybrid Powertrains	5.1	5.1	4.6	4.1	3.5	1.9	2.5	2.0
Strong Hybrid Powertrains Total	9.4	17.1	32.0	33.8	35.8	37.5	45.6	46.7
Plug-In Hybrid Powertrains	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	12.4	12.4	12.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	31.3	18.2	7.6	17.3	16.2	16.2	15.2	14.5
9-Speed Automatic	3.4	2.7	1.8	1.2	0.8	0.0	0.0	0.0
10-Speed Automatic	0.2	9.9	14.3	16.7	16.2	15.3	12.0	11.6
CVT Transmissions	32.4	30.4	24.1	23.9	23.9	23.9	20.1	20.1
DCT Transmissions	8.2	6.6	5.8	4.7	4.7	4.7	4.0	3.9

Table 235 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Total Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	14.6	12.0	10.2	11.6	13.0	16.2	16.6	17.4
Cylinder Deactivation	2.9	1.9	1.7	1.4	1.4	0.6	0.1	0.1
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	41.6	35.5	30.9	26.4	27.7	27.1	26.7	27.0
Variable Geometry Turbo	1.9	0.8	0.8	0.7	0.6	0.2	0.2	0.0
Electric Variable Geometry Turbo	0.5	0.8	0.8	0.8	0.5	0.3	0.3	0.0
Diesel Engines	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8
12V Stop-Start (non-hybrid)	63.0	52.9	45.6	37.2	35.2	34.8	34.0	33.8
Mild Hybrid Powertrains	3.8	3.7	2.8	2.4	2.3	1.5	1.4	1.1
Strong Hybrid Powertrains Total	10.4	24.4	33.5	42.9	45.5	48.0	49.0	50.0
Plug-In Hybrid Powertrains	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
5-Speed Automatic	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	6.0	4.4	4.3	0.6	0.6	0.0	0.0	0.0
7-Speed Automatic	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	33.0	22.5	15.1	15.5	15.4	15.3	14.8	14.3
9-Speed Automatic	7.1	4.9	0.9	0.2	0.1	0.0	0.0	0.0
10-Speed Automatic	14.1	18.5	23.9	19.1	16.9	15.6	15.2	14.8
CVT Transmissions	21.8	19.2	16.6	16.3	16.1	16.0	15.9	15.8
DCT Transmissions	3.7	3.0	2.7	2.5	2.4	2.2	2.2	2.1

Table 236 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	25.1	20.6	17.9	22.2	26.2	30.3	23.1	24.3
Cylinder Deactivation	0.9	0.7	0.7	0.6	0.6	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	38.8	32.9	25.2	23.2	22.1	21.2	23.8	23.4
Variable Geometry Turbo	0.5	0.4	0.4	0.1	0.0	0.0	0.3	0.0
Electric Variable Geometry Turbo	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	51.7	45.5	34.8	32.8	32.2	32.2	34.3	34.2
Mild Hybrid Powertrains	3.2	3.2	2.5	2.3	1.9	1.1	1.6	1.3
Strong Hybrid Powertrains Total	8.7	22.0	35.1	37.7	39.1	40.8	46.6	47.5
Plug-In Hybrid Powertrains	1.7	1.7	1.7	1.7	1.7	1.7	2.4	2.4
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	9.4	6.8	6.6	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	23.2	12.8	6.4	10.1	9.5	9.5	12.8	12.4
9-Speed Automatic	3.0	1.8	1.0	0.7	0.4	0.0	0.0	0.0
10-Speed Automatic	2.2	7.3	9.5	10.8	10.5	10.0	13.0	12.7
CVT Transmissions	45.1	41.8	34.6	34.5	34.4	34.4	22.3	22.2
DCT Transmissions	6.5	5.6	5.1	4.5	4.3	3.5	2.9	2.8

Table 237 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	9.8	8.3	7.2	7.6	8.2	11.1	0.6	0.6
Cylinder Deactivation	3.8	2.4	2.1	1.7	1.7	0.9	0.4	0.4
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	42.9	36.6	33.2	27.7	29.7	29.2	34.0	35.6
Variable Geometry Turbo	2.5	1.0	1.0	0.9	0.9	0.3	0.0	0.0
Electric Variable Geometry Turbo	0.7	1.1	1.1	1.1	0.6	0.4	0.7	0.0
Diesel Engines	1.1	1.1	1.1	1.1	1.1	1.1	2.8	2.8
12V Stop-Start (non-hybrid)	68.1	56.0	49.9	38.9	36.3	35.8	33.3	32.8
Mild Hybrid Powertrains	4.0	3.9	2.9	2.5	2.5	1.6	0.9	0.6
Strong Hybrid Powertrains Total	11.2	25.4	32.8	44.9	47.9	50.5	54.8	56.3
Plug-In Hybrid Powertrains	3.3	3.3	3.3	3.3	3.3	3.3	4.2	4.2
5-Speed Automatic	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	4.5	3.3	3.3	0.8	0.8	0.0	0.0	0.0
7-Speed Automatic	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	37.5	26.5	18.5	17.6	17.6	17.4	19.7	19.0
9-Speed Automatic	9.0	6.2	0.9	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	19.5	23.1	29.7	22.3	19.3	17.6	20.7	19.9
CVT Transmissions	11.2	9.8	9.4	9.4	9.4	9.4	0.2	0.2
DCT Transmissions	2.5	2.0	1.7	1.7	1.7	1.7	0.4	0.4

Table 238 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	13.5	7.1	7.1	15.0	21.5	29.2	19.6	22.8
Cylinder Deactivation	1.9	1.4	1.4	1.4	1.4	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	35.6	28.2	19.5	16.1	16.1	16.1	25.3	25.4
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	49.0	41.3	33.5	30.1	30.0	30.0	39.0	39.1
Mild Hybrid Powertrains	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	7.8	28.0	39.1	42.5	42.8	44.6	48.2	48.7
Plug-In Hybrid Powertrains	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	13.3	6.0	4.9	1.5	1.5	1.5	8.6	8.7
9-Speed Automatic	2.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	4.7	4.2	3.5	3.5	3.5	3.5	15.0	14.7
CVT Transmissions	60.9	55.9	47.6	47.6	47.5	47.5	26.2	26.0
DCT Transmissions	4.4	4.3	4.1	4.1	4.0	2.1	1.0	1.0

Table 239 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	34.4	31.5	26.6	28.1	29.9	31.2	25.0	25.1
Cylinder Deactivation	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	41.4	36.6	29.7	28.9	27.0	25.4	22.9	22.4
Variable Geometry Turbo	0.8	0.8	0.8	0.1	0.0	0.0	0.5	0.0
Electric Variable Geometry Turbo	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	53.9	48.8	35.8	35.0	34.0	34.0	31.8	31.7
Mild Hybrid Powertrains	5.1	5.1	4.6	4.1	3.5	1.9	2.5	2.0
Strong Hybrid Powertrains Total	9.4	17.1	32.0	33.9	36.1	37.8	45.7	46.9
Plug-In Hybrid Powertrains	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	12.4	12.4	12.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	31.3	18.2	7.6	17.1	16.0	16.0	15.0	14.4
9-Speed Automatic	3.4	2.7	1.8	1.2	0.8	0.0	0.0	0.0
10-Speed Automatic	0.2	9.9	14.3	16.7	16.2	15.3	12.0	11.6
CVT Transmissions	32.4	30.4	24.1	23.9	23.9	23.9	20.1	20.1
DCT Transmissions	8.2	6.6	5.8	4.7	4.6	4.6	3.9	3.8

Table 240 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Total Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Total Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	14.6	12.0	10.2	10.8	12.1	15.1	15.5	16.3
Cylinder Deactivation	2.9	1.9	1.7	1.4	1.4	0.6	0.1	0.1
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	41.6	35.5	30.9	24.8	24.9	23.6	22.8	22.4
Variable Geometry Turbo	1.9	0.8	0.8	0.7	0.6	0.2	0.2	0.0
Electric Variable Geometry Turbo	0.5	0.8	0.8	0.8	0.5	0.3	0.3	0.0
Diesel Engines	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8
12V Stop-Start (non-hybrid)	63.0	52.9	45.6	34.7	31.6	30.4	29.4	29.2
Mild Hybrid Powertrains	3.8	3.7	2.8	2.4	2.3	1.5	1.4	1.1
Strong Hybrid Powertrains Total	10.4	24.4	33.5	46.3	50.2	53.7	55.2	56.3
Plug-In Hybrid Powertrains	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
5-Speed Automatic	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	6.0	4.4	4.3	0.6	0.6	0.0	0.0	0.0
7-Speed Automatic	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	33.0	22.5	15.1	11.8	11.6	11.2	10.3	10.1
9-Speed Automatic	7.1	4.9	0.9	0.2	0.1	0.0	0.0	0.0
10-Speed Automatic	14.1	18.5	23.9	20.0	16.7	15.1	14.6	13.9
CVT Transmissions	21.8	19.2	16.6	16.1	15.9	15.8	15.7	15.6
DCT Transmissions	3.7	3.0	2.7	2.1	1.9	1.2	1.2	1.2

Table 241 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	25.1	20.6	17.9	21.5	25.4	29.5	21.5	22.7
Cylinder Deactivation	0.9	0.7	0.7	0.6	0.6	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	38.8	32.9	25.2	22.9	19.7	18.6	18.4	18.1
Variable Geometry Turbo	0.5	0.4	0.4	0.1	0.0	0.0	0.3	0.0
Electric Variable Geometry Turbo	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	51.7	45.5	34.8	32.7	30.4	30.1	28.9	28.8
Mild Hybrid Powertrains	3.2	3.2	2.5	2.3	2.0	1.1	1.6	1.3
Strong Hybrid Powertrains Total	8.7	22.0	35.1	38.8	42.2	44.2	54.2	55.1
Plug-In Hybrid Powertrains	1.7	1.7	1.7	1.7	1.7	1.7	2.4	2.4
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	9.4	6.8	6.6	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	23.2	12.8	6.4	9.5	8.8	8.8	7.6	7.5
9-Speed Automatic	3.0	1.8	1.0	0.7	0.4	0.0	0.0	0.0
10-Speed Automatic	2.2	7.3	9.5	10.7	9.1	8.3	12.1	11.5
CVT Transmissions	45.1	41.8	34.6	34.5	34.5	34.5	22.0	21.9
DCT Transmissions	6.5	5.6	5.1	4.1	3.3	2.4	1.6	1.6

Table 242 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	9.8	8.3	7.2	6.8	7.2	9.8	0.6	0.6
Cylinder Deactivation	3.8	2.4	2.1	1.7	1.7	0.8	0.3	0.3
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	42.9	36.6	33.2	25.5	26.8	25.5	33.6	32.8
Variable Geometry Turbo	2.5	1.0	1.0	0.9	0.9	0.3	0.0	0.0
Electric Variable Geometry Turbo	0.7	1.1	1.1	1.1	0.6	0.4	0.7	0.0
Diesel Engines	1.1	1.1	1.1	1.1	1.1	1.1	2.8	2.8
12V Stop-Start (non-hybrid)	68.1	56.0	49.9	35.5	32.0	30.5	30.7	30.2
Mild Hybrid Powertrains	4.0	3.9	2.9	2.5	2.5	1.6	0.9	0.6
Strong Hybrid Powertrains Total	11.2	25.4	32.8	49.2	53.2	57.1	57.7	59.2
Plug-In Hybrid Powertrains	3.3	3.3	3.3	3.3	3.3	3.3	4.2	4.2
5-Speed Automatic	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	4.5	3.3	3.3	0.8	0.8	0.0	0.0	0.0
7-Speed Automatic	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	37.5	26.5	18.5	12.7	12.7	12.1	17.0	16.5
9-Speed Automatic	9.0	6.2	0.9	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	19.5	23.1	29.7	23.4	19.5	17.6	20.7	19.7
CVT Transmissions	11.2	9.8	9.4	9.1	9.1	9.1	0.0	0.0
DCT Transmissions	2.5	2.0	1.7	1.4	1.4	0.8	0.3	0.3

Table 243 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	13.5	7.1	7.1	15.0	21.5	29.2	19.6	22.8
Cylinder Deactivation	1.9	1.4	1.4	1.4	1.4	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	35.6	28.2	19.5	16.1	16.1	16.1	20.7	20.7
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	49.0	41.3	33.5	30.1	30.0	30.0	33.1	33.1
Mild Hybrid Powertrains	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	7.8	28.0	39.1	42.5	42.8	44.6	54.1	54.6
Plug-In Hybrid Powertrains	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	13.3	6.0	4.9	1.5	1.5	1.5	4.9	5.0
9-Speed Automatic	2.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	4.7	4.2	3.5	3.5	3.5	3.5	12.8	12.5
CVT Transmissions	60.9	55.9	47.6	47.6	47.5	47.5	26.2	26.0
DCT Transmissions	4.4	4.3	4.1	4.1	4.0	2.1	1.0	1.0

Table 244 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	34.4	31.5	26.6	26.7	28.5	29.8	22.6	22.6
Cylinder Deactivation	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	41.4	36.6	29.7	28.4	22.6	20.6	17.2	16.7
Variable Geometry Turbo	0.8	0.8	0.8	0.1	0.0	0.0	0.5	0.0
Electric Variable Geometry Turbo	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	53.9	48.8	35.8	34.9	30.6	30.2	26.6	26.5
Mild Hybrid Powertrains	5.1	5.1	4.6	4.2	3.6	2.0	2.5	2.0
Strong Hybrid Powertrains Total	9.4	17.1	32.0	35.8	41.8	43.9	54.2	55.3
Plug-In Hybrid Powertrains	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	12.4	12.4	12.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	31.3	18.2	7.6	16.0	14.8	14.8	9.1	8.9
9-Speed Automatic	3.4	2.7	1.8	1.2	0.8	0.0	0.0	0.0
10-Speed Automatic	0.2	9.9	14.3	16.6	13.6	12.2	11.8	11.0
CVT Transmissions	32.4	30.4	24.1	24.0	24.0	24.0	19.8	19.7
DCT Transmissions	8.2	6.6	5.8	4.0	2.7	2.7	1.9	1.9

Table 245 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Total Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Total Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	14.6	12.0	10.2	9.9	8.8	9.6	9.6	8.5
Cylinder Deactivation	2.9	1.9	1.7	1.4	1.4	0.6	0.1	0.1
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	41.6	35.5	30.9	21.6	16.6	13.4	11.6	9.6
Variable Geometry Turbo	1.9	0.8	0.8	0.7	0.6	0.2	0.3	0.0
Electric Variable Geometry Turbo	0.5	0.8	0.8	1.2	0.9	0.7	0.7	0.4
Diesel Engines	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8
12V Stop-Start (non-hybrid)	63.0	52.9	45.6	30.1	19.6	15.0	12.5	10.7
Mild Hybrid Powertrains	3.8	3.7	2.8	2.9	3.0	2.6	2.5	2.1
Strong Hybrid Powertrains Total	10.4	24.4	33.5	51.0	63.3	70.7	73.7	77.5
Plug-In Hybrid Powertrains	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
5-Speed Automatic	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	6.0	4.4	4.3	0.6	0.6	0.0	0.0	0.0
7-Speed Automatic	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	33.0	22.5	15.1	7.0	4.6	2.9	2.9	2.8
9-Speed Automatic	7.1	4.9	0.9	0.2	0.1	0.0	0.0	0.0
10-Speed Automatic	14.1	18.5	23.9	21.9	16.4	14.5	11.7	8.1
CVT Transmissions	21.8	19.2	16.6	14.5	10.8	8.5	8.4	8.3
DCT Transmissions	3.7	3.0	2.7	2.0	1.3	0.4	0.4	0.3

Table 246 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	25.1	20.6	17.9	18.1	19.1	18.8	13.3	11.8
Cylinder Deactivation	0.9	0.7	0.7	0.6	0.6	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	38.8	32.9	25.2	22.2	15.2	12.2	8.7	7.8
Variable Geometry Turbo	0.5	0.4	0.4	0.1	0.0	0.0	0.4	0.0
Electric Variable Geometry Turbo	0.1	0.1	0.1	0.2	0.3	0.2	0.2	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	51.7	45.5	34.8	30.4	18.6	15.3	12.4	11.6
Mild Hybrid Powertrains	3.2	3.2	2.5	2.1	1.7	0.8	2.0	1.5
Strong Hybrid Powertrains Total	8.7	22.0	35.1	44.2	57.4	65.8	74.5	77.6
Plug-In Hybrid Powertrains	1.7	1.7	1.7	1.7	1.7	1.7	2.4	2.4
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	9.4	6.8	6.6	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	23.2	12.8	6.4	3.2	2.3	2.3	3.8	3.8
9-Speed Automatic	3.0	1.8	1.0	0.7	0.4	0.0	0.0	0.0
10-Speed Automatic	2.2	7.3	9.5	16.0	10.5	8.4	7.0	4.0
CVT Transmissions	45.1	41.8	34.6	30.6	25.1	20.6	11.8	11.8
DCT Transmissions	6.5	5.6	5.1	3.7	2.5	1.2	0.4	0.4

Table 247 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	9.8	8.3	7.2	6.7	5.0	6.3	0.3	0.3
Cylinder Deactivation	3.8	2.4	2.1	1.7	1.7	0.8	0.3	0.3
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	42.9	36.6	33.2	21.4	17.1	13.9	18.8	14.0
Variable Geometry Turbo	2.5	1.0	1.0	0.9	0.9	0.3	0.0	0.0
Electric Variable Geometry Turbo	0.7	1.1	1.1	1.6	1.1	0.9	2.0	1.2
Diesel Engines	1.1	1.1	1.1	1.1	1.1	1.1	2.8	2.8
12V Stop-Start (non-hybrid)	68.1	56.0	49.9	30.0	19.9	14.9	13.0	8.5
Mild Hybrid Powertrains	4.0	3.9	2.9	3.2	3.5	3.2	3.6	3.4
Strong Hybrid Powertrains Total	11.2	25.4	32.8	53.6	65.4	72.5	71.6	77.1
Plug-In Hybrid Powertrains	3.3	3.3	3.3	3.3	3.3	3.3	4.2	4.2
5-Speed Automatic	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	4.5	3.3	3.3	0.8	0.8	0.0	0.0	0.0
7-Speed Automatic	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	37.5	26.5	18.5	8.4	5.4	3.1	0.7	0.5
9-Speed Automatic	9.0	6.2	0.9	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	19.5	23.1	29.7	24.1	18.6	16.7	23.1	17.8
CVT Transmissions	11.2	9.8	9.4	8.4	5.6	4.2	0.0	0.0
DCT Transmissions	2.5	2.0	1.7	1.3	0.9	0.1	0.3	0.3

Table 248 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	13.5	7.1	7.1	15.0	21.5	22.8	14.5	13.8
Cylinder Deactivation	1.9	1.4	1.4	1.4	1.4	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	35.6	28.2	19.5	15.7	10.1	10.1	5.9	5.8
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	49.0	41.3	33.5	29.7	17.5	17.5	13.1	12.5
Mild Hybrid Powertrains	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	7.8	28.0	39.1	42.9	55.9	64.1	77.4	78.5
Plug-In Hybrid Powertrains	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	13.3	6.0	4.9	1.5	1.5	1.5	1.8	1.8
9-Speed Automatic	2.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	4.7	4.2	3.5	3.2	3.2	3.2	5.7	4.7
CVT Transmissions	60.9	55.9	47.6	47.6	35.5	29.1	13.6	13.5
DCT Transmissions	4.4	4.3	4.1	4.0	3.1	1.2	0.6	0.5

Table 249 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	34.4	31.5	26.6	20.7	17.2	15.5	12.7	10.8
Cylinder Deactivation	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	41.4	36.6	29.7	27.4	19.4	13.9	10.2	8.8
Variable Geometry Turbo	0.8	0.8	0.8	0.1	0.0	0.0	0.5	0.0
Electric Variable Geometry Turbo	0.1	0.1	0.1	0.4	0.5	0.5	0.1	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	53.9	48.8	35.8	31.0	19.4	13.5	11.9	11.2
Mild Hybrid Powertrains	5.1	5.1	4.6	3.8	3.1	1.5	3.1	2.3
Strong Hybrid Powertrains Total	9.4	17.1	32.0	45.2	58.7	67.2	73.0	77.1
Plug-In Hybrid Powertrains	2.4	2.4	2.4	2.4	2.4	2.4	3.2	3.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	12.4	12.4	12.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	31.3	18.2	7.6	4.7	2.9	2.9	4.8	4.9
9-Speed Automatic	3.4	2.7	1.8	1.2	0.8	0.0	0.0	0.0
10-Speed Automatic	0.2	9.9	14.3	26.2	16.4	12.5	7.7	3.7
CVT Transmissions	32.4	30.4	24.1	16.8	16.8	13.7	10.9	10.8
DCT Transmissions	8.2	6.6	5.8	3.4	2.0	1.2	0.4	0.3

Table 250 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (BMW) Total Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (BMW) Total Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	95.1	64.3	53.4	24.2	14.4	9.1	8.2	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	66.5	39.4	31.5	14.3	8.6	3.3	2.6	0.0
Mild Hybrid Powertrains	22.9	19.9	18.7	7.5	5.8	5.7	5.6	0.0
Strong Hybrid Powertrains Total	0.0	30.7	41.5	70.6	80.3	85.7	86.5	94.7
Plug-In Hybrid Powertrains	4.9	5.0	5.1	5.2	5.2	5.2	5.3	5.3
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	83.9	49.6	39.0	6.4	0.1	0.1	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	7.4	7.2	10.5	7.4	7.3	7.2	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	11.2	7.4	7.2	7.3	6.9	1.7	1.0	0.0

Table 251 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ferrari) Total Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ferrari) Total Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	23.8	23.9	23.9	23.9	12.7	12.7	0.0	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	0.0	0.0	0.0	13.3	13.3	31.2	45.2
Plug-In Hybrid Powertrains	54.7	54.7	54.7	54.7	54.7	54.8	54.7	54.8
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	45.3	45.3	45.3	45.3	32.0	32.0	14.1	0.0

Table 252 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ford) Total Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ford) Total Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	76.8	60.4	60.4	26.9	16.0	16.0	1.7	1.6
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	1.3	1.3	1.3	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	82.7	66.3	66.3	27.1	16.2	16.2	1.8	1.8
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	12.2	28.9	29.0	68.8	79.8	79.9	95.6	95.7
Plug-In Hybrid Powertrains	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	32.1	9.4	9.3	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	53.6	59.9	60.0	29.5	18.5	18.4	3.2	3.1
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.1	1.0	1.0	1.0	1.0	1.0	0.5	0.5

Table 253 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (GM) Total Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (GM) Total Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.0
Cylinder Deactivation	1.6	1.1	1.1	1.0	1.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	62.8	46.2	30.9	21.8	21.6	12.2	7.6	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.0
Diesel Engines	4.5	4.7	4.7	4.8	4.8	4.8	4.9	4.9
12V Stop-Start (non-hybrid)	98.0	79.3	63.6	34.7	22.4	13.0	8.4	0.0
Mild Hybrid Powertrains	0.0	0.0	0.0	3.9	4.8	4.8	4.9	4.9
Strong Hybrid Powertrains Total	0.1	19.1	34.9	43.0	43.0	53.5	57.9	66.7
Plug-In Hybrid Powertrains	0.0	0.0	0.0	16.4	27.8	27.9	28.2	28.3
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	20.8	10.4	10.1	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	19.6	20.1	20.1	12.0	7.5	0.0	0.0	0.0
9-Speed Automatic	16.8	8.1	1.4	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	31.9	32.2	32.0	27.2	20.4	18.5	13.9	4.9
CVT Transmissions	9.1	8.5	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.8	1.6	1.5	1.4	1.4	0.0	0.0	0.0

Table 254 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Honda) Total Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Honda) Total Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
Cylinder Deactivation	19.6	10.4	8.6	5.9	6.0	6.1	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	35.1	34.9	34.8	31.9	5.0	5.1	5.1	5.2
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	3.7	3.8	3.9	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	58.5	54.8	52.8	47.2	11.0	11.1	6.1	6.2
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	22.3	28.8	31.1	37.1	78.1	88.7	93.8	93.7
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	4.6	4.8	2.9	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	19.0	13.5	13.8	13.9	6.0	6.1	1.0	1.0
CVT Transmissions	52.2	51.0	50.5	47.8	15.7	5.1	5.1	5.2
DCT Transmissions	1.9	1.8	1.7	1.2	0.0	0.0	0.0	0.0

Table 255 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Hyundai) Total Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Hyundai) Total Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	62.7	62.4	46.7	30.7	7.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	20.1	20.4	20.5	18.8	12.7	0.0	0.0	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	63.6	64.3	49.0	46.4	16.5	0.0	0.0	0.0
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	12.2	12.4	28.1	45.8	79.0	98.8	98.8	98.7
Plug-In Hybrid Powertrains	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.3
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	54.3	25.1	7.6	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	29.7	31.9	35.1	5.2	0.0	0.0	0.0
CVT Transmissions	24.1	23.2	22.7	10.3	7.0	0.0	0.0	0.0
DCT Transmissions	8.3	8.5	8.6	7.6	7.7	0.0	0.0	0.0

Table 256 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ineos) Total Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ineos) Total Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.5
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.5
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.5
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.5
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 257 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (JLR) Total Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (JLR) Total Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	47.8	44.3	30.4	21.6	21.6	10.4	10.4	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	51.2	49.3	48.0	47.4	47.5	27.4	27.4	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	10.3	10.3	10.3	10.4	10.4	10.4	10.4	0.0
Strong Hybrid Powertrains Total	0.0	5.4	20.6	30.0	29.9	61.3	61.2	99.0
Plug-In Hybrid Powertrains	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	89.5	55.1	27.8	1.4	1.4	0.0	0.0	0.0
9-Speed Automatic	9.6	8.6	3.4	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	22.1	39.5	59.8	59.9	37.7	37.8	0.0
CVT Transmissions	0.0	7.8	7.8	7.8	7.8	0.0	0.0	0.0
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 258 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (KIA) Total Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (KIA) Total Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	71.5	45.2	31.0	30.5	13.5	0.9	0.9	0.8
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	12.9	7.5	1.2	1.2	1.2	0.0	0.0	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	59.4	34.1	16.8	16.8	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	5.8	37.1	57.5	57.8	83.4	97.3	97.3	97.3
Plug-In Hybrid Powertrains	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	55.2	23.6	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	16.8	16.8	0.0	0.0	0.0	0.0
CVT Transmissions	31.9	32.7	22.7	22.4	13.5	0.9	0.9	0.8
DCT Transmissions	5.2	4.7	1.2	1.2	1.2	0.0	0.0	0.0

Table 259 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mazda) Total Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mazda) Total Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	59.5	59.3	59.2	33.0	33.0	28.2	28.2	28.3
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	12.4	12.5	12.5	12.6	12.6	12.6	12.7	0.0
Variable Geometry Turbo	22.8	22.9	22.9	19.6	19.7	7.0	7.1	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	14.9	15.0	15.0	15.1	15.1	2.5	2.5	2.5
Mild Hybrid Powertrains	12.4	12.5	12.5	12.6	12.6	12.6	12.7	0.0
Strong Hybrid Powertrains Total	0.0	0.0	0.0	29.4	29.3	46.7	46.6	66.3
Plug-In Hybrid Powertrains	5.3	5.3	5.3	5.4	5.4	5.4	5.4	5.4
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	80.6	80.6	80.6	17.5	17.6	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	12.4	12.5	12.5	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	47.7	47.8	47.9	48.0	28.3
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.7	1.6	1.5	0.0	0.0	0.0	0.0	0.0

Table 260 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mercedes-Benz) Total Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mercedes-Benz) Total Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	95.9	92.7	50.0	43.2	40.3	27.0	3.8	0.1
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	67.7	67.6	26.2	25.3	22.6	9.2	3.8	0.1
Strong Hybrid Powertrains Total	0.0	3.2	45.9	52.7	55.5	68.9	92.0	95.8
Plug-In Hybrid Powertrains	4.1	4.2	4.1	4.1	4.2	4.2	4.2	4.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	88.3	78.7	15.4	10.2	6.2	0.0	0.0	0.0
10-Speed Automatic	0.0	6.5	28.5	32.9	34.1	27.0	3.8	0.1
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	7.6	7.5	6.1	0.0	0.0	0.0	0.0	0.0

Table 261 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mitsubishi) Total Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mitsubishi) Total Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	18.4	17.6	17.3	60.6	60.6	60.5
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	13.2	13.5	13.7	13.9	0.0	0.0	0.0	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	0.0	5.8	20.7	34.7	34.7	34.8	34.8
Plug-In Hybrid Powertrains	4.4	4.5	4.5	4.6	4.6	4.6	4.7	4.7
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	95.6	95.5	89.7	74.7	60.7	60.6	60.6	60.5
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 262 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Nissan) Total Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Nissan) Total Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	7.3	20.7	20.5	20.2	20.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	1.6	1.5	0.9	0.8	0.8	0.8	1.9	1.9
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	60.3	61.2	61.6	33.5	33.8	16.9	8.2	8.1
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	13.1	18.7	48.3	48.5	68.7	77.9	78.1
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	3.5	3.6	3.1	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	26.2	16.3	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	9.0	25.9	29.8	30.2	10.3	1.6	1.6
CVT Transmissions	69.7	57.4	52.0	21.6	21.0	20.8	20.2	20.0
DCT Transmissions	0.6	0.6	0.4	0.4	0.3	0.3	0.3	0.3

Table 263 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Stellantis) Total Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Stellantis) Total Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	11.3	10.1	10.1	9.3	9.1	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	24.1	23.9	23.9	8.7	8.8	0.3	0.0	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	57.4	57.3	57.3	22.7	2.9	0.3	0.0	0.0
Mild Hybrid Powertrains	10.1	10.1	10.1	10.1	10.1	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	3.0	3.0	37.4	57.4	79.9	80.2	80.3
Plug-In Hybrid Powertrains	19.0	18.8	18.7	18.6	18.6	18.5	18.5	18.5
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	71.7	61.0	31.1	4.6	4.6	0.0	0.0	0.0
9-Speed Automatic	8.9	8.9	2.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	7.9	44.8	39.4	19.4	1.5	1.2	1.2
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0

Table 264 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Subaru) Total Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Subaru) Total Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	30.9	32.3	32.3	43.1	43.3	32.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	21.7	21.6	21.0	21.0	21.0	18.5	18.6	14.4
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	86.1	59.4	51.0	51.1	51.1	46.6	46.8	32.0
Mild Hybrid Powertrains	0.0	0.0	4.2	4.2	4.3	4.3	4.3	3.5
Strong Hybrid Powertrains Total	0.0	26.8	31.0	31.0	31.0	37.9	37.8	53.3
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	97.2	70.6	66.4	66.7	66.8	61.8	62.0	46.5
DCT Transmissions	2.7	2.5	2.4	2.3	2.2	0.2	0.2	0.2

Table 265 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Toyota) Total Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Toyota) Total Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	30.0	23.3	12.4	4.3	4.2	3.7	3.7	3.2
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	27.3	28.0	28.3	27.0	27.2	22.3	21.2	19.4
Variable Geometry Turbo	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	33.8	34.0	23.6	22.2	22.3	16.9	15.7	13.9
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	33.3	44.2	54.8	65.3	65.9	71.4	72.5	75.1
Plug-In Hybrid Powertrains	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4
5-Speed Automatic	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	41.1	34.6	23.6	12.6	8.8	7.5	7.5	7.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	6.5	6.7	7.4	16.2	19.7	15.6	14.4	12.6
CVT Transmissions	11.6	11.0	11.1	3.1	2.9	2.8	2.8	2.7
DCT Transmissions	0.7	0.7	0.7	0.4	0.4	0.4	0.4	0.2

Table 266 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Volvo) Total Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Volvo) Total Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	59.8	59.5	30.2	22.0	20.4	0.0	0.0	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	14.5	14.7	14.8	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	57.8	57.7	28.4	20.4	20.4	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	0.0	29.2	52.0	53.6	74.0	74.0	74.0
Plug-In Hybrid Powertrains	25.7	25.8	25.9	25.9	26.0	26.0	26.0	26.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	72.3	72.4	43.2	20.4	20.4	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.9	1.8	1.7	1.6	0.0	0.0	0.0	0.0

Table 267 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (VWA) Total Fleet, Alt 0 - No Action

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (VWA) Total Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.4	0.3	0.3	0.1	0.1	0.1	0.1	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	76.5	65.8	58.6	22.1	0.2	0.2	0.2	0.0
Variable Geometry Turbo	20.6	1.4	1.1	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	92.1	62.5	56.0	20.4	0.3	0.3	0.3	0.0
Mild Hybrid Powertrains	3.2	3.1	2.1	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	29.9	37.5	75.7	97.6	97.6	97.6	97.8
Plug-In Hybrid Powertrains	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	69.0	35.2	30.0	0.3	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	13.2	12.8	12.3	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	29.0	19.7	17.7	9.5	0.3	0.3	0.3	0.0

Table 268 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (BMW) Total Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (BMW) Total Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	95.1	64.3	53.4	42.3	33.9	34.0	34.0	27.4
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	66.5	39.4	31.5	31.8	26.4	26.5	26.8	25.7
Mild Hybrid Powertrains	22.9	19.9	18.7	7.4	5.8	5.7	5.6	0.0
Strong Hybrid Powertrains Total	0.0	30.7	41.5	52.5	60.9	60.8	60.7	67.4
Plug-In Hybrid Powertrains	4.9	5.0	5.1	5.2	5.2	5.2	5.3	5.3
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	83.9	49.6	39.0	28.1	23.4	23.5	23.5	20.9
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	7.4	7.2	6.9	3.3	3.3	3.2	0.1
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	11.2	7.4	7.2	7.3	7.2	7.3	7.3	6.3

Table 269 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ferrari) Total Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ferrari) Total Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	23.8	23.9	23.9	23.9	12.7	12.7	0.0	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	0.0	0.0	0.0	13.3	13.3	31.3	45.3
Plug-In Hybrid Powertrains	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	45.3	45.3	45.3	45.3	32.0	32.0	14.1	0.0

Table 270 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ford) Total Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ford) Total Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	76.8	60.4	60.4	44.8	44.8	44.8	37.8	37.8
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	82.7	66.3	66.3	44.7	44.7	44.7	37.6	37.6
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	12.2	28.9	29.0	52.2	52.3	52.3	59.4	59.5
Plug-In Hybrid Powertrains	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	32.1	9.4	9.3	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	53.6	59.9	60.0	46.1	46.0	46.0	39.0	38.9
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.1	1.0	1.0	1.0	1.0	1.0	1.0	0.9

Table 271 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (GM) Total Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (GM) Total Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8
Cylinder Deactivation	1.6	1.1	1.1	1.0	1.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	62.8	46.2	30.9	30.2	30.1	30.1	30.1	29.6
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.0
Diesel Engines	4.5	4.7	4.7	4.8	4.8	4.8	4.9	4.9
12V Stop-Start (non-hybrid)	98.0	79.3	63.6	47.0	35.8	35.8	35.8	35.4
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.1	19.1	34.9	51.0	62.2	63.6	63.6	64.6
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	20.8	10.4	10.1	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	19.6	20.1	20.1	30.1	30.0	30.0	29.9	29.5
9-Speed Automatic	16.8	8.1	1.4	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	31.9	32.2	32.0	17.5	6.4	6.4	6.5	5.9
CVT Transmissions	9.1	8.5	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.8	1.6	1.5	1.4	1.4	0.0	0.0	0.0

Table 272 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Honda) Total Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Honda) Total Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	10.6	16.6	26.1
Cylinder Deactivation	19.6	10.4	8.6	5.9	6.0	6.1	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	35.1	34.9	34.8	34.7	34.7	34.7	34.6	34.6
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	3.7	3.8	3.9	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	58.5	54.8	52.8	49.7	49.5	49.4	49.3	49.3
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	22.3	28.8	31.1	34.3	38.7	38.8	39.1	39.3
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	4.6	4.8	2.9	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	19.0	13.5	13.8	14.2	10.4	10.5	10.7	10.8
CVT Transmissions	52.2	51.0	50.5	49.7	49.3	49.1	48.7	48.5
DCT Transmissions	1.9	1.8	1.7	1.7	1.5	1.5	1.5	1.5

Table 273 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Hyundai) Total Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Hyundai) Total Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	62.7	62.4	46.7	46.1	49.1	48.9	48.6	48.3
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	20.1	20.4	20.5	20.5	20.6	20.6	20.7	20.8
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	63.6	64.3	49.0	49.1	49.1	49.1	49.2	49.2
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	12.2	12.4	28.1	28.7	28.9	29.2	29.4	29.6
Plug-In Hybrid Powertrains	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.3
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	54.3	25.1	7.6	0.3	0.3	0.3	0.3	0.3
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	29.7	31.9	39.0	39.0	38.8	38.8	38.8
CVT Transmissions	24.1	23.2	22.7	22.2	21.9	21.7	21.4	21.2
DCT Transmissions	8.3	8.5	8.6	8.6	8.7	8.7	8.8	8.8

Table 274 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ineos) Total Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ineos) Total Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.5
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.5
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.5
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.5
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 275 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (JLR) Total Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (JLR) Total Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	47.8	44.3	30.4	30.5	30.5	30.5	30.6	20.2
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	51.2	49.3	48.0	47.4	47.5	27.4	27.4	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	10.3	10.3	10.3	10.4	10.4	10.4	10.4	0.0
Strong Hybrid Powertrains Total	0.0	5.4	20.6	21.1	21.0	41.1	41.1	78.8
Plug-In Hybrid Powertrains	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	89.5	55.1	27.8	8.3	8.3	6.9	6.9	0.0
9-Speed Automatic	9.6	8.6	3.4	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	22.1	39.5	56.3	56.4	37.7	37.7	6.9
CVT Transmissions	0.0	7.8	7.8	13.2	13.3	13.3	13.3	13.3
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 276 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (KIA) Total Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (KIA) Total Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	71.5	45.2	31.0	30.5	39.0	38.9	38.8	38.6
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	12.9	7.5	1.2	1.2	1.2	1.2	1.1	1.1
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	59.4	34.1	16.8	16.8	16.8	16.8	16.8	16.8
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	5.8	37.1	57.5	57.8	58.0	58.1	58.2	58.3
Plug-In Hybrid Powertrains	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	55.2	23.6	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	16.8	16.8	16.8	16.8	16.8	16.8
CVT Transmissions	31.9	32.7	22.7	22.4	22.2	22.1	22.0	21.9
DCT Transmissions	5.2	4.7	1.2	1.2	1.2	1.2	1.1	1.1

Table 277 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mazda) Total Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mazda) Total Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	59.5	59.3	59.2	59.1	59.0	59.0	58.9	58.9
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	12.4	12.5	12.5	12.6	12.6	12.6	12.7	12.7
Variable Geometry Turbo	22.8	22.9	22.9	19.6	19.7	7.0	7.1	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	14.9	15.0	15.0	15.1	15.2	2.5	2.5	2.5
Mild Hybrid Powertrains	12.4	12.5	12.5	12.6	12.6	12.6	12.7	12.7
Strong Hybrid Powertrains Total	0.0	0.0	0.0	3.3	3.3	16.0	16.0	23.0
Plug-In Hybrid Powertrains	5.3	5.3	5.3	5.4	5.4	5.4	5.4	5.4
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	80.6	80.6	80.6	17.5	17.6	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	12.4	12.5	12.5	72.3	72.3	77.2	77.3	70.2
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.7	1.6	1.5	1.5	1.4	1.4	1.4	1.3

Table 278 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mercedes-Benz) Total Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mercedes-Benz) Total Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	95.9	92.7	50.0	49.2	46.3	33.0	27.6	23.9
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	67.7	67.6	26.2	25.3	22.5	9.2	3.8	0.1
Strong Hybrid Powertrains Total	0.0	3.2	45.9	46.6	49.6	62.8	68.2	71.9
Plug-In Hybrid Powertrains	4.1	4.2	4.1	4.1	4.2	4.2	4.2	4.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	88.3	78.7	15.4	10.2	6.2	0.0	0.0	0.0
10-Speed Automatic	0.0	6.5	28.5	32.9	34.1	27.0	21.7	17.9
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	7.6	7.5	6.1	6.0	6.0	6.0	6.0	6.0

Table 279 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mitsubishi) Total Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mitsubishi) Total Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	18.4	32.8	32.5	76.0	76.0	76.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	13.2	13.5	13.7	13.9	14.0	14.0	14.1	14.2
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	0.0	5.8	5.5	5.4	5.3	5.2	5.1
Plug-In Hybrid Powertrains	4.4	4.5	4.5	4.6	4.6	4.6	4.7	4.7
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	95.6	95.5	89.7	89.9	90.0	90.0	90.1	90.2
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 280 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Nissan) Total Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Nissan) Total Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	16.7	29.9	46.7	46.6	46.5
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	1.6	1.5	0.9	0.8	0.8	0.8	10.7	10.9
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	60.3	61.2	61.6	62.2	62.5	62.7	63.0	63.2
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	13.1	18.7	19.5	19.7	22.8	23.0	22.9
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	3.5	3.6	3.1	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	3.2	3.2	0.0	0.0	0.0
9-Speed Automatic	26.2	16.3	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	9.0	25.9	26.7	27.1	27.3	27.7	28.0
CVT Transmissions	69.7	57.4	52.0	50.3	49.7	49.5	48.9	48.7
DCT Transmissions	0.6	0.6	0.4	0.4	0.3	0.3	0.3	0.3

Table 281 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Stellantis) Total Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Stellantis) Total Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	11.3	10.1	10.1	9.3	9.3	1.5	1.5	1.5
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	24.1	23.9	23.9	21.1	40.9	35.4	35.4	44.4
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	57.4	57.3	57.3	51.0	51.0	51.1	51.0	51.0
Mild Hybrid Powertrains	10.1	10.1	10.1	10.1	10.1	2.3	2.3	2.3
Strong Hybrid Powertrains Total	0.0	3.0	3.0	10.3	10.3	25.9	26.0	26.1
Plug-In Hybrid Powertrains	19.0	18.8	18.7	18.6	18.6	18.5	18.5	18.5
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	71.7	61.0	31.1	24.6	24.6	23.6	23.6	23.6
9-Speed Automatic	8.9	8.9	2.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	7.9	44.8	46.2	46.2	31.5	31.5	31.5
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

Table 282 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Subaru) Total Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Subaru) Total Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	30.9	32.3	32.3	47.6	47.7	47.7
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	21.7	21.6	21.0	21.0	21.0	21.0	20.9	20.9
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	86.1	59.4	51.0	51.1	51.1	51.2	51.2	51.2
Mild Hybrid Powertrains	0.0	0.0	4.2	4.2	4.3	4.3	4.3	4.3
Strong Hybrid Powertrains Total	0.0	26.8	31.0	31.0	31.0	31.0	31.0	31.0
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	97.2	70.6	66.4	66.6	66.6	66.7	66.7	66.8
DCT Transmissions	2.7	2.5	2.4	2.3	2.2	2.2	2.1	2.1

Table 283 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Toyota) Total Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Toyota) Total Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	30.0	23.3	12.4	12.9	13.2	13.1	12.8	13.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	27.3	28.0	28.3	28.7	29.0	29.1	29.3	29.4
Variable Geometry Turbo	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	33.8	34.0	23.6	23.9	24.0	24.0	24.2	24.2
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	33.3	44.2	54.8	55.0	55.2	55.2	55.2	55.2
Plug-In Hybrid Powertrains	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4
5-Speed Automatic	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	41.1	34.6	23.6	23.8	23.7	23.8	23.9	24.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	6.5	6.7	7.4	7.4	7.4	7.5	7.5	7.6
CVT Transmissions	11.6	11.0	11.1	10.8	10.6	10.5	10.3	10.2
DCT Transmissions	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6

Table 284 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Volvo) Total Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Volvo) Total Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	59.8	59.5	30.2	30.4	30.0	30.1	30.2	30.2
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	14.5	14.7	14.8	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	57.8	57.7	28.4	28.7	28.8	28.9	29.0	29.1
Strong Hybrid Powertrains Total	0.0	0.0	29.2	43.7	44.0	44.0	43.8	43.7
Plug-In Hybrid Powertrains	25.7	25.8	25.9	25.9	26.0	26.0	26.0	26.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	72.3	72.4	43.2	28.7	28.8	28.9	29.0	29.1
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.9	1.8	1.7	1.6	1.2	1.1	1.1	1.1

Table 285 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (VWA) Total Fleet, Alt 1

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (VWA) Total Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
Cylinder Deactivation	0.4	0.3	0.3	0.1	0.1	0.1	0.1	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	76.5	65.8	58.6	55.3	54.8	54.8	54.7	54.4
Variable Geometry Turbo	20.6	1.4	1.1	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	92.1	62.5	56.0	53.4	53.0	53.0	52.9	52.6
Mild Hybrid Powertrains	3.2	3.1	2.1	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	29.9	37.5	42.3	42.8	42.9	42.9	43.3
Plug-In Hybrid Powertrains	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	69.0	35.2	30.0	22.5	22.3	22.4	5.0	5.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	13.2	12.8	18.6	18.3	18.2	35.5	35.4
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	29.0	19.7	17.7	14.6	14.5	14.5	14.4	14.2

Table 286 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (BMW) Total Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (BMW) Total Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	95.1	64.3	53.4	42.3	33.9	34.0	34.0	27.4
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	66.5	39.4	31.5	31.8	26.4	26.5	26.8	25.7
Mild Hybrid Powertrains	22.9	19.9	18.7	7.4	5.8	5.7	5.6	0.0
Strong Hybrid Powertrains Total	0.0	30.7	41.5	52.5	60.9	60.8	60.7	67.4
Plug-In Hybrid Powertrains	4.9	5.0	5.1	5.2	5.2	5.2	5.3	5.3
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	83.9	49.6	39.0	28.1	23.4	23.5	23.5	20.9
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	7.4	7.2	6.9	3.3	3.3	3.2	0.1
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	11.2	7.4	7.2	7.3	7.2	7.3	7.3	6.3

Table 287 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ferrari) Total Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ferrari) Total Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	23.8	23.9	23.9	23.9	12.7	12.7	0.0	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	0.0	0.0	0.0	13.3	13.3	31.3	45.3
Plug-In Hybrid Powertrains	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	45.3	45.3	45.3	45.3	32.0	32.0	14.1	0.0

Table 288 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ford) Total Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ford) Total Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	76.8	60.4	60.4	43.9	44.0	44.0	37.0	37.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	82.7	66.3	66.3	43.8	43.8	43.8	36.8	36.8
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	12.2	28.9	29.0	53.1	53.1	53.2	60.3	60.3
Plug-In Hybrid Powertrains	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	32.1	9.4	9.3	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	53.6	59.9	60.0	45.2	45.2	45.2	38.1	38.1
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.1	1.0	1.0	1.0	1.0	1.0	1.0	0.9

Table 289 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (GM) Total Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (GM) Total Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8
Cylinder Deactivation	1.6	1.1	1.1	1.0	1.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	62.8	46.2	30.9	30.2	30.1	30.1	30.1	29.6
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.0
Diesel Engines	4.5	4.7	4.7	4.8	4.8	4.8	4.9	4.9
12V Stop-Start (non-hybrid)	98.0	79.3	63.6	47.0	35.8	35.8	35.8	35.4
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.1	19.1	34.9	51.0	62.2	63.6	63.6	64.6
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	20.8	10.4	10.1	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	19.6	20.1	20.1	30.1	30.0	30.0	29.9	29.5
9-Speed Automatic	16.8	8.1	1.4	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	31.9	32.2	32.0	17.5	6.4	6.4	6.5	5.9
CVT Transmissions	9.1	8.5	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.8	1.6	1.5	1.4	1.4	0.0	0.0	0.0

Table 290 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Honda) Total Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Honda) Total Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	10.6	16.6	26.1
Cylinder Deactivation	19.6	10.4	8.6	5.9	6.0	6.1	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	35.1	34.9	34.8	34.7	34.7	34.7	34.6	34.6
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	3.7	3.8	3.9	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	58.5	54.8	52.8	49.7	49.5	49.4	49.3	49.3
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	22.3	28.8	31.1	34.3	38.7	38.8	39.1	39.3
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	4.6	4.8	2.9	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	19.0	13.5	13.8	14.2	10.4	10.5	10.7	10.8
CVT Transmissions	52.2	51.0	50.5	49.7	49.3	49.1	48.7	48.4
DCT Transmissions	1.9	1.8	1.7	1.7	1.5	1.5	1.5	1.5

Table 291 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Hyundai) Total Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Hyundai) Total Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	62.7	62.4	46.7	46.1	49.1	48.9	48.6	48.3
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	20.1	20.4	20.5	20.5	20.6	20.6	20.7	20.8
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	63.6	64.3	49.0	49.1	49.1	49.1	49.2	49.2
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	12.2	12.4	28.1	28.7	28.9	29.2	29.4	29.6
Plug-In Hybrid Powertrains	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.3
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	54.3	25.1	7.6	0.3	0.3	0.3	0.3	0.3
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	29.7	31.9	39.0	39.0	38.8	38.8	38.8
CVT Transmissions	24.1	23.2	22.7	22.2	21.9	21.7	21.4	21.2
DCT Transmissions	8.3	8.5	8.6	8.6	8.7	8.7	8.8	8.8

Table 292 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ineos) Total Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ineos) Total Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.5
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.5
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.5
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.5
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 293 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (JLR) Total Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (JLR) Total Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	47.8	44.3	30.4	30.5	30.5	30.5	30.6	20.2
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	51.2	49.3	48.0	47.4	47.5	27.4	27.4	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	10.3	10.3	10.3	10.4	10.4	10.4	10.4	0.0
Strong Hybrid Powertrains Total	0.0	5.4	20.6	21.1	21.0	41.1	41.1	78.8
Plug-In Hybrid Powertrains	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	89.5	55.1	27.8	8.3	8.3	6.9	6.9	0.0
9-Speed Automatic	9.6	8.6	3.4	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	22.1	39.5	56.4	56.4	37.7	37.7	6.9
CVT Transmissions	0.0	7.8	7.8	13.2	13.3	13.3	13.3	13.3
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 294 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (KIA) Total Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (KIA) Total Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	71.5	45.2	31.0	30.5	39.0	38.9	38.8	38.6
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	12.9	7.5	1.2	1.2	1.2	1.2	1.1	1.1
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	59.4	34.1	16.8	16.8	16.8	16.8	16.8	16.8
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	5.8	37.1	57.5	57.8	58.0	58.1	58.2	58.3
Plug-In Hybrid Powertrains	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	55.2	23.6	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	16.8	16.8	16.8	16.8	16.8	16.8
CVT Transmissions	31.9	32.7	22.7	22.4	22.2	22.1	22.0	21.9
DCT Transmissions	5.2	4.7	1.2	1.2	1.2	1.2	1.1	1.1

Table 295 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mazda) Total Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mazda) Total Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	59.5	59.3	59.2	59.1	59.0	59.0	58.9	58.9
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	12.4	12.5	12.5	12.6	12.6	12.6	12.7	12.7
Variable Geometry Turbo	22.8	22.9	22.9	19.6	19.7	7.0	7.1	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	14.9	15.0	15.0	15.1	15.2	2.5	2.5	2.5
Mild Hybrid Powertrains	12.4	12.5	12.5	12.6	12.6	12.6	12.7	12.7
Strong Hybrid Powertrains Total	0.0	0.0	0.0	3.3	3.3	16.0	16.0	23.0
Plug-In Hybrid Powertrains	5.3	5.3	5.3	5.4	5.4	5.4	5.4	5.4
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	80.6	80.6	80.6	17.5	17.6	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	12.4	12.5	12.5	72.3	72.3	77.2	77.3	70.2
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.7	1.6	1.5	1.5	1.4	1.4	1.4	1.3

Table 296 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mercedes-Benz) Total Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mercedes-Benz) Total Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	95.9	92.7	50.0	49.2	46.3	33.0	27.6	23.9
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	67.7	67.6	26.2	25.3	22.5	9.2	3.8	0.1
Strong Hybrid Powertrains Total	0.0	3.2	45.9	46.6	49.6	62.8	68.2	71.9
Plug-In Hybrid Powertrains	4.1	4.2	4.1	4.1	4.2	4.2	4.2	4.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	88.3	78.7	15.4	10.2	6.2	0.0	0.0	0.0
10-Speed Automatic	0.0	6.5	28.5	32.9	34.1	27.0	21.7	17.9
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	7.6	7.5	6.1	6.0	6.0	6.0	6.0	6.0

Table 297 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mitsubishi) Total Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mitsubishi) Total Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	18.4	32.8	32.5	76.0	76.0	76.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	13.2	13.5	13.7	13.9	14.0	14.0	14.1	14.2
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	0.0	5.8	5.5	5.4	5.3	5.2	5.1
Plug-In Hybrid Powertrains	4.4	4.5	4.5	4.6	4.6	4.6	4.7	4.7
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	95.6	95.5	89.7	89.9	90.0	90.0	90.1	90.2
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 298 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Nissan) Total Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Nissan) Total Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	16.7	29.9	46.7	46.6	46.5
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	1.6	1.5	0.9	0.8	0.8	0.8	10.7	10.9
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	60.3	61.2	61.6	62.2	62.5	62.7	63.0	63.2
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	13.1	18.7	19.5	19.7	22.8	23.0	22.9
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	3.5	3.6	3.1	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	3.2	3.2	0.0	0.0	0.0
9-Speed Automatic	26.2	16.3	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	9.0	25.9	26.7	27.1	27.3	27.7	28.0
CVT Transmissions	69.7	57.4	52.0	50.3	49.7	49.5	48.9	48.7
DCT Transmissions	0.6	0.6	0.4	0.4	0.3	0.3	0.3	0.3

Table 299 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Stellantis) Total Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Stellantis) Total Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	11.3	10.1	10.1	9.3	9.3	1.5	1.5	1.5
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	24.1	23.9	23.9	21.1	40.9	35.4	35.4	44.4
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	57.4	57.3	57.3	51.0	51.0	51.1	51.0	51.0
Mild Hybrid Powertrains	10.1	10.1	10.1	10.1	10.1	2.3	2.3	2.3
Strong Hybrid Powertrains Total	0.0	3.0	3.0	10.3	10.3	25.9	26.0	26.1
Plug-In Hybrid Powertrains	19.0	18.8	18.7	18.6	18.6	18.5	18.5	18.5
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	71.7	61.0	31.1	24.6	24.6	23.6	23.6	23.6
9-Speed Automatic	8.9	8.9	2.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	7.9	44.8	46.2	46.2	31.5	31.5	31.5
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

Table 300 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Subaru) Total Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Subaru) Total Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	30.9	32.3	32.3	47.6	47.7	47.7
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	21.7	21.6	21.0	21.0	21.0	21.0	20.9	20.9
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	86.1	59.4	51.0	51.1	51.1	51.2	51.2	51.2
Mild Hybrid Powertrains	0.0	0.0	4.2	4.2	4.3	4.3	4.3	4.3
Strong Hybrid Powertrains Total	0.0	26.8	31.0	31.0	31.0	31.0	31.0	31.0
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	97.2	70.6	66.4	66.6	66.6	66.7	66.7	66.8
DCT Transmissions	2.7	2.5	2.4	2.3	2.2	2.2	2.1	2.1

Table 301 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Toyota) Total Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Toyota) Total Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	30.0	23.3	12.4	12.9	13.2	13.1	12.8	13.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	27.3	28.0	28.3	28.7	29.0	29.1	29.3	29.4
Variable Geometry Turbo	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	33.8	34.0	23.6	23.9	24.0	24.0	24.2	24.2
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	33.3	44.2	54.8	55.0	55.2	55.2	55.2	55.2
Plug-In Hybrid Powertrains	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4
5-Speed Automatic	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	41.1	34.6	23.6	23.8	23.7	23.8	23.9	24.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	6.5	6.7	7.4	7.4	7.5	7.5	7.5	7.6
CVT Transmissions	11.6	11.0	11.1	10.8	10.6	10.5	10.3	10.2
DCT Transmissions	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6

Table 302 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Volvo) Total Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Volvo) Total Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	59.8	59.5	30.2	30.4	30.0	30.1	30.2	30.2
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	14.5	14.7	14.8	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	57.8	57.7	28.4	28.7	28.8	28.9	29.0	29.1
Strong Hybrid Powertrains Total	0.0	0.0	29.2	43.7	44.0	44.0	43.8	43.7
Plug-In Hybrid Powertrains	25.7	25.8	25.9	25.9	26.0	26.0	26.0	26.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	72.3	72.4	43.2	28.7	28.8	28.9	29.0	29.1
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.9	1.8	1.7	1.6	1.2	1.1	1.1	1.1

Table 303 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (VWA) Total Fleet, Alt 2

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (VWA) Total Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
Cylinder Deactivation	0.4	0.3	0.3	0.1	0.1	0.1	0.1	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	76.5	65.8	58.6	51.0	50.5	50.4	50.3	50.0
Variable Geometry Turbo	20.6	1.4	1.1	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	92.1	62.5	56.0	49.1	48.6	48.6	48.5	48.2
Mild Hybrid Powertrains	3.2	3.1	2.1	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	29.9	37.5	46.6	47.2	47.2	47.4	47.7
Plug-In Hybrid Powertrains	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	69.0	35.2	30.0	22.5	22.3	22.4	5.0	5.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	13.2	12.8	14.3	14.0	13.8	31.1	31.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	29.0	19.7	17.7	14.6	14.5	14.5	14.4	14.2

Table 304 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (BMW) Total Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (BMW) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	95.1	64.3	53.4	42.3	33.9	34.0	34.0	27.4
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	66.5	39.4	31.5	31.8	26.4	26.5	26.8	25.7
Mild Hybrid Powertrains	22.9	19.9	18.7	7.4	5.8	5.7	5.6	0.0
Strong Hybrid Powertrains Total	0.0	30.7	41.5	52.5	60.9	60.8	60.7	67.4
Plug-In Hybrid Powertrains	4.9	5.0	5.1	5.2	5.2	5.2	5.3	5.3
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	83.9	49.6	39.0	28.1	23.4	23.5	23.5	20.9
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	7.4	7.2	6.9	3.3	3.3	3.2	0.1
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	11.2	7.4	7.2	7.3	7.2	7.3	7.3	6.3

Table 305 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ferrari) Total Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ferrari) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	23.8	23.9	23.9	23.9	12.7	12.7	0.0	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	0.0	0.0	0.0	13.3	13.3	31.3	45.3
Plug-In Hybrid Powertrains	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	45.3	45.3	45.3	45.3	32.0	32.0	14.1	0.0

Table 306 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ford) Total Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ford) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	76.8	60.4	60.4	34.5	34.5	34.5	27.5	27.5
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	82.7	66.3	66.3	34.3	34.3	34.3	27.3	27.3
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	12.2	28.9	29.0	62.6	62.6	62.6	69.7	69.8
Plug-In Hybrid Powertrains	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	32.1	9.4	9.3	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	53.6	59.9	60.0	35.7	35.7	35.7	28.6	28.6
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.1	1.0	1.0	1.0	1.0	1.0	1.0	0.9

Table 307 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (GM) Total Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (GM) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8
Cylinder Deactivation	1.6	1.1	1.1	1.0	1.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	62.8	46.2	30.9	30.2	30.1	30.1	30.1	29.6
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.0
Diesel Engines	4.5	4.7	4.7	4.8	4.8	4.8	4.9	4.9
12V Stop-Start (non-hybrid)	98.0	79.3	63.6	47.0	35.8	35.8	35.8	35.4
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.1	19.1	34.9	51.0	62.2	63.6	63.6	64.6
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	20.8	10.4	10.1	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	19.6	20.1	20.1	30.1	30.0	30.0	29.9	29.5
9-Speed Automatic	16.8	8.1	1.4	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	31.9	32.2	32.0	17.5	6.4	6.4	6.5	5.9
CVT Transmissions	9.1	8.5	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.8	1.6	1.5	1.4	1.4	0.0	0.0	0.0

Table 308 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Honda) Total Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Honda) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	10.6	16.6	26.1
Cylinder Deactivation	19.6	10.4	8.6	5.9	6.0	6.1	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	35.1	34.9	34.8	34.7	34.7	34.7	34.6	34.6
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	3.7	3.8	3.9	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	58.5	54.8	52.8	49.7	49.5	49.4	49.3	49.3
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	22.3	28.8	31.1	34.3	38.7	38.8	39.1	39.3
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	4.6	4.8	2.9	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	19.0	13.5	13.8	14.2	10.4	10.5	10.7	10.8
CVT Transmissions	52.2	51.0	50.5	49.7	49.3	49.1	48.7	48.5
DCT Transmissions	1.9	1.8	1.7	1.7	1.5	1.5	1.5	1.5

Table 309 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Hyundai) Total Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Hyundai) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	62.7	62.4	46.7	46.1	49.1	48.9	48.6	48.3
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	20.1	20.4	20.5	20.5	20.6	20.6	20.7	20.8
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	63.6	64.3	49.0	49.1	49.1	49.1	49.2	49.2
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	12.2	12.4	28.1	28.7	28.9	29.2	29.4	29.6
Plug-In Hybrid Powertrains	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.3
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	54.3	25.1	7.6	0.3	0.3	0.3	0.3	0.3
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	29.7	31.9	39.0	39.0	38.8	38.8	38.8
CVT Transmissions	24.1	23.2	22.7	22.2	21.9	21.7	21.4	21.2
DCT Transmissions	8.3	8.5	8.6	8.6	8.7	8.7	8.8	8.8

Table 310 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ineos) Total Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ineos) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.5
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.5
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.5
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.5
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 311 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (JLR) Total Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (JLR) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	47.8	44.3	30.4	30.5	30.5	30.5	30.6	20.2
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	51.2	49.3	48.0	47.4	47.5	27.4	27.4	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	10.3	10.3	10.3	10.4	10.4	10.4	10.4	0.0
Strong Hybrid Powertrains Total	0.0	5.4	20.6	21.1	21.0	41.1	41.1	78.8
Plug-In Hybrid Powertrains	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	89.5	55.1	27.8	8.3	8.3	6.9	6.9	0.0
9-Speed Automatic	9.6	8.6	3.4	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	22.1	39.5	56.4	56.4	37.7	37.7	6.9
CVT Transmissions	0.0	7.8	7.8	13.2	13.3	13.3	13.3	13.3
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 312 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (KIA) Total Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (KIA) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	71.5	45.2	31.0	30.5	39.0	38.9	38.8	38.6
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	12.9	7.5	1.2	1.2	1.2	1.2	1.1	1.1
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	59.4	34.1	16.8	16.8	16.8	16.8	16.8	16.8
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	5.8	37.1	57.5	57.8	58.0	58.1	58.2	58.3
Plug-In Hybrid Powertrains	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	55.2	23.6	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	16.8	16.8	16.8	16.8	16.8	16.8
CVT Transmissions	31.9	32.7	22.7	22.4	22.2	22.1	22.0	21.9
DCT Transmissions	5.2	4.7	1.2	1.2	1.2	1.2	1.1	1.1

Table 313 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mazda) Total Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mazda) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	59.5	59.3	59.2	59.1	59.0	59.0	58.9	58.9
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	12.4	12.5	12.5	12.6	12.6	12.6	12.7	12.7
Variable Geometry Turbo	22.8	22.9	22.9	19.6	19.7	7.0	7.1	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	14.9	15.0	15.0	15.1	15.2	2.5	2.5	2.5
Mild Hybrid Powertrains	12.4	12.5	12.5	12.6	12.6	12.6	12.7	12.7
Strong Hybrid Powertrains Total	0.0	0.0	0.0	3.3	3.3	16.0	16.0	23.0
Plug-In Hybrid Powertrains	5.3	5.3	5.3	5.4	5.4	5.4	5.4	5.4
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	80.6	80.6	80.6	17.5	17.6	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	12.4	12.5	12.5	72.3	72.3	77.2	77.3	70.2
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.7	1.6	1.5	1.5	1.4	1.4	1.4	1.3

Table 314 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mercedes-Benz) Total Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mercedes-Benz) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	95.9	92.7	50.0	49.2	46.3	33.0	27.6	23.9
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	67.7	67.6	26.2	25.3	22.5	9.2	3.8	0.1
Strong Hybrid Powertrains Total	0.0	3.2	45.9	46.6	49.6	62.8	68.2	71.9
Plug-In Hybrid Powertrains	4.1	4.2	4.1	4.1	4.2	4.2	4.2	4.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	88.3	78.7	15.4	10.2	6.2	0.0	0.0	0.0
10-Speed Automatic	0.0	6.5	28.5	32.9	34.1	27.0	21.7	17.9
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	7.6	7.5	6.1	6.0	6.0	6.0	6.0	6.0

Table 315 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mitsubishi) Total Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mitsubishi) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	18.4	32.8	32.5	76.0	76.0	76.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	13.2	13.5	13.7	13.9	14.0	14.0	14.1	14.2
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	0.0	5.8	5.5	5.4	5.3	5.2	5.1
Plug-In Hybrid Powertrains	4.4	4.5	4.5	4.6	4.6	4.6	4.7	4.7
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	95.6	95.5	89.7	89.9	90.0	90.0	90.1	90.2
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 316 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Nissan) Total Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Nissan) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	16.7	29.9	46.7	46.6	46.5
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	1.6	1.5	0.9	0.8	0.8	0.8	10.7	10.9
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	60.3	61.2	61.6	62.2	62.5	62.7	63.0	63.2
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	13.1	18.7	19.5	19.7	22.8	23.0	22.9
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	3.5	3.6	3.1	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	3.2	3.2	0.0	0.0	0.0
9-Speed Automatic	26.2	16.3	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	9.0	25.9	26.7	27.1	27.3	27.7	28.0
CVT Transmissions	69.7	57.4	52.0	50.3	49.7	49.5	48.9	48.7
DCT Transmissions	0.6	0.6	0.4	0.4	0.3	0.3	0.3	0.3

Table 317 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Stellantis) Total Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Stellantis) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	11.3	10.1	10.1	9.3	9.3	1.5	1.5	1.5
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	24.1	23.9	23.9	20.4	40.1	34.7	34.4	43.4
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	57.4	57.3	57.3	44.5	44.6	44.6	44.3	44.4
Mild Hybrid Powertrains	10.1	10.1	10.1	10.1	10.1	2.3	2.3	2.3
Strong Hybrid Powertrains Total	0.0	3.0	3.0	16.8	16.8	32.4	32.7	32.7
Plug-In Hybrid Powertrains	19.0	18.8	18.7	18.6	18.6	18.5	18.5	18.5
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	71.7	61.0	31.1	23.8	23.8	22.9	22.7	22.7
9-Speed Automatic	8.9	8.9	2.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	7.9	44.8	40.5	40.5	25.8	25.8	25.8
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

Table 318 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Subaru) Total Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Subaru) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	30.9	32.3	32.3	47.6	47.7	47.7
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	21.7	21.6	21.0	21.0	21.0	21.0	20.9	20.9
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	86.1	59.4	51.0	51.1	51.1	51.2	51.2	51.2
Mild Hybrid Powertrains	0.0	0.0	4.2	4.2	4.3	4.3	4.3	4.3
Strong Hybrid Powertrains Total	0.0	26.8	31.0	31.0	31.0	31.0	31.0	31.0
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	97.2	70.6	66.4	66.6	66.6	66.7	66.7	66.8
DCT Transmissions	2.7	2.5	2.4	2.3	2.2	2.2	2.1	2.1

Table 319 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Toyota) Total Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Toyota) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	30.0	23.3	12.4	12.9	13.2	13.1	12.8	13.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	27.3	28.0	28.3	28.7	29.0	29.1	29.3	29.4
Variable Geometry Turbo	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	33.8	34.0	23.6	23.9	24.0	24.0	24.2	24.2
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	33.3	44.2	54.8	55.0	55.2	55.2	55.2	55.2
Plug-In Hybrid Powertrains	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4
5-Speed Automatic	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	41.1	34.6	23.6	23.8	23.7	23.8	23.9	24.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	6.5	6.7	7.4	7.4	7.4	7.5	7.5	7.6
CVT Transmissions	11.6	11.0	11.1	10.8	10.6	10.5	10.3	10.2
DCT Transmissions	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6

Table 320 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Volvo) Total Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Volvo) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	59.8	59.5	30.2	30.4	28.9	28.9	29.1	29.1
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	14.5	14.7	14.8	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	57.8	57.7	28.4	28.7	28.8	28.9	29.0	29.1
Strong Hybrid Powertrains Total	0.0	0.0	29.2	43.7	45.2	45.1	44.9	44.8
Plug-In Hybrid Powertrains	25.7	25.8	25.9	25.9	26.0	26.0	26.0	26.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	72.3	72.4	43.2	28.7	28.8	28.9	29.0	29.1
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.9	1.8	1.7	1.6	0.0	0.0	0.0	0.0

Table 321 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (VWA) Total Fleet, Alt 3

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (VWA) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
Cylinder Deactivation	0.4	0.3	0.3	0.1	0.1	0.1	0.1	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	76.5	65.8	58.6	42.0	41.5	41.4	41.3	41.0
Variable Geometry Turbo	20.6	1.4	1.1	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	92.1	62.5	56.0	40.2	39.7	39.6	39.5	39.2
Mild Hybrid Powertrains	3.2	3.1	2.1	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	29.9	37.5	55.6	56.1	56.2	56.4	56.7
Plug-In Hybrid Powertrains	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	69.0	35.2	30.0	15.4	15.2	15.3	5.0	5.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	13.2	12.8	12.3	12.1	11.9	22.1	22.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	29.0	19.7	17.7	14.6	14.5	14.5	14.4	14.2

Table 322 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (BMW) Total Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (BMW) Total Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	95.1	64.3	53.4	41.7	32.3	32.3	31.9	26.3
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	66.5	39.4	31.5	31.7	26.4	26.5	26.3	26.3
Mild Hybrid Powertrains	22.9	19.9	18.7	7.5	5.8	5.7	5.6	0.0
Strong Hybrid Powertrains Total	0.0	30.7	41.5	53.2	62.5	62.4	62.8	68.4
Plug-In Hybrid Powertrains	4.9	5.0	5.1	5.2	5.2	5.2	5.3	5.3
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	83.9	49.6	39.0	27.4	22.0	22.1	18.1	15.5
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	7.4	7.2	7.0	3.3	3.3	7.3	4.2
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	11.2	7.4	7.2	7.3	6.9	7.0	6.6	6.6

Table 323 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ferrari) Total Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ferrari) Total Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	23.8	23.9	23.9	23.9	12.7	12.7	0.0	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	0.0	0.0	0.0	13.3	13.2	31.2	45.3
Plug-In Hybrid Powertrains	54.7	54.7	54.7	54.7	54.7	54.7	54.7	54.7
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	45.3	45.3	45.3	45.3	32.0	32.0	14.1	0.0

Table 324 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ford) Total Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ford) Total Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	76.8	60.4	60.4	28.7	27.5	27.5	19.2	19.2
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	82.7	66.3	66.3	28.5	27.3	27.3	19.0	19.0
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	12.2	28.9	29.0	68.3	69.6	69.6	78.0	78.1
Plug-In Hybrid Powertrains	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	32.1	9.4	9.3	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	53.6	59.9	60.0	30.0	28.7	28.7	20.3	20.3
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.1	1.0	1.0	1.0	1.0	1.0	1.0	0.9

Table 325 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (GM) Total Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (GM) Total Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8
Cylinder Deactivation	1.6	1.1	1.1	1.0	1.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	62.8	46.2	30.9	30.2	30.1	30.1	30.1	29.6
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.0
Diesel Engines	4.5	4.7	4.7	4.8	4.8	4.8	4.9	4.9
12V Stop-Start (non-hybrid)	98.0	79.3	63.6	47.0	35.8	35.8	35.8	35.4
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.1	19.1	34.9	51.0	62.2	63.6	63.6	64.6
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	20.8	10.4	10.1	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	19.6	20.1	20.1	30.1	30.0	30.0	29.9	29.5
9-Speed Automatic	16.8	8.1	1.4	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	31.9	32.2	32.0	17.5	6.4	6.4	6.5	5.9
CVT Transmissions	9.1	8.5	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.8	1.6	1.5	1.4	1.4	0.0	0.0	0.0

Table 326 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Honda) Total Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Honda) Total Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	10.6	16.6	26.1
Cylinder Deactivation	19.6	10.4	8.6	5.9	6.0	6.1	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	35.1	34.9	34.8	34.7	34.7	34.7	34.6	34.6
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	3.7	3.8	3.9	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	58.5	54.8	52.8	49.7	49.5	49.4	49.3	49.3
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	22.3	28.8	31.1	34.3	38.7	38.8	39.1	39.3
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	4.6	4.8	2.9	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	19.0	13.5	13.8	14.2	10.4	10.5	10.7	10.8
CVT Transmissions	52.2	51.0	50.5	49.8	49.4	49.2	48.8	48.5
DCT Transmissions	1.9	1.8	1.7	1.7	1.5	1.5	1.5	1.5

Table 327 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Hyundai) Total Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Hyundai) Total Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	62.7	62.4	46.7	46.1	46.6	46.4	46.1	45.8
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	20.1	20.4	20.5	20.4	20.2	10.6	10.6	10.6
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	63.6	64.3	49.0	49.0	46.2	36.6	36.5	36.5
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	12.2	12.4	28.1	28.8	31.8	41.7	42.0	42.3
Plug-In Hybrid Powertrains	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.3
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	54.3	25.1	7.6	0.3	0.3	0.3	0.3	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	29.7	31.9	38.9	36.1	34.0	34.0	34.3
CVT Transmissions	24.1	23.2	22.7	22.2	21.9	21.7	21.5	21.2
DCT Transmissions	8.3	8.5	8.6	8.6	8.7	1.0	1.0	1.0

Table 328 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ineos) Total Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ineos) Total Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.5
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.5
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.5
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.5
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 329 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (JLR) Total Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (JLR) Total Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	47.8	44.3	30.4	21.6	21.6	11.2	11.2	0.8
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	51.2	49.3	48.0	47.4	47.5	27.4	27.4	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	10.3	10.3	10.3	10.4	10.4	10.4	10.4	0.0
Strong Hybrid Powertrains Total	0.0	5.4	20.6	30.0	29.9	60.5	60.4	98.2
Plug-In Hybrid Powertrains	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	89.5	55.1	27.8	1.4	1.4	0.0	0.0	0.0
9-Speed Automatic	9.6	8.6	3.4	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	22.1	39.5	59.8	59.9	38.5	38.6	0.8
CVT Transmissions	0.0	7.8	7.8	7.8	7.8	0.0	0.0	0.0
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 330 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (KIA) Total Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (KIA) Total Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	71.5	45.2	31.0	30.5	39.0	38.9	38.8	38.7
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	12.9	7.5	1.2	1.2	1.2	1.2	1.1	1.1
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	59.4	34.1	16.8	16.8	16.8	16.8	16.8	16.8
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	5.8	37.1	57.5	57.8	58.0	58.1	58.2	58.3
Plug-In Hybrid Powertrains	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	55.2	23.6	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	16.8	16.8	16.8	16.8	16.8	16.8
CVT Transmissions	31.9	32.7	22.7	22.4	22.2	22.1	22.0	21.9
DCT Transmissions	5.2	4.7	1.2	1.2	1.2	1.2	1.1	1.1

Table 331 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mazda) Total Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mazda) Total Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	59.5	59.3	59.2	33.7	33.8	28.9	28.9	29.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	12.4	12.5	12.5	12.6	12.6	12.6	12.7	12.7
Variable Geometry Turbo	22.8	22.9	22.9	19.6	19.7	7.0	7.1	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	14.9	15.0	15.0	15.1	15.2	2.5	2.5	2.5
Mild Hybrid Powertrains	12.4	12.5	12.5	12.6	12.6	12.6	12.7	12.7
Strong Hybrid Powertrains Total	0.0	0.0	0.0	28.7	28.6	46.1	46.0	53.0
Plug-In Hybrid Powertrains	5.3	5.3	5.3	5.4	5.4	5.4	5.4	5.4
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	80.6	80.6	80.6	17.5	17.6	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	12.4	12.5	12.5	0.7	0.7	0.7	0.2	0.2
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	47.7	47.8	47.8	47.9	41.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
DCT Transmissions	1.7	1.6	1.5	0.0	0.0	0.0	0.0	0.0

Table 332 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mercedes-Benz) Total Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mercedes-Benz) Total Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	95.9	92.7	50.0	46.7	43.8	30.5	7.4	3.6
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	67.7	67.6	26.2	25.3	22.5	9.2	3.8	0.1
Strong Hybrid Powertrains Total	0.0	3.2	45.9	49.2	52.1	65.3	88.4	92.2
Plug-In Hybrid Powertrains	4.1	4.2	4.1	4.1	4.2	4.2	4.2	4.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	88.3	78.7	15.4	10.2	6.2	0.0	0.0	0.0
10-Speed Automatic	0.0	6.5	28.5	32.9	34.1	27.0	3.8	0.1
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	7.6	7.5	6.1	3.5	3.5	3.5	3.6	3.6

Table 333 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mitsubishi) Total Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mitsubishi) Total Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	18.4	32.8	32.5	76.0	76.0	76.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	13.2	13.5	13.7	13.9	14.0	14.0	14.1	14.2
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	0.0	5.8	5.5	5.4	5.4	5.2	5.1
Plug-In Hybrid Powertrains	4.4	4.5	4.5	4.6	4.6	4.6	4.7	4.7
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	95.6	95.5	89.7	89.9	90.0	90.0	90.1	90.2
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 334 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Nissan) Total Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Nissan) Total Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	16.7	29.9	46.7	46.6	46.5
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	1.6	1.5	0.9	0.8	0.8	0.8	10.7	10.8
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	60.3	61.2	61.6	59.5	59.8	59.9	60.2	60.4
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	13.1	18.7	22.3	22.5	25.6	25.8	25.8
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	3.5	3.6	3.1	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	3.2	3.2	0.0	0.0	0.0
9-Speed Automatic	26.2	16.3	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	9.0	25.9	26.6	27.1	27.3	27.7	28.0
CVT Transmissions	69.7	57.4	52.0	47.6	46.9	46.8	46.1	45.9
DCT Transmissions	0.6	0.6	0.4	0.4	0.3	0.3	0.3	0.3

Table 335 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Stellantis) Total Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Stellantis) Total Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	11.3	10.1	10.1	9.3	9.1	1.3	1.3	1.3
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	24.1	23.9	23.9	19.8	34.2	28.7	28.5	28.5
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	57.4	57.3	57.3	33.8	28.4	25.8	25.5	25.5
Mild Hybrid Powertrains	10.1	10.1	10.1	10.1	10.1	2.3	2.3	2.3
Strong Hybrid Powertrains Total	0.0	3.0	3.0	27.5	33.2	51.4	51.8	51.8
Plug-In Hybrid Powertrains	19.0	18.8	18.7	18.6	18.6	18.6	18.5	18.5
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	71.7	61.0	31.1	14.4	14.4	11.6	1.8	1.8
9-Speed Automatic	8.9	8.9	2.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	7.9	44.8	39.4	33.8	18.3	27.9	28.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0

Table 336 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Subaru) Total Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Subaru) Total Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	30.9	32.3	32.3	47.6	47.7	47.7
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	21.7	21.6	21.0	21.0	21.0	21.0	20.9	20.9
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	86.1	59.4	51.0	51.1	51.1	51.2	51.2	51.2
Mild Hybrid Powertrains	0.0	0.0	4.2	4.2	4.3	4.3	4.3	4.3
Strong Hybrid Powertrains Total	0.0	26.8	31.0	31.0	31.0	31.0	31.0	31.0
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	97.2	70.6	66.4	66.7	66.8	66.8	66.9	66.9
DCT Transmissions	2.7	2.5	2.4	2.3	2.2	2.2	2.1	2.1

Table 337 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Toyota) Total Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Toyota) Total Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	30.0	23.3	12.4	12.9	13.2	13.1	12.9	13.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	27.3	28.0	28.3	28.7	28.9	29.1	29.3	29.4
Variable Geometry Turbo	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	33.8	34.0	23.6	23.9	24.0	24.0	24.1	24.2
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	33.3	44.2	54.8	55.0	55.2	55.2	55.2	55.2
Plug-In Hybrid Powertrains	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4
5-Speed Automatic	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	41.1	34.6	23.6	23.8	23.7	23.8	23.9	24.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	6.5	6.7	7.4	7.4	7.4	7.5	7.5	7.6
CVT Transmissions	11.6	11.0	11.1	10.8	10.6	10.5	10.3	10.2
DCT Transmissions	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6

Table 338 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Volvo) Total Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Volvo) Total Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	59.8	59.5	30.2	30.4	28.8	28.9	29.0	29.1
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	14.5	14.7	14.8	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	57.8	57.7	28.4	28.7	28.8	28.9	29.0	29.1
Strong Hybrid Powertrains Total	0.0	0.0	29.2	43.7	45.2	45.1	45.0	44.9
Plug-In Hybrid Powertrains	25.7	25.8	25.9	25.9	26.0	26.0	26.0	26.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	72.3	72.4	43.2	28.7	28.8	28.9	29.0	29.1
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.9	1.8	1.7	1.6	0.0	0.0	0.0	0.0

Table 339 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (VWA) Total Fleet, Alt 4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (VWA) Total Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
Cylinder Deactivation	0.4	0.3	0.3	0.1	0.1	0.1	0.1	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	76.5	65.8	58.6	26.9	16.2	16.2	16.1	15.8
Variable Geometry Turbo	20.6	1.4	1.1	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	92.1	62.5	56.0	25.0	15.7	15.7	15.6	15.3
Mild Hybrid Powertrains	3.2	3.1	2.1	0.2	0.2	0.2	0.2	0.2
Strong Hybrid Powertrains Total	0.0	29.9	37.5	70.7	81.4	81.5	81.5	81.9
Plug-In Hybrid Powertrains	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	69.0	35.2	30.0	4.4	4.1	4.1	4.2	4.2
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	13.2	12.8	12.3	5.2	5.1	5.0	4.9
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	29.0	19.7	17.7	10.4	7.2	7.2	7.2	6.9

Table 340 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (BMW) Total Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (BMW) Total Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	95.1	64.3	53.4	22.3	11.9	6.6	5.7	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	15.4	16.3	16.4	16.5	14.1
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	66.5	39.4	31.5	14.3	8.6	3.3	2.6	0.0
Mild Hybrid Powertrains	22.9	19.9	18.7	5.6	3.2	3.2	3.1	0.0
Strong Hybrid Powertrains Total	0.0	30.7	41.5	57.1	66.6	71.8	72.5	80.6
Plug-In Hybrid Powertrains	4.9	5.0	5.1	5.2	5.2	5.2	5.3	5.3
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	83.9	49.6	39.0	6.4	0.1	0.1	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	7.4	7.2	24.0	21.1	21.2	21.2	14.1
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	11.2	7.4	7.2	7.3	6.9	1.7	1.0	0.0

Table 341 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ferrari) Total Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ferrari) Total Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	23.8	23.9	23.9	23.9	12.7	12.8	0.0	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	0.0	0.0	0.0	13.3	13.2	31.2	45.2
Plug-In Hybrid Powertrains	54.7	54.7	54.7	54.7	54.7	54.8	54.8	54.8
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	45.3	45.3	45.3	45.3	32.0	32.0	14.0	0.0

Table 342 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ford) Total Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ford) Total Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	76.8	60.4	60.4	28.2	22.5	22.5	14.1	14.1
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	82.7	66.3	66.3	28.4	22.6	22.6	14.3	14.2
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	12.2	28.9	29.0	68.8	74.7	74.7	83.1	83.2
Plug-In Hybrid Powertrains	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	32.1	9.4	9.3	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	53.6	59.9	60.0	29.5	23.6	23.6	15.2	15.2
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.1	1.0	1.0	1.0	1.0	1.0	1.0	0.9

Table 343 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (GM) Total Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (GM) Total Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.0
Cylinder Deactivation	1.6	1.1	1.1	1.0	1.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	62.8	46.2	30.9	21.8	21.6	19.9	15.1	7.4
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.0
Diesel Engines	4.5	4.7	4.7	4.8	4.8	4.8	4.9	4.9
12V Stop-Start (non-hybrid)	98.0	79.3	63.6	34.7	22.4	20.7	15.9	7.4
Mild Hybrid Powertrains	0.0	0.0	0.0	3.9	4.8	4.8	4.9	4.9
Strong Hybrid Powertrains Total	0.1	19.1	34.9	59.4	70.7	73.8	78.5	87.7
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	20.8	10.4	10.1	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	19.6	20.1	20.1	12.0	7.5	0.0	0.0	0.0
9-Speed Automatic	16.8	8.1	1.4	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	31.9	32.2	32.0	27.2	20.4	26.2	21.4	12.3
CVT Transmissions	9.1	8.5	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.8	1.6	1.5	1.4	1.4	0.0	0.0	0.0

Table 344 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Honda) Total Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Honda) Total Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	4.4	4.3	4.3
Cylinder Deactivation	19.6	10.4	8.6	5.9	6.0	6.1	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	35.1	34.9	34.8	34.2	11.0	10.9	10.7	10.6
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	3.7	3.8	3.9	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	58.5	54.8	52.8	49.2	16.7	16.7	10.5	10.3
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	22.3	28.8	31.1	34.9	72.3	78.7	84.9	85.1
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	4.6	4.8	2.9	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	19.0	13.5	13.8	13.9	6.0	6.1	0.0	0.0
CVT Transmissions	52.2	51.0	50.5	49.8	21.4	15.0	14.8	14.6
DCT Transmissions	1.9	1.8	1.7	1.5	0.3	0.3	0.3	0.3

Table 345 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Hyundai) Total Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Hyundai) Total Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	62.7	62.4	46.7	30.7	11.6	4.6	4.6	4.5
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	20.1	20.4	20.5	19.2	15.6	3.0	2.7	2.7
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
Electric Variable Geometry Turbo	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	63.6	64.3	49.0	46.4	20.5	4.0	4.1	4.1
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	12.2	12.4	28.1	45.5	71.4	91.2	91.2	91.2
Plug-In Hybrid Powertrains	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.3
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	54.3	25.1	7.6	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	29.7	31.9	35.1	9.2	4.0	4.1	4.1
CVT Transmissions	24.1	23.2	22.7	10.3	10.2	3.2	3.2	3.1
DCT Transmissions	8.3	8.5	8.6	7.9	8.0	0.3	0.3	0.3

Table 346 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ineos) Total Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ineos) Total Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.5
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.5
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.5
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.5
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 347 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (JLR) Total Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (JLR) Total Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	47.8	44.3	30.4	21.6	21.6	10.4	10.4	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	51.2	49.3	48.0	47.4	47.5	27.4	27.4	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	10.3	10.3	10.3	10.4	10.4	10.4	10.4	0.0
Strong Hybrid Powertrains Total	0.0	5.4	20.6	30.0	29.9	61.3	61.2	99.0
Plug-In Hybrid Powertrains	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	89.5	55.1	27.8	1.4	1.4	0.0	0.0	0.0
9-Speed Automatic	9.6	8.6	3.4	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	22.1	39.5	59.8	59.9	37.7	37.8	0.0
CVT Transmissions	0.0	7.8	7.8	7.8	7.8	0.0	0.0	0.0
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 348 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (KIA) Total Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (KIA) Total Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	71.5	45.2	31.0	30.5	13.5	9.0	8.8	8.7
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	12.9	7.5	1.2	1.2	1.2	1.0	1.0	1.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	59.4	34.1	16.8	16.8	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	5.8	37.1	57.5	57.8	83.5	88.1	88.3	88.4
Plug-In Hybrid Powertrains	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	55.2	23.6	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	16.8	16.8	0.0	0.0	0.0	0.0
CVT Transmissions	31.9	32.7	22.7	22.4	13.5	9.0	8.8	8.7
DCT Transmissions	5.2	4.7	1.2	1.2	1.2	1.0	1.0	1.0

Table 349 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mazda) Total Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mazda) Total Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	59.5	59.3	59.2	33.0	33.1	28.2	28.2	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	12.4	12.5	12.5	12.6	12.6	12.6	12.7	0.0
Variable Geometry Turbo	22.8	22.9	22.9	19.6	19.7	7.0	7.1	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	14.9	15.0	15.0	15.1	15.1	2.5	2.5	0.0
Mild Hybrid Powertrains	12.4	12.5	12.5	12.6	12.6	12.6	12.7	0.0
Strong Hybrid Powertrains Total	0.0	0.0	0.0	29.4	29.3	46.8	46.6	94.6
Plug-In Hybrid Powertrains	5.3	5.3	5.3	5.4	5.4	5.4	5.4	5.4
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	80.6	80.6	80.6	17.5	17.6	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	12.4	12.5	12.5	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	47.7	47.8	47.8	47.9	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.7	1.6	1.5	0.0	0.0	0.0	0.0	0.0

Table 350 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mercedes-Benz) Total Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mercedes-Benz) Total Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	95.9	92.7	50.0	43.2	40.3	27.0	3.8	0.1
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	67.7	67.6	26.2	25.3	22.5	9.2	3.8	0.1
Strong Hybrid Powertrains Total	0.0	3.2	45.9	52.7	55.6	68.9	92.0	95.8
Plug-In Hybrid Powertrains	4.1	4.2	4.1	4.1	4.2	4.2	4.2	4.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	88.3	78.7	15.4	10.2	6.2	0.0	0.0	0.0
10-Speed Automatic	0.0	6.5	28.5	32.9	34.1	27.0	3.8	0.1
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	7.6	7.5	6.1	0.0	0.0	0.0	0.0	0.0

Table 351 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mitsubishi) Total Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mitsubishi) Total Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	18.4	32.5	32.2	75.7	75.7	75.7
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	13.2	13.5	13.7	13.9	0.0	0.0	0.0	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	0.0	5.8	5.9	19.7	19.7	19.7	19.6
Plug-In Hybrid Powertrains	4.4	4.5	4.5	4.6	4.6	4.6	4.7	4.7
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	95.6	95.5	89.7	89.5	75.7	75.7	75.7	75.7
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 352 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Nissan) Total Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Nissan) Total Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	16.7	29.9	46.7	46.6	46.5
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	1.6	1.5	0.9	0.8	0.8	0.8	8.3	8.3
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	60.3	61.2	61.6	42.8	43.0	43.2	40.9	41.0
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	13.1	18.7	38.9	39.2	42.4	45.1	45.2
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	3.5	3.6	3.1	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	26.2	16.3	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	9.0	25.9	29.8	30.2	27.3	25.2	25.6
CVT Transmissions	69.7	57.4	52.0	30.9	30.2	30.0	29.3	28.9
DCT Transmissions	0.6	0.6	0.4	0.4	0.3	0.3	0.3	0.3

Table 353 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Stellantis) Total Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Stellantis) Total Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	11.3	10.1	10.1	9.3	9.1	1.3	1.3	1.3
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	24.1	23.9	23.9	10.0	10.0	4.5	4.2	4.2
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	57.4	57.3	57.3	23.9	4.2	1.5	1.2	1.2
Mild Hybrid Powertrains	10.1	10.1	10.1	10.1	10.1	2.3	2.3	2.3
Strong Hybrid Powertrains Total	0.0	3.0	3.0	37.4	57.4	75.7	76.0	76.0
Plug-In Hybrid Powertrains	19.0	18.8	18.7	18.6	18.6	18.5	18.5	18.5
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	71.7	61.0	31.1	4.6	4.6	1.8	1.8	1.8
9-Speed Automatic	8.9	8.9	2.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	7.9	44.8	39.4	19.4	4.0	3.7	3.7
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0

Table 354 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Subaru) Total Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Subaru) Total Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	30.9	32.3	32.3	29.2	29.3	29.3
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	21.7	21.6	21.0	21.0	12.4	10.0	10.0	10.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	86.1	59.4	51.0	51.1	51.1	20.8	20.9	17.4
Mild Hybrid Powertrains	0.0	0.0	4.2	4.2	4.3	16.1	16.2	19.8
Strong Hybrid Powertrains Total	0.0	26.8	31.0	31.0	39.6	60.5	60.4	60.3
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	97.2	70.6	66.4	66.7	58.2	39.3	39.4	39.5
DCT Transmissions	2.7	2.5	2.4	2.3	2.2	0.3	0.2	0.2

Table 355 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Toyota) Total Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Toyota) Total Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	30.0	23.3	12.4	12.9	13.2	13.1	12.8	12.9
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	27.3	28.0	28.3	28.7	28.9	23.7	23.8	24.0
Variable Geometry Turbo	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	33.8	34.0	23.6	23.9	24.0	18.6	18.7	18.8
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	33.3	44.2	54.8	55.0	55.2	60.6	60.7	60.7
Plug-In Hybrid Powertrains	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4
5-Speed Automatic	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	41.1	34.6	23.6	23.8	15.2	15.2	15.2	15.3
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	6.5	6.7	7.4	7.4	16.0	10.7	10.8	10.8
CVT Transmissions	11.6	11.0	11.1	10.8	10.6	10.5	10.3	10.2
DCT Transmissions	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6

Table 356 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Volvo) Total Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Volvo) Total Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	59.8	59.5	30.2	22.0	20.4	0.0	0.0	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	14.5	14.7	14.8	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid Powertrains	57.8	57.7	28.4	20.4	20.4	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	0.0	29.2	52.0	53.6	74.0	74.0	74.0
Plug-In Hybrid Powertrains	25.7	25.8	25.9	25.9	26.0	26.0	26.0	26.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	72.3	72.4	43.2	20.4	20.4	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	1.9	1.8	1.7	1.6	0.0	0.0	0.0	0.0

Table 357 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (VWA) Total Fleet, Alt 5

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (VWA) Total Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.4	0.3	0.3	0.1	0.1	0.1	0.1	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	76.5	65.8	58.6	22.1	0.2	0.2	0.2	0.0
Variable Geometry Turbo	20.6	1.4	1.1	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	92.1	62.5	56.0	20.4	0.3	0.3	0.3	0.0
Mild Hybrid Powertrains	3.2	3.1	2.1	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	29.9	37.5	75.7	97.6	97.6	97.6	97.8
Plug-In Hybrid Powertrains	2.0	2.1	2.1	2.1	2.1	2.1	2.2	2.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	69.0	35.2	30.0	0.3	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	13.2	12.8	12.3	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	29.0	19.7	17.7	9.5	0.3	0.3	0.3	0.0

A9. Mass Reduction Penetration Rate, by Model Year

Table 358 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Total Fleet, Alt 0 - No Action

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Total Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	31.0	30.0	28.7	18.1	14.3	11.7	9.0	7.2
Mass Reduction Level 1 (%)	14.0	8.7	7.2	4.0	3.2	1.3	1.3	0.1
Mass Reduction Level 2 (%)	14.4	12.9	11.4	7.3	4.2	2.5	2.0	1.6
Mass Reduction Level 3 (%)	37.0	34.7	28.3	26.2	16.2	11.6	10.3	7.4
Mass Reduction Level 4 (%)	3.5	13.0	23.3	42.7	59.8	70.1	74.6	80.7
Mass Reduction Level 5 (%)	0.2	0.7	1.1	1.6	2.3	2.8	2.8	3.0
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,017	3,978	3,953	3,941	3,928
Diff. from Baseline - Fleet (pounds)	0	0	0	0	0	0	0	0

Table 359 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 0 - No Action

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	13.8	13.5	12.0	11.2	6.0	5.9	5.4	4.3
Mass Reduction Level 1 (%)	12.1	8.2	7.4	2.1	2.0	0.1	0.1	0.1
Mass Reduction Level 2 (%)	19.3	18.7	18.3	11.1	2.7	1.3	1.3	0.4
Mass Reduction Level 3 (%)	50.2	47.2	38.7	36.8	29.3	14.7	13.8	8.1
Mass Reduction Level 4 (%)	4.0	10.2	20.6	34.5	54.3	70.9	72.2	79.0
Mass Reduction Level 5 (%)	0.5	2.2	3.0	4.3	5.7	7.0	7.1	8.0
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,017	3,978	3,953	3,941	3,928
Diff. from Baseline - Fleet (pounds)	0	0	0	0	0	0	0	0

Table 360 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 0 - No Action

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	38.8	36.9	35.4	20.7	17.4	13.7	10.3	8.2
Mass Reduction Level 1 (%)	14.8	9.0	7.1	4.7	3.7	1.8	1.7	0.1
Mass Reduction Level 2 (%)	12.1	10.4	8.7	5.9	4.7	3.0	2.3	1.9
Mass Reduction Level 3 (%)	30.9	29.5	24.2	22.2	11.3	10.5	9.0	7.2
Mass Reduction Level 4 (%)	3.3	14.1	24.3	45.8	61.8	69.8	75.4	81.3
Mass Reduction Level 5 (%)	0.0	0.0	0.3	0.6	1.1	1.2	1.3	1.3
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,017	3,978	3,953	3,941	3,928
Diff. from Baseline - Fleet (pounds)	0	0	0	0	0	0	0	0

Table 361 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 0 - No Action

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	5.1	5.1	4.0	3.8	3.8	3.8	3.8	3.8
Mass Reduction Level 1 (%)	15.3	7.9	7.9	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 2 (%)	19.7	19.7	19.7	18.9	2.3	2.3	2.3	1.0
Mass Reduction Level 3 (%)	59.8	55.6	46.4	46.4	36.4	20.7	20.7	13.3
Mass Reduction Level 4 (%)	0.0	11.0	20.2	28.9	55.5	69.4	69.4	78.1
Mass Reduction Level 5 (%)	0.0	0.6	1.7	1.9	1.9	3.9	3.9	3.9
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,017	3,978	3,953	3,941	3,928
Diff. from Baseline - Fleet (pounds)	0	0	0	0	0	0	0	0

Table 362 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 0 - No Action

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 0 - No Action								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	20.9	20.2	18.5	17.2	7.9	7.6	6.8	4.6
Mass Reduction Level 1 (%)	9.6	8.4	7.0	3.8	3.6	0.3	0.3	0.3
Mass Reduction Level 2 (%)	18.9	17.8	17.1	4.8	3.0	0.4	0.4	0.0
Mass Reduction Level 3 (%)	42.4	40.5	32.4	29.0	23.6	9.9	8.3	4.0
Mass Reduction Level 4 (%)	7.3	9.5	20.9	39.1	53.3	72.2	74.6	79.8
Mass Reduction Level 5 (%)	0.9	3.6	4.0	6.2	8.7	9.6	9.7	11.3
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,017	3,978	3,953	3,941	3,928
Diff. from Baseline - Fleet (pounds)	0	0	0	0	0	0	0	0

Table 363 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Total Fleet, Alt 1

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Total Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	31.0	30.0	28.7	24.0	20.3	19.8	17.7	17.7
Mass Reduction Level 1 (%)	14.0	8.7	7.2	7.2	8.0	6.3	8.6	7.4
Mass Reduction Level 2 (%)	14.4	12.9	11.4	9.2	6.7	5.4	4.9	4.4
Mass Reduction Level 3 (%)	37.0	34.7	28.3	33.3	37.9	37.9	36.3	35.7
Mass Reduction Level 4 (%)	3.5	13.0	23.3	25.2	26.1	29.5	31.6	33.8
Mass Reduction Level 5 (%)	0.2	0.7	1.1	1.1	1.0	1.0	1.0	1.0
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,075	4,066	4,059	4,058	4,057
Diff. from Baseline - Fleet (pounds)	0	0	0	-58	-88	-106	-117	-129

Table 364 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 1

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	13.8	13.5	12.0	11.2	6.0	5.9	6.5	6.4
Mass Reduction Level 1 (%)	12.1	8.2	7.4	7.4	10.7	9.4	6.2	6.3
Mass Reduction Level 2 (%)	19.3	18.7	18.3	17.8	10.3	10.3	6.5	5.9
Mass Reduction Level 3 (%)	50.2	47.2	38.7	38.9	47.4	46.5	37.0	34.4
Mass Reduction Level 4 (%)	4.0	10.2	20.6	21.7	22.6	25.0	42.4	45.6
Mass Reduction Level 5 (%)	0.5	2.2	3.0	3.0	3.0	3.0	1.4	1.4
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,075	4,066	4,059	4,058	4,057
Diff. from Baseline - Fleet (pounds)	0	0	0	-58	-88	-106	-117	-129

Table 365 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 1

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	38.8	36.9	35.4	28.9	25.5	24.9	45.2	45.2
Mass Reduction Level 1 (%)	14.8	9.0	7.1	7.1	6.9	5.2	14.3	10.0
Mass Reduction Level 2 (%)	12.1	10.4	8.7	5.9	5.4	3.7	0.9	0.9
Mass Reduction Level 3 (%)	30.9	29.5	24.2	31.2	34.4	34.8	34.6	38.9
Mass Reduction Level 4 (%)	3.3	14.1	24.3	26.6	27.4	31.1	4.9	4.9
Mass Reduction Level 5 (%)	0.0	0.0	0.3	0.3	0.3	0.3	0.0	0.0
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,075	4,066	4,059	4,058	4,057
Diff. from Baseline - Fleet (pounds)	0	0	0	-58	-88	-106	-117	-129

Table 366 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 1

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	5.1	5.1	4.0	3.8	3.8	3.8	4.9	4.9
Mass Reduction Level 1 (%)	15.3	7.9	7.9	7.9	7.9	7.9	3.7	3.7
Mass Reduction Level 2 (%)	19.7	19.7	19.7	18.9	2.3	2.3	6.8	5.2
Mass Reduction Level 3 (%)	59.8	55.6	46.4	47.5	64.1	64.1	58.7	54.1
Mass Reduction Level 4 (%)	0.0	11.0	20.2	20.2	20.2	20.2	25.1	31.4
Mass Reduction Level 5 (%)	0.0	0.6	1.7	1.7	1.7	1.7	0.8	0.8
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,075	4,066	4,059	4,058	4,057
Diff. from Baseline - Fleet (pounds)	0	0	0	-58	-88	-106	-117	-129

Table 367 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 1

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 1								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	20.9	20.2	18.5	17.2	7.9	7.6	7.3	7.1
Mass Reduction Level 1 (%)	9.6	8.4	7.0	7.0	13.0	10.5	7.6	7.7
Mass Reduction Level 2 (%)	18.9	17.8	17.1	16.9	16.7	16.7	6.3	6.3
Mass Reduction Level 3 (%)	42.4	40.5	32.4	32.0	33.8	32.3	25.3	23.9
Mass Reduction Level 4 (%)	7.3	9.5	20.9	23.0	24.6	28.9	51.7	53.2
Mass Reduction Level 5 (%)	0.9	3.6	4.0	4.0	4.0	4.0	1.8	1.8
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,075	4,066	4,059	4,058	4,057
Diff. from Baseline - Fleet (pounds)	0	0	0	-58	-88	-106	-117	-129

Table 368 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Total Fleet, Alt 2

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Total Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	31.0	30.0	28.7	24.0	20.3	19.8	17.7	17.7
Mass Reduction Level 1 (%)	14.0	8.7	7.2	7.2	8.0	6.3	8.6	7.4
Mass Reduction Level 2 (%)	14.4	12.9	11.4	9.2	6.7	5.4	4.9	4.4
Mass Reduction Level 3 (%)	37.0	34.7	28.3	33.3	37.9	37.9	36.3	35.7
Mass Reduction Level 4 (%)	3.5	13.0	23.3	25.2	26.1	29.5	31.6	33.8
Mass Reduction Level 5 (%)	0.2	0.7	1.1	1.1	1.0	1.0	1.0	1.0
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,075	4,066	4,059	4,058	4,057
Diff. from Baseline - Fleet (pounds)	0	0	0	-58	-88	-106	-117	-129

Table 369 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 2

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	13.8	13.5	12.0	11.2	6.0	5.9	6.5	6.4
Mass Reduction Level 1 (%)	12.1	8.2	7.4	7.4	10.7	9.4	6.2	6.3
Mass Reduction Level 2 (%)	19.3	18.7	18.3	17.8	10.3	10.3	6.5	5.9
Mass Reduction Level 3 (%)	50.2	47.2	38.7	38.9	47.3	46.5	36.9	34.4
Mass Reduction Level 4 (%)	4.0	10.2	20.6	21.7	22.7	25.0	42.5	45.7
Mass Reduction Level 5 (%)	0.5	2.2	3.0	3.0	3.0	3.0	1.4	1.4
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,075	4,066	4,059	4,058	4,057
Diff. from Baseline - Fleet (pounds)	0	0	0	-58	-88	-106	-117	-129

Table 370 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 2

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	38.8	36.9	35.4	28.9	25.5	24.9	45.2	45.2
Mass Reduction Level 1 (%)	14.8	9.0	7.1	7.1	6.9	5.2	14.3	10.0
Mass Reduction Level 2 (%)	12.1	10.4	8.7	5.9	5.4	3.7	0.9	0.9
Mass Reduction Level 3 (%)	30.9	29.5	24.2	31.2	34.4	34.8	34.6	38.9
Mass Reduction Level 4 (%)	3.3	14.1	24.3	26.6	27.4	31.1	4.9	4.9
Mass Reduction Level 5 (%)	0.0	0.0	0.3	0.3	0.3	0.3	0.0	0.0
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,075	4,066	4,059	4,058	4,057
Diff. from Baseline - Fleet (pounds)	0	0	0	-58	-88	-106	-117	-129

Table 371 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 2

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	5.1	5.1	4.0	3.8	3.8	3.8	4.9	4.9
Mass Reduction Level 1 (%)	15.3	7.9	7.9	7.9	7.9	7.9	3.7	3.7
Mass Reduction Level 2 (%)	19.7	19.7	19.7	18.9	2.3	2.3	6.8	5.2
Mass Reduction Level 3 (%)	59.8	55.6	46.4	47.5	64.1	64.1	58.7	54.1
Mass Reduction Level 4 (%)	0.0	11.0	20.2	20.2	20.2	20.2	25.1	31.4
Mass Reduction Level 5 (%)	0.0	0.6	1.7	1.7	1.7	1.7	0.8	0.8
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,075	4,066	4,059	4,058	4,057
Diff. from Baseline - Fleet (pounds)	0	0	0	-58	-88	-106	-117	-129

Table 372 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 2

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 2								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	20.9	20.2	18.5	17.2	7.9	7.6	7.3	7.1
Mass Reduction Level 1 (%)	9.6	8.4	7.0	7.0	13.0	10.5	7.6	7.7
Mass Reduction Level 2 (%)	18.9	17.8	17.1	16.9	16.7	16.7	6.3	6.3
Mass Reduction Level 3 (%)	42.4	40.5	32.4	32.0	33.7	32.2	25.3	23.9
Mass Reduction Level 4 (%)	7.3	9.5	20.9	23.0	24.8	29.0	51.7	53.3
Mass Reduction Level 5 (%)	0.9	3.6	4.0	4.0	4.0	4.0	1.8	1.8
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,075	4,066	4,059	4,058	4,057
Diff. from Baseline - Fleet (pounds)	0	0	0	-58	-88	-106	-117	-129

Table 373 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Total Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	31.0	30.0	28.7	23.3	19.5	19.1	16.5	16.3
Mass Reduction Level 1 (%)	14.0	8.7	7.2	7.2	8.0	6.3	8.9	7.9
Mass Reduction Level 2 (%)	14.4	12.9	11.4	9.2	6.7	5.4	4.9	4.4
Mass Reduction Level 3 (%)	37.0	34.7	28.3	34.1	38.7	38.7	37.1	36.5
Mass Reduction Level 4 (%)	3.5	13.0	23.3	25.2	26.1	29.5	31.6	33.8
Mass Reduction Level 5 (%)	0.2	0.7	1.1	1.1	1.0	1.0	1.0	1.0
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,073	4,064	4,057	4,055	4,054
Diff. from Baseline - Fleet (pounds)	0	0	0	-56	-86	-104	-114	-126

Table 374 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	13.8	13.5	12.0	11.2	6.0	5.9	4.8	4.6
Mass Reduction Level 1 (%)	12.1	8.2	7.4	7.4	10.7	9.3	6.8	6.9
Mass Reduction Level 2 (%)	19.3	18.7	18.3	17.8	10.3	10.3	6.5	5.9
Mass Reduction Level 3 (%)	50.2	47.2	38.7	38.9	47.3	46.5	38.1	35.5
Mass Reduction Level 4 (%)	4.0	10.2	20.6	21.7	22.7	25.0	42.5	45.7
Mass Reduction Level 5 (%)	0.5	2.2	3.0	3.0	3.0	3.0	1.4	1.4
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,073	4,064	4,057	4,055	4,054
Diff. from Baseline - Fleet (pounds)	0	0	0	-56	-86	-104	-114	-126

Table 375 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	38.8	36.9	35.4	27.8	24.4	23.8	45.2	45.0
Mass Reduction Level 1 (%)	14.8	9.0	7.1	7.1	6.9	5.2	14.3	10.3
Mass Reduction Level 2 (%)	12.1	10.4	8.7	5.9	5.4	3.7	0.9	0.9
Mass Reduction Level 3 (%)	30.9	29.5	24.2	32.3	35.5	35.8	34.6	38.9
Mass Reduction Level 4 (%)	3.3	14.1	24.3	26.6	27.4	31.1	4.9	4.9
Mass Reduction Level 5 (%)	0.0	0.0	0.3	0.3	0.3	0.3	0.0	0.0
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,073	4,064	4,057	4,055	4,054
Diff. from Baseline - Fleet (pounds)	0	0	0	-56	-86	-104	-114	-126

Table 376 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	5.1	5.1	4.0	3.8	3.8	3.8	1.8	1.8
Mass Reduction Level 1 (%)	15.3	7.9	7.9	7.9	7.9	7.9	3.7	3.7
Mass Reduction Level 2 (%)	19.7	19.7	19.7	18.9	2.3	2.3	6.8	5.2
Mass Reduction Level 3 (%)	59.8	55.6	46.4	47.5	64.1	64.1	61.8	57.2
Mass Reduction Level 4 (%)	0.0	11.0	20.2	20.2	20.2	20.2	25.1	31.4
Mass Reduction Level 5 (%)	0.0	0.6	1.7	1.7	1.7	1.7	0.8	0.8
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,073	4,064	4,057	4,055	4,054
Diff. from Baseline - Fleet (pounds)	0	0	0	-56	-86	-104	-114	-126

Table 377 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	20.9	20.2	18.5	17.2	7.9	7.6	6.4	6.1
Mass Reduction Level 1 (%)	9.6	8.4	7.0	7.0	13.0	10.4	8.4	8.7
Mass Reduction Level 2 (%)	18.9	17.8	17.1	16.9	16.7	16.7	6.3	6.3
Mass Reduction Level 3 (%)	42.4	40.5	32.4	32.0	33.7	32.4	25.3	24.0
Mass Reduction Level 4 (%)	7.3	9.5	20.9	23.0	24.8	29.0	51.7	53.3
Mass Reduction Level 5 (%)	0.9	3.6	4.0	4.0	4.0	4.0	1.8	1.8
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,073	4,064	4,057	4,055	4,054
Diff. from Baseline - Fleet (pounds)	0	0	0	-56	-86	-104	-114	-126

Table 378 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 4

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	38.8	36.9	35.4	25.1	21.7	20.8	37.4	37.1
Mass Reduction Level 1 (%)	14.8	9.0	7.1	8.5	7.7	6.1	19.9	15.6
Mass Reduction Level 2 (%)	12.1	10.4	8.7	5.9	5.4	3.7	0.9	0.9
Mass Reduction Level 3 (%)	30.9	29.5	24.2	32.5	36.3	35.6	36.5	40.8
Mass Reduction Level 4 (%)	3.3	14.1	24.3	27.5	28.3	33.3	5.3	5.5
Mass Reduction Level 5 (%)	0.0	0.0	0.3	0.5	0.5	0.5	0.0	0.0
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,065	4,054	4,045	4,042	4,039
Diff. from Baseline - Fleet (pounds)	0	0	0	-48	-76	-92	-101	-111

Table 379 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 4

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	5.1	5.1	4.0	3.8	3.8	3.8	1.8	1.8
Mass Reduction Level 1 (%)	15.3	7.9	7.9	7.9	7.9	7.9	3.7	3.7
Mass Reduction Level 2 (%)	19.7	19.7	19.7	18.9	2.3	2.3	6.8	5.2
Mass Reduction Level 3 (%)	59.8	55.6	46.4	47.5	64.1	64.1	61.0	56.4
Mass Reduction Level 4 (%)	0.0	11.0	20.2	20.2	20.2	20.2	25.9	32.2
Mass Reduction Level 5 (%)	0.0	0.6	1.7	1.7	1.7	1.7	0.8	0.8
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,065	4,054	4,045	4,042	4,039
Diff. from Baseline - Fleet (pounds)	0	0	0	-48	-76	-92	-101	-111

Table 380 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 4

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 4								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	20.9	20.2	18.5	17.2	7.9	7.6	6.4	3.5
Mass Reduction Level 1 (%)	9.6	8.4	7.0	6.7	6.5	3.2	3.1	5.7
Mass Reduction Level 2 (%)	18.9	17.8	17.1	16.9	16.7	16.7	6.3	6.3
Mass Reduction Level 3 (%)	42.4	40.5	32.4	29.4	37.3	36.6	26.5	25.3
Mass Reduction Level 4 (%)	7.3	9.5	20.9	25.4	27.0	31.2	55.2	56.8
Mass Reduction Level 5 (%)	0.9	3.6	4.0	4.5	4.6	4.7	2.4	2.4
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,065	4,054	4,045	4,042	4,039
Diff. from Baseline - Fleet (pounds)	0	0	0	-48	-76	-92	-101	-111

Table 381 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Total Fleet, Alt 5

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Total Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	31.0	30.0	28.7	18.1	14.3	13.1	10.5	8.7
Mass Reduction Level 1 (%)	14.0	8.7	7.2	4.0	3.2	1.3	3.0	3.0
Mass Reduction Level 2 (%)	14.4	12.9	11.4	9.2	6.7	5.4	4.9	4.4
Mass Reduction Level 3 (%)	37.0	34.7	28.3	29.4	25.1	20.8	19.5	16.9
Mass Reduction Level 4 (%)	3.5	13.0	23.3	37.8	49.0	57.3	60.1	64.7
Mass Reduction Level 5 (%)	0.2	0.7	1.1	1.5	1.7	2.0	2.1	2.3
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,026	3,997	3,981	3,975	3,967
Diff. from Baseline - Fleet (pounds)	0	0	0	-9	-19	-28	-34	-39

Table 382 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 5

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Passenger Car Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	13.8	13.5	12.0	11.2	6.0	5.9	4.0	1.9
Mass Reduction Level 1 (%)	12.1	8.2	7.4	2.1	2.0	0.1	0.1	0.1
Mass Reduction Level 2 (%)	19.3	18.7	18.3	17.8	10.3	10.3	6.5	5.9
Mass Reduction Level 3 (%)	50.2	47.2	38.7	37.0	41.9	30.8	22.1	18.1
Mass Reduction Level 4 (%)	4.0	10.2	20.6	27.9	35.2	47.4	64.3	70.8
Mass Reduction Level 5 (%)	0.5	2.2	3.0	4.0	4.6	5.5	2.9	3.2
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,026	3,997	3,981	3,975	3,967
Diff. from Baseline - Fleet (pounds)	0	0	0	-9	-19	-28	-34	-39

Table 383 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 5

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Light Truck Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	38.8	36.9	35.4	20.7	17.4	15.7	26.3	25.1
Mass Reduction Level 1 (%)	14.8	9.0	7.1	4.7	3.7	1.8	10.1	10.1
Mass Reduction Level 2 (%)	12.1	10.4	8.7	5.9	5.4	3.7	0.9	0.9
Mass Reduction Level 3 (%)	30.9	29.5	24.2	26.5	18.9	17.2	13.0	14.0
Mass Reduction Level 4 (%)	3.3	14.1	24.3	41.5	54.0	60.8	49.6	49.9
Mass Reduction Level 5 (%)	0.0	0.0	0.3	0.6	0.6	0.8	0.0	0.0
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,026	3,997	3,981	3,975	3,967
Diff. from Baseline - Fleet (pounds)	0	0	0	-9	-19	-28	-34	-39

Table 384 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 5

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Domestic Car Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	5.1	5.1	4.0	3.8	3.8	3.8	1.8	1.8
Mass Reduction Level 1 (%)	15.3	7.9	7.9	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 2 (%)	19.7	19.7	19.7	18.9	2.3	2.3	6.8	5.2
Mass Reduction Level 3 (%)	59.8	55.6	46.4	46.7	63.3	55.2	47.0	42.3
Mass Reduction Level 4 (%)	0.0	11.0	20.2	28.9	28.9	35.0	42.8	49.1
Mass Reduction Level 5 (%)	0.0	0.6	1.7	1.7	1.7	3.6	1.7	1.7
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,026	3,997	3,981	3,975	3,967
Diff. from Baseline - Fleet (pounds)	0	0	0	-9	-19	-28	-34	-39

Table 385 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 5

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) Imported Car Fleet, Alt 5								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	20.9	20.2	18.5	17.2	7.9	7.6	5.2	2.0
Mass Reduction Level 1 (%)	9.6	8.4	7.0	3.8	3.6	0.3	0.2	0.2
Mass Reduction Level 2 (%)	18.9	17.8	17.1	16.9	16.7	16.7	6.3	6.3
Mass Reduction Level 3 (%)	42.4	40.5	32.4	29.2	24.6	11.0	8.8	5.2
Mass Reduction Level 4 (%)	7.3	9.5	20.9	27.1	40.3	57.3	75.9	82.3
Mass Reduction Level 5 (%)	0.9	3.6	4.0	5.9	7.0	7.1	3.6	4.1
Avg Curb Weight - Fleet (pounds)	4,105	4,100	4,086	4,026	3,997	3,981	3,975	3,967
Diff. from Baseline - Fleet (pounds)	0	0	0	-9	-19	-28	-34	-39

Table 386 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (BMW) Total Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (BMW) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	43.2	37.6	27.2	26.6	16.8	11.5	10.6	7.8
Mass Reduction Level 1 (%)	56.8	32.4	33.0	33.8	34.3	39.8	41.0	44.0
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 4 (%)	0.0	26.0	34.4	34.3	43.7	43.6	43.4	43.2
Mass Reduction Level 5 (%)	0.0	4.0	5.4	5.3	5.2	5.1	5.0	5.0
Avg Curb Weight - Fleet (pounds)	4,351	4,273	4,239	4,252	4,219	4,216	4,222	4,225
Diff. from Baseline - Fleet (pounds)	0	0	0	-128	-131	-155	-160	-208

Table 387 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Ferrari) Total Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Ferrari) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 1 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	23.8	23.9	23.9	23.9	23.9	23.9	11.2	11.2
Mass Reduction Level 4 (%)	38.1	38.1	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 5 (%)	38.1	38.0	76.1	76.1	76.1	76.1	88.8	88.8
Avg Curb Weight - Fleet (pounds)	4,097	4,097	4,035	4,036	4,035	4,036	3,996	3,996
Diff. from Baseline - Fleet (pounds)	0	0	0	-1	0	-1	0	0

Table 388 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Ford) Total Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Ford) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	54.4	54.4	54.5	54.5	54.5	54.5	40.2	40.2
Mass Reduction Level 1 (%)	7.4	0.0	0.0	0.0	0.0	0.0	14.3	14.3
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	32.9	32.8	32.7	32.7	32.6	32.6	32.6	32.6
Mass Reduction Level 4 (%)	5.2	12.8	12.8	12.9	12.9	12.9	12.9	13.0
Mass Reduction Level 5 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Avg Curb Weight - Fleet (pounds)	4,571	4,554	4,557	4,561	4,562	4,563	4,540	4,542
Diff. from Baseline - Fleet (pounds)	0	0	0	-158	-174	-173	-228	-229

Table 389 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (GM) Total Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (GM) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	39.7	40.7	40.2	12.2	0.0	0.0	0.0	0.0
Mass Reduction Level 1 (%)	21.5	7.2	7.3	7.4	7.5	7.5	7.6	0.0
Mass Reduction Level 2 (%)	6.6	2.5	1.4	1.5	1.5	1.5	1.5	0.0
Mass Reduction Level 3 (%)	27.9	26.1	18.4	46.4	58.7	58.7	58.7	66.4
Mass Reduction Level 4 (%)	4.4	23.0	31.3	31.2	31.1	31.1	31.0	32.5
Mass Reduction Level 5 (%)	0.0	0.5	1.3	1.3	1.2	1.2	1.2	1.2
Avg Curb Weight - Fleet (pounds)	4,353	4,336	4,334	4,244	4,199	4,204	4,212	4,202
Diff. from Baseline - Fleet (pounds)	0	0	0	-55	-83	-96	-96	-114

Table 390 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Honda) Total Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Honda) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 1 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 2 (%)	38.5	39.1	39.4	39.7	22.4	22.6	16.8	17.0
Mass Reduction Level 3 (%)	61.1	60.6	60.3	60.3	77.6	77.4	83.2	83.0
Mass Reduction Level 4 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 5 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Avg Curb Weight - Fleet (pounds)	3,635	3,655	3,664	3,675	3,670	3,674	3,675	3,680
Diff. from Baseline - Fleet (pounds)	0	0	0	-1	-88	-99	-99	-99

Table 391 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Hyundai) Total Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Hyundai) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	4.5	4.2	4.1	3.3	0.0	0.0	0.0	0.0
Mass Reduction Level 1 (%)	5.7	5.7	5.7	5.7	8.9	8.9	8.8	8.7
Mass Reduction Level 2 (%)	14.7	15.3	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	49.3	49.8	50.1	51.0	51.2	51.3	51.4	51.5
Mass Reduction Level 4 (%)	25.8	25.0	40.2	40.0	39.9	39.9	39.8	39.7
Mass Reduction Level 5 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Avg Curb Weight - Fleet (pounds)	3,683	3,701	3,670	3,678	3,680	3,683	3,688	3,693
Diff. from Baseline - Fleet (pounds)	0	0	0	-2	-83	-108	-108	-109

Table 392 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Ineos) Total Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Ineos) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0.5
Mass Reduction Level 1 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.5
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 4 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 5 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Avg Curb Weight - Fleet (pounds)	5,922	5,922	5,922	5,922	5,922	5,922	5,922	5,713
Diff. from Baseline - Fleet (pounds)	0	0	0	0	0	0	0	-419

Table 393 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (JLR) Total Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (JLR) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	85.4	81.1	74.3	71.0	71.1	71.1	71.2	71.2
Mass Reduction Level 1 (%)	14.6	14.4	14.4	14.3	14.2	14.2	14.2	14.1
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 4 (%)	0.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Mass Reduction Level 5 (%)	0.0	0.0	6.9	10.2	10.2	10.2	10.2	10.1
Avg Curb Weight - Fleet (pounds)	5,233	5,213	5,174	5,156	5,158	5,158	5,160	5,161
Diff. from Baseline - Fleet (pounds)	0	0	0	-30	-31	-216	-217	-448

Table 394 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (KIA) Total Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (KIA) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 1 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	97.2	71.4	58.5	58.3	58.2	58.1	58.0	57.9
Mass Reduction Level 4 (%)	0.0	19.6	32.7	33.3	33.5	33.7	33.9	34.1
Mass Reduction Level 5 (%)	2.8	9.0	8.8	8.5	8.3	8.2	8.1	8.0
Avg Curb Weight - Fleet (pounds)	3,624	3,598	3,592	3,605	3,611	3,614	3,621	3,626
Diff. from Baseline - Fleet (pounds)	0	0	0	-1	-47	-66	-67	-81

Table 395 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Mazda) Total Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Mazda) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	34.5	34.8	34.9	35.1	35.2	35.2	35.3	35.4
Mass Reduction Level 1 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	63.6	63.5	63.4	63.3	63.3	63.2	63.2	63.2
Mass Reduction Level 4 (%)	1.9	1.8	1.7	1.6	1.6	1.5	1.5	1.5
Mass Reduction Level 5 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Avg Curb Weight - Fleet (pounds)	3,834	3,841	3,844	3,848	3,850	3,851	3,853	3,854
Diff. from Baseline - Fleet (pounds)	0	0	0	-39	-39	-64	-64	-210

Table 396 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Mercedes-Benz) Total Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Mercedes-Benz) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	92.4	89.4	45.1	44.3	43.9	42.7	19.2	15.2
Mass Reduction Level 1 (%)	7.6	7.5	7.4	7.3	7.3	7.3	29.9	33.6
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	0.0	0.0	0.0	0.0	0.0	1.1	1.5	1.5
Mass Reduction Level 4 (%)	0.0	3.2	47.5	48.3	48.8	49.0	49.5	49.8
Mass Reduction Level 5 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Avg Curb Weight - Fleet (pounds)	4,714	4,713	4,470	4,476	4,479	4,477	4,444	4,441
Diff. from Baseline - Fleet (pounds)	0	0	0	-26	-26	-28	-99	-111

Table 397 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Mitsubishi) Total Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Mitsubishi) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	73.3	75.1	75.8	76.8	63.4	63.6	64.0	64.4
Mass Reduction Level 1 (%)	0.0	0.0	0.0	0.0	14.0	14.0	14.1	14.2
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	26.7	24.9	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 4 (%)	0.0	0.0	24.2	23.2	22.6	22.4	21.9	21.5
Mass Reduction Level 5 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Avg Curb Weight - Fleet (pounds)	3,286	3,313	3,306	3,322	3,313	3,318	3,326	3,332
Diff. from Baseline - Fleet (pounds)	0	0	0	0	-53	-185	-186	-186

Table 398 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Nissan) Total Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Nissan) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	15.1	15.7	16.1	16.5	16.7	16.8	7.1	7.2
Mass Reduction Level 1 (%)	38.2	37.9	37.7	37.5	37.4	37.3	47.2	47.2
Mass Reduction Level 2 (%)	33.1	33.3	33.4	33.4	19.7	2.7	2.7	0.0
Mass Reduction Level 3 (%)	13.6	5.2	0.0	0.0	13.8	30.8	30.9	33.6
Mass Reduction Level 4 (%)	0.0	7.9	12.9	12.5	12.4	12.3	12.1	12.0
Mass Reduction Level 5 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Avg Curb Weight - Fleet (pounds)	3,722	3,743	3,751	3,770	3,771	3,762	3,755	3,760
Diff. from Baseline - Fleet (pounds)	0	0	0	-96	-97	-94	-112	-111

Table 399 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Stellantis) Total Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Stellantis) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	64.9	61.9	61.8	51.9	51.9	47.8	47.8	47.8
Mass Reduction Level 1 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	25.8	25.8	25.8	35.7	35.7	39.8	39.8	39.8
Mass Reduction Level 4 (%)	9.3	12.1	12.2	12.2	12.2	12.2	12.2	12.2
Mass Reduction Level 5 (%)	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Avg Curb Weight - Fleet (pounds)	4,808	4,793	4,794	4,769	4,770	4,755	4,755	4,756
Diff. from Baseline - Fleet (pounds)	0	0	0	-155	-200	-321	-322	-323

Table 400 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Subaru) Total Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Subaru) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 1 (%)	99.5	72.7	43.7	43.6	32.8	0.0	0.0	0.0
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4
Mass Reduction Level 4 (%)	0.0	26.8	55.8	56.0	66.8	99.6	99.6	99.6
Mass Reduction Level 5 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Avg Curb Weight - Fleet (pounds)	3,640	3,572	3,493	3,494	3,458	3,377	3,378	3,378
Diff. from Baseline - Fleet (pounds)	0	0	0	0	0	0	0	1

Table 401 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Toyota) Total Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Toyota) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	23.8	24.5	24.8	25.0	24.6	24.6	24.8	25.0
Mass Reduction Level 1 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 2 (%)	18.9	18.0	17.7	17.2	16.9	16.8	16.5	16.3
Mass Reduction Level 3 (%)	57.3	57.5	36.0	30.4	31.1	23.9	12.2	1.2
Mass Reduction Level 4 (%)	0.0	0.0	21.6	27.4	27.5	34.7	46.5	57.5
Mass Reduction Level 5 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Avg Curb Weight - Fleet (pounds)	4,063	4,086	4,066	4,070	4,075	4,066	4,053	4,042
Diff. from Baseline - Fleet (pounds)	0	0	0	-19	-28	-29	-29	-29

Table 402 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Volvo) Total Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Volvo) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 1 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 2 (%)	100.0	100.0	81.9	45.4	43.5	12.1	11.8	11.6
Mass Reduction Level 3 (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 4 (%)	0.0	0.0	0.0	36.4	38.1	69.5	69.7	69.9
Mass Reduction Level 5 (%)	0.0	0.0	18.1	18.2	18.3	18.4	18.4	18.5
Avg Curb Weight - Fleet (pounds)	4,413	4,421	4,358	4,260	4,259	4,182	4,183	4,184
Diff. from Baseline - Fleet (pounds)	0	0	0	0	-2	-2	-2	-2

Table 403 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (VWA) Total Fleet, Alt 3

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (VWA) Total Fleet, Alt 3								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Mass Reduction Level 0 (%)	51.6	32.5	26.8	23.5	2.0	1.9	1.9	1.4
Mass Reduction Level 1 (%)	0.0	0.0	0.0	0.0	18.7	18.5	18.3	18.1
Mass Reduction Level 2 (%)	48.1	35.9	34.0	0.3	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	0.0	0.0	0.0	26.1	28.7	28.8	28.8	29.2
Mass Reduction Level 4 (%)	0.0	31.4	39.0	49.9	50.5	50.6	50.8	51.0
Mass Reduction Level 5 (%)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Avg Curb Weight - Fleet (pounds)	3,954	3,864	3,843	3,796	3,771	3,773	3,777	3,778
Diff. from Baseline - Fleet (pounds)	0	0	0	-47	-98	-96	-96	-96

A10. Powertrain Technology Penetration Rate, by Alternative

Table 404 - Powertrain Technology Penetration Rate (%) for Manufacturer (Total), MY 2031 Total Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Total), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	5.2	17.4	17.4	17.4	16.3	8.5
Cylinder Deactivation	0.0	0.1	0.1	0.1	0.1	0.1
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	5.0	29.0	28.7	27.0	22.4	9.6
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.1	0.0	0.0	0.0	0.0	0.4
Diesel Engines	0.8	0.8	0.8	0.8	0.8	0.8
12V Stop-Start (non-hybrid)	5.5	36.3	35.9	33.8	29.2	10.7
Mild Hybrid	1.0	1.1	1.1	1.1	1.1	2.1
Strong Hybrid	81.0	47.6	47.9	50.0	56.3	77.5
Plug-In Hybrid	7.6	2.9	2.9	2.9	2.9	2.9
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	1.2	14.4	14.4	14.3	10.1	2.8
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	4.6	17.2	16.8	14.8	13.9	8.1
CVT Transmissions	5.3	15.8	15.8	15.8	15.6	8.3
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0

Table 405 - Powertrain Technology Penetration Rate (%) for Manufacturer (Total), MY 2031 Passenger Car Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Total), MY 2031 Passenger Car Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	6.6	24.3	24.3	24.3	22.7	11.8
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	1.0	26.3	25.8	23.4	18.0	7.8
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	3.3	37.7	37.2	34.2	28.8	11.6
Mild Hybrid	0.0	1.3	1.3	1.3	1.3	1.5
Strong Hybrid	89.7	44.0	44.5	47.5	55.1	77.6
Plug-In Hybrid	1.8	2.4	2.4	2.4	2.4	2.4
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.3	12.5	12.5	12.4	7.5	3.8
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	1.6	16.1	15.6	12.7	11.5	4.0
CVT Transmissions	6.3	22.1	22.1	22.1	21.9	11.7
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0

Table 406 - Powertrain Technology Penetration Rate (%) for Manufacturer (Total), MY 2031 Light Truck Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Total), MY 2031 Light Truck Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	4.8	0.6	0.6	0.6	0.6	0.3
Cylinder Deactivation	0.0	0.4	0.4	0.4	0.3	0.3
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	6.3	35.6	35.6	35.7	32.8	14.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.1	0.0	0.0	0.0	0.0	1.2
Diesel Engines	1.1	2.8	2.8	2.8	2.8	2.8
12V Stop-Start (non-hybrid)	6.3	32.8	32.8	32.8	30.2	8.5
Mild Hybrid	1.3	0.6	0.6	0.6	0.6	3.4
Strong Hybrid	78.1	56.3	56.3	56.3	59.2	77.1
Plug-In Hybrid	9.6	4.2	4.2	4.2	4.2	4.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	1.6	19.0	19.0	19.0	16.5	0.5
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	5.7	19.9	19.9	19.9	19.7	17.8
CVT Transmissions	5.0	0.2	0.2	0.2	0.0	0.0
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0

Table 407 - Powertrain Technology Penetration Rate (%) for Manufacturer (Total), MY 2031 Domestic Car Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Total), MY 2031 Domestic Car Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	11.0	22.8	22.8	22.8	22.8	13.8
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	1.7	33.3	31.9	25.5	20.7	5.8
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	5.4	48.7	47.4	39.1	33.1	12.5
Mild Hybrid	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid	84.1	39.0	40.4	48.7	54.6	78.5
Plug-In Hybrid	1.1	0.9	0.9	0.9	0.9	1.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.7	8.7	8.7	8.7	5.0	1.8
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	3.2	24.4	23.0	14.7	12.5	4.7
CVT Transmissions	10.3	26.0	26.0	26.0	26.0	13.5
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0

Table 408 - Powertrain Technology Penetration Rate (%) for Manufacturer (Total), MY 2031 Imported Car Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Total), MY 2031 Imported Car Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	3.0	25.1	25.1	25.1	22.6	10.8
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	0.3	22.5	22.5	22.4	16.8	8.8
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	1.6	31.8	31.8	31.7	26.5	11.2
Mild Hybrid	0.0	2.0	2.0	2.0	2.0	2.3
Strong Hybrid	94.1	46.7	46.7	46.9	55.3	77.1
Plug-In Hybrid	2.5	3.2	3.2	3.2	3.2	3.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	14.5	14.5	14.4	8.9	4.9
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.2	11.6	11.6	11.6	11.0	3.7
CVT Transmissions	3.0	20.1	20.1	20.1	19.7	10.8
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0

Table 409 - Powertrain Technology Penetration Rate (%) for Manufacturer (BMW), MY 2031 Total Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (BMW), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	0.0	27.3	27.3	27.3	26.3	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	14.1
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	25.7	25.7	25.7	26.3	0.0
Mild Hybrid	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid	94.7	67.4	67.4	67.4	68.4	80.6
Plug-In Hybrid	5.3	5.3	5.3	5.3	5.3	5.3
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	20.9	20.9	20.9	15.5	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.1	0.1	0.1	4.2	14.1
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.0	0.1	0.1	0.1	0.1	0.0

Table 410 - Powertrain Technology Penetration Rate (%) for Manufacturer (Ferrari), MY 2031 Total Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Ferrari), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	0.0	0.0	0.0	0.0	0.0	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid	45.2	45.3	45.3	45.3	45.3	45.2
Plug-In Hybrid	54.8	54.7	54.7	54.7	54.7	54.8
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0

Table 411 - Powertrain Technology Penetration Rate (%) for Manufacturer (Ford), MY 2031 Total Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Ford), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	1.6	37.9	37.0	27.5	19.2	14.1
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	1.8	37.6	36.8	27.3	19.0	14.2
Mild Hybrid	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid	95.7	59.5	60.3	69.8	78.1	83.2
Plug-In Hybrid	0.7	0.7	0.7	0.7	0.7	0.7
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	3.1	38.9	38.1	28.6	20.3	15.2
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0

Table 412 - Powertrain Technology Penetration Rate (%) for Manufacturer (GM), MY 2031 Total Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (GM), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	0.0	0.8	0.8	0.8	0.8	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	0.0	29.6	29.6	29.6	29.6	7.4
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	4.9	4.9	4.9	4.9	4.9	4.9
12V Stop-Start (non-hybrid)	0.0	35.4	35.4	35.4	35.4	7.4
Mild Hybrid	4.9	0.0	0.0	0.0	0.0	4.9
Strong Hybrid	66.7	64.6	64.6	64.6	64.6	87.7
Plug-In Hybrid	28.3	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	29.5	29.5	29.5	29.5	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	4.9	5.9	5.9	5.9	5.9	12.3
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0

Table 413 - Powertrain Technology Penetration Rate (%) for Manufacturer (Honda), MY 2031 Total Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Honda), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	1.0	26.1	26.1	26.1	26.1	4.3
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	5.2	34.6	34.6	34.6	34.6	10.6
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	6.2	49.3	49.3	49.3	49.3	10.3
Mild Hybrid	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid	93.7	39.3	39.3	39.3	39.3	85.1
Plug-In Hybrid	0.1	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	1.0	10.8	10.8	10.8	10.8	0.0
CVT Transmissions	5.2	48.5	48.4	48.5	48.5	14.6
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0

Table 414 - Powertrain Technology Penetration Rate (%) for Manufacturer (Hyundai), MY 2031 Total Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Hyundai), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	0.0	48.3	48.3	48.3	45.8	4.5
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	0.0	20.8	20.8	20.8	10.7	2.7
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.3
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	49.2	49.2	49.2	36.5	4.1
Mild Hybrid	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid	98.7	29.6	29.6	29.6	42.3	91.2
Plug-In Hybrid	1.3	1.3	1.3	1.3	1.3	1.3
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.3	0.3	0.3	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	38.8	38.8	38.8	34.3	4.1
CVT Transmissions	0.0	21.2	21.2	21.2	21.2	3.1
DCT Transmissions	0.0	0.1	0.1	0.1	0.0	0.0

Table 415 - Powertrain Technology Penetration Rate (%) for Manufacturer (Ineos), MY 2031 Total Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Ineos), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	0.5	0.5	0.5	0.5	0.5	0.5
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.5	0.5	0.5	0.5	0.5	0.5
Mild Hybrid	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid	99.5	99.5	99.5	99.5	99.5	99.5
Plug-In Hybrid	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.5	0.5	0.5	0.5	0.5	0.5
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0

Table 416 - Powertrain Technology Penetration Rate (%) for Manufacturer (JLR), MY 2031 Total Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (JLR), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	0.0	20.2	20.2	20.2	0.8	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid	99.0	78.8	78.8	78.8	98.2	99.0
Plug-In Hybrid	1.0	1.0	1.0	1.0	1.0	1.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	6.9	6.9	6.9	0.8	0.0
CVT Transmissions	0.0	13.3	13.3	13.3	0.0	0.0
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0

Table 417 - Powertrain Technology Penetration Rate (%) for Manufacturer (KIA), MY 2031 Total Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (KIA), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	0.8	38.6	38.6	38.6	38.7	8.7
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	0.0	1.1	1.1	1.1	1.1	1.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	16.8	16.8	16.8	16.8	0.0
Mild Hybrid	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid	97.3	58.3	58.3	58.3	58.3	88.4
Plug-In Hybrid	1.9	1.9	1.9	1.9	1.9	1.9
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	16.8	16.8	16.8	16.8	0.0
CVT Transmissions	0.8	21.9	21.9	21.9	21.9	8.7
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0

Table 418 - Powertrain Technology Penetration Rate (%) for Manufacturer (Mazda), MY 2031 Total Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Mazda), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	28.3	58.9	58.9	58.9	29.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	0.0	12.7	12.7	12.7	12.7	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	2.5	2.5	2.5	2.5	2.5	0.0
Mild Hybrid	0.0	12.7	12.7	12.7	12.7	0.0
Strong Hybrid	66.3	23.0	23.0	23.0	53.0	94.6
Plug-In Hybrid	5.4	5.4	5.4	5.4	5.4	5.4
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	70.2	70.2	70.2	0.2	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	28.3	0.0	0.0	0.0	41.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.5	0.0
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0

Table 419 - Powertrain Technology Penetration Rate (%) for Manufacturer (Mercedes-Benz), MY 2031 Total Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Mercedes-Benz), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	0.1	23.9	23.9	23.9	3.6	0.1
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid	0.1	0.1	0.1	0.1	0.1	0.1
Strong Hybrid	95.8	71.9	71.9	71.9	92.2	95.8
Plug-In Hybrid	4.2	4.2	4.2	4.2	4.2	4.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.1	17.9	17.9	17.9	0.1	0.1
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.0	0.1	0.1	0.1	0.0	0.0

Table 420 - Powertrain Technology Penetration Rate (%) for Manufacturer (Mitsubishi), MY 2031 Total Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Mitsubishi), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	60.5	76.0	76.0	76.0	76.0	75.7
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	0.0	14.2	14.2	14.2	14.2	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid	34.8	5.1	5.1	5.1	5.1	19.6
Plug-In Hybrid	4.7	4.7	4.7	4.7	4.7	4.7
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	60.5	90.2	90.2	90.2	90.2	75.7
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0

Table 421 - Powertrain Technology Penetration Rate (%) for Manufacturer (Nissan), MY 2031 Total Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Nissan), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	20.0	46.5	46.5	46.5	46.5	46.5
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	1.9	10.9	10.9	10.9	10.8	8.3
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	8.1	63.2	63.2	63.2	60.4	41.0
Mild Hybrid	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid	78.1	22.9	22.9	22.9	25.8	45.2
Plug-In Hybrid	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	1.6	28.0	28.0	28.0	28.0	25.6
CVT Transmissions	20.0	48.7	48.7	48.7	45.8	28.9
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0

Table 422 - Powertrain Technology Penetration Rate (%) for Manufacturer (Stellantis), MY 2031 Total Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Stellantis), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	1.5	1.5	1.5	1.3	1.3
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	0.0	44.4	44.4	43.4	28.5	4.2
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	1.2	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	51.0	51.0	44.4	25.5	1.2
Mild Hybrid	0.0	2.3	2.3	2.3	2.3	2.3
Strong Hybrid	80.3	26.1	26.1	32.7	51.8	76.0
Plug-In Hybrid	18.5	18.5	18.5	18.5	18.5	18.5
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	23.6	23.6	22.7	1.8	1.8
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	1.2	31.5	31.5	25.8	28.0	3.7
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0

Table 423 - Powertrain Technology Penetration Rate (%) for Manufacturer (Subaru), MY 2031 Total Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Subaru), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	32.0	47.7	47.7	47.7	47.7	29.3
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	14.4	20.9	20.9	20.9	20.9	10.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	32.0	51.2	51.2	51.2	51.2	17.4
Mild Hybrid	3.5	4.3	4.3	4.3	4.3	19.8
Strong Hybrid	53.3	31.0	31.0	31.0	31.0	60.3
Plug-In Hybrid	0.0	0.0	0.0	0.0	0.0	0.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	0.1	0.1	0.1	0.0	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	46.5	66.8	66.8	66.8	66.9	39.5
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0

Table 424 - Powertrain Technology Penetration Rate (%) for Manufacturer (Toyota), MY 2031 Total Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Toyota), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	3.2	13.0	13.0	13.0	13.0	12.9
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	19.4	29.4	29.4	29.4	29.4	23.9
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	13.9	24.2	24.2	24.2	24.2	18.8
Mild Hybrid	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid	75.1	55.2	55.2	55.2	55.2	60.7
Plug-In Hybrid	2.4	2.4	2.4	2.4	2.4	2.4
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	7.0	24.0	24.0	24.0	24.0	15.3
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	12.6	7.6	7.6	7.6	7.6	10.8
CVT Transmissions	2.7	10.2	10.2	10.2	10.2	10.2
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0

Table 425 - Powertrain Technology Penetration Rate (%) for Manufacturer (Volvo), MY 2031 Total Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Volvo), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	0.0	0.0	0.0	0.0	0.0	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	0.0	30.2	30.2	29.1	29.1	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	0.0	0.0	0.0	0.0	0.0
Mild Hybrid	0.0	29.1	29.1	29.1	29.1	0.0
Strong Hybrid	74.0	43.7	43.7	44.8	44.9	74.0
Plug-In Hybrid	26.0	26.0	26.0	26.0	26.0	26.0
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	29.1	29.1	29.1	29.1	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0

Table 426 - Powertrain Technology Penetration Rate (%) for Manufacturer (VWA), MY 2031 Total Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (VWA), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Hybrid High Compression Engines	0.0	0.2	0.2	0.2	0.2	0.0
Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Dynamic Cylinder Deactivation	0.0	0.0	0.0	0.0	0.0	0.0
Non-Hybrid Turbocharged Engines	0.0	54.4	50.0	41.0	15.8	0.0
Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Electric Variable Geometry Turbo	0.0	0.0	0.0	0.0	0.0	0.0
Diesel Engines	0.0	0.0	0.0	0.0	0.0	0.0
12V Stop-Start (non-hybrid)	0.0	52.6	48.2	39.2	15.3	0.0
Mild Hybrid	0.0	0.0	0.0	0.0	0.2	0.0
Strong Hybrid	97.8	43.3	47.7	56.7	81.9	97.8
Plug-In Hybrid	2.2	2.2	2.2	2.2	2.2	2.2
5-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
6-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
7-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
8-Speed Automatic	0.0	5.0	5.0	5.0	4.2	0.0
9-Speed Automatic	0.0	0.0	0.0	0.0	0.0	0.0
10-Speed Automatic	0.0	35.4	31.0	22.0	4.9	0.0
CVT Transmissions	0.0	0.0	0.0	0.0	0.0	0.0
DCT Transmissions	0.0	0.1	0.1	0.1	0.1	0.0

A11. Mass Reduction Penetration Rate, by Alternative

Table 427 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Total), MY 2031 Total Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Total), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	7.2	17.7	17.7	16.3	12.9	8.7
Mass Reduction Level 1 (%)	0.1	7.4	7.4	7.9	8.1	3.0
Mass Reduction Level 2 (%)	1.6	4.4	4.4	4.4	4.5	4.4
Mass Reduction Level 3 (%)	7.4	35.7	35.7	36.5	37.5	16.9
Mass Reduction Level 4 (%)	80.7	33.8	33.8	33.8	35.9	64.7
Mass Reduction Level 5 (%)	3.0	1.0	1.0	1.0	1.3	2.3
Avg Curb Weight - Fleet (pounds)	3,928	4,057	4,057	4,054	4,039	3,967
Diff. from Baseline - Fleet (pounds)	0	-129	-129	-126	-111	-39
Avg Curb Weight - Passenger Car (pounds)	3,146	3,671	3,671	3,667	3,655	3,610
Diff. from Baseline - Passenger Car (pounds)	0	-525	-525	-521	-509	-464
Avg Curb Weight - Light Truck (pounds)	4,195	4,999	4,999	4,998	4,978	4,838
Diff. from Baseline - Light Trucks (pounds)	0	-804	-804	-803	-783	-643

Table 428 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Total), MY 2031 Passenger Car Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Total), MY 2031 Passenger Car Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	4.3	6.4	6.4	4.6	2.9	1.9
Mass Reduction Level 1 (%)	0.1	6.3	6.3	6.9	5.0	0.1
Mass Reduction Level 2 (%)	0.4	5.9	5.9	5.9	5.9	5.9
Mass Reduction Level 3 (%)	8.1	34.4	34.4	35.5	36.1	18.1
Mass Reduction Level 4 (%)	79.0	45.6	45.7	45.7	48.3	70.8
Mass Reduction Level 5 (%)	8.0	1.4	1.4	1.4	1.8	3.2
Avg Curb Weight - Fleet (pounds)	3,928	4,057	4,057	4,054	4,039	3,967
Diff. from Baseline - Fleet (pounds)	0	-129	-129	-126	-111	-39
Avg Curb Weight - Passenger Car (pounds)	3,146	3,671	3,671	3,667	3,655	3,610
Diff. from Baseline - Passenger Car (pounds)	0	-525	-525	-521	-509	-464
Avg Curb Weight - Light Truck (pounds)	4,195	4,999	4,999	4,998	4,978	4,838
Diff. from Baseline - Light Trucks (pounds)	0	-804	-804	-803	-783	-643

Table 429 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Total), MY 2031 Light Truck Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Total), MY 2031 Light Truck Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	8.2	45.2	45.2	45.0	37.1	25.1
Mass Reduction Level 1 (%)	0.1	10.0	10.0	10.3	15.6	10.1
Mass Reduction Level 2 (%)	1.9	0.9	0.9	0.9	0.9	0.9
Mass Reduction Level 3 (%)	7.2	38.9	38.9	38.9	40.8	14.0
Mass Reduction Level 4 (%)	81.3	4.9	4.9	4.9	5.5	49.9
Mass Reduction Level 5 (%)	1.3	0.0	0.0	0.0	0.0	0.0
Avg Curb Weight - Fleet (pounds)	3,928	4,057	4,057	4,054	4,039	3,967
Diff. from Baseline - Fleet (pounds)	0	-129	-129	-126	-111	-39
Avg Curb Weight - Passenger Car (pounds)	3,146	3,671	3,671	3,667	3,655	3,610
Diff. from Baseline - Passenger Car (pounds)	0	-525	-525	-521	-509	-464
Avg Curb Weight - Light Truck (pounds)	4,195	4,999	4,999	4,998	4,978	4,838
Diff. from Baseline - Light Trucks (pounds)	0	-804	-804	-803	-783	-643

Table 430 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Total), MY 2031 Domestic Car Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Total), MY 2031 Domestic Car Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	3.8	4.9	4.9	1.8	1.8	1.8
Mass Reduction Level 1 (%)	0.0	3.7	3.7	3.7	3.7	0.0
Mass Reduction Level 2 (%)	1.0	5.2	5.2	5.2	5.2	5.2
Mass Reduction Level 3 (%)	13.3	54.1	54.1	57.2	56.4	42.3
Mass Reduction Level 4 (%)	78.1	31.4	31.4	31.4	32.2	49.1
Mass Reduction Level 5 (%)	3.9	0.8	0.8	0.8	0.8	1.7
Avg Curb Weight - Fleet (pounds)	3,928	4,057	4,057	4,054	4,039	3,967
Diff. from Baseline - Fleet (pounds)	0	-129	-129	-126	-111	-39
Avg Curb Weight - Passenger Car (pounds)	3,146	3,671	3,671	3,667	3,655	3,610
Diff. from Baseline - Passenger Car (pounds)	0	-525	-525	-521	-509	-464
Avg Curb Weight - Light Truck (pounds)	4,195	4,999	4,999	4,998	4,978	4,838
Diff. from Baseline - Light Trucks (pounds)	0	-804	-804	-803	-783	-643

Table 431 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Total), MY 2031 Imported Car Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Total), MY 2031 Imported Car Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	4.6	7.1	7.1	6.1	3.5	2.0
Mass Reduction Level 1 (%)	0.3	7.7	7.7	8.7	5.7	0.2
Mass Reduction Level 2 (%)	0.0	6.3	6.3	6.3	6.3	6.3
Mass Reduction Level 3 (%)	4.0	23.9	23.9	24.0	25.3	5.2
Mass Reduction Level 4 (%)	79.8	53.2	53.3	53.3	56.8	82.3
Mass Reduction Level 5 (%)	11.3	1.8	1.8	1.8	2.4	4.1
Avg Curb Weight - Fleet (pounds)	3,928	4,057	4,057	4,054	4,039	3,967
Diff. from Baseline - Fleet (pounds)	0	-129	-129	-126	-111	-39
Avg Curb Weight - Passenger Car (pounds)	3,146	3,671	3,671	3,667	3,655	3,610
Diff. from Baseline - Passenger Car (pounds)	0	-525	-525	-521	-509	-464
Avg Curb Weight - Light Truck (pounds)	4,195	4,999	4,999	4,998	4,978	4,838
Diff. from Baseline - Light Trucks (pounds)	0	-804	-804	-803	-783	-643

Table 432 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (BMW), MY 2031 Total Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (BMW), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	2.2	7.8	7.8	7.8	7.8	2.2
Mass Reduction Level 1 (%)	0.0	44.0	44.0	44.0	0.0	0.0
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	0.0	0.0	0.0	0.0	44.0	0.0
Mass Reduction Level 4 (%)	78.4	43.2	43.2	43.2	43.3	78.4
Mass Reduction Level 5 (%)	19.4	5.0	5.0	5.0	5.0	19.4
Avg Curb Weight - Fleet (pounds)	4,017	4,225	4,225	4,225	4,144	4,016
Diff. from Baseline - Fleet (pounds)	0	-208	-208	-208	-127	1
Avg Curb Weight - Passenger Car (pounds)	3,439	3,879	3,879	3,879	3,838	3,732
Diff. from Baseline - Passenger Car (pounds)	0	-440	-440	-440	-399	-293
Avg Curb Weight - Light Truck (pounds)	4,375	5,218	5,218	5,218	5,025	4,831
Diff. from Baseline - Light Trucks (pounds)	0	-843	-843	-843	-650	-456

Table 433 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Ferrari), MY 2031 Total Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Ferrari), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 1 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	11.1	11.2	11.2	11.2	11.2	11.1
Mass Reduction Level 4 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 5 (%)	88.9	88.8	88.8	88.8	88.8	88.9
Avg Curb Weight - Fleet (pounds)	3,996	3,996	3,996	3,996	3,996	3,996
Diff. from Baseline - Fleet (pounds)	0	0	0	0	0	0
Avg Curb Weight - Passenger Car (pounds)	3,996	3,996	3,996	3,996	3,996	3,996
Diff. from Baseline - Passenger Car (pounds)	0	0	0	0	0	0
Avg Curb Weight - Light Truck (pounds)	0	0	0	0	0	0
Diff. from Baseline - Light Trucks (pounds)	0	0	0	0	0	0

Table 434 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Ford), MY 2031 Total Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Ford), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	12.9	40.2	40.2	40.2	40.2	12.9
Mass Reduction Level 1 (%)	0.0	14.3	14.3	14.3	14.3	14.3
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	19.1	32.6	32.6	32.6	32.6	46.3
Mass Reduction Level 4 (%)	68.1	13.0	13.0	13.0	13.0	26.4
Mass Reduction Level 5 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Avg Curb Weight - Fleet (pounds)	4,313	4,542	4,542	4,542	4,542	4,416
Diff. from Baseline - Fleet (pounds)	0	-229	-229	-229	-229	-103
Avg Curb Weight - Passenger Car (pounds)	3,717	3,859	3,859	3,859	3,859	3,848
Diff. from Baseline - Passenger Car (pounds)	0	-142	-142	-142	-142	-131
Avg Curb Weight - Light Truck (pounds)	4,359	4,961	4,961	4,961	4,961	4,765
Diff. from Baseline - Light Trucks (pounds)	0	-602	-602	-602	-602	-406

Table 435 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (GM), MY 2031 Total Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (GM), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 1 (%)	0.0	0.0	0.0	0.0	0.0	7.6
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	3.0	66.4	66.4	66.4	66.3	3.0
Mass Reduction Level 4 (%)	94.5	32.5	32.5	32.5	32.5	86.9
Mass Reduction Level 5 (%)	2.5	1.2	1.2	1.2	1.2	2.5
Avg Curb Weight - Fleet (pounds)	4,088	4,202	4,202	4,202	4,201	4,114
Diff. from Baseline - Fleet (pounds)	0	-114	-114	-114	-113	-26
Avg Curb Weight - Passenger Car (pounds)	3,014	3,452	3,452	3,452	3,452	3,415
Diff. from Baseline - Passenger Car (pounds)	0	-438	-438	-438	-438	-401
Avg Curb Weight - Light Truck (pounds)	4,437	4,967	4,967	4,967	4,967	4,826
Diff. from Baseline - Light Trucks (pounds)	0	-530	-530	-530	-530	-389

Table 436 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Honda), MY 2031 Total Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Honda), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 1 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 2 (%)	17.0	17.0	17.0	17.0	17.0	17.0
Mass Reduction Level 3 (%)	8.6	83.0	83.0	83.0	83.0	83.0
Mass Reduction Level 4 (%)	74.1	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 5 (%)	0.3	0.0	0.0	0.0	0.0	0.0
Avg Curb Weight - Fleet (pounds)	3,581	3,680	3,680	3,680	3,679	3,680
Diff. from Baseline - Fleet (pounds)	0	-99	-99	-99	-98	-99
Avg Curb Weight - Passenger Car (pounds)	3,112	3,654	3,654	3,654	3,654	3,655
Diff. from Baseline - Passenger Car (pounds)	0	-542	-542	-542	-542	-543
Avg Curb Weight - Light Truck (pounds)	4,024	4,470	4,470	4,470	4,470	4,470
Diff. from Baseline - Light Trucks (pounds)	0	-446	-446	-446	-446	-446

Table 437 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Hyundai), MY 2031 Total Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Hyundai), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 1 (%)	0.0	8.7	8.7	8.7	0.0	0.0
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	5.0	51.5	51.5	51.5	60.3	5.1
Mass Reduction Level 4 (%)	85.6	39.7	39.7	39.7	39.7	94.9
Mass Reduction Level 5 (%)	9.4	0.0	0.0	0.0	0.0	0.0
Avg Curb Weight - Fleet (pounds)	3,584	3,693	3,693	3,693	3,679	3,597
Diff. from Baseline - Fleet (pounds)	0	-109	-109	-109	-95	-13
Avg Curb Weight - Passenger Car (pounds)	3,107	3,672	3,672	3,672	3,657	3,580
Diff. from Baseline - Passenger Car (pounds)	0	-565	-565	-565	-550	-473
Avg Curb Weight - Light Truck (pounds)	3,857	4,021	4,021	4,021	4,021	3,863
Diff. from Baseline - Light Trucks (pounds)	0	-164	-164	-164	-164	-6

Table 438 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Ineos), MY 2031 Total Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Ineos), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	0.5	100.0	100.0	0.5	0.5	0.5
Mass Reduction Level 1 (%)	0.0	0.0	0.0	99.5	0.0	0.0
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 4 (%)	99.5	0.0	0.0	0.0	99.5	99.5
Mass Reduction Level 5 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Avg Curb Weight - Fleet (pounds)	5,294	5,922	5,922	5,713	5,294	5,294
Diff. from Baseline - Fleet (pounds)	0	-628	-628	-419	0	0
Avg Curb Weight - Passenger Car (pounds)	0	0	0	0	0	0
Diff. from Baseline - Passenger Car (pounds)	0	0	0	0	0	0
Avg Curb Weight - Light Truck (pounds)	5,294	5,922	5,922	5,713	5,294	5,294
Diff. from Baseline - Light Trucks (pounds)	0	-628	-628	-419	0	0

Table 439 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (JLR), MY 2031 Total Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (JLR), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	1.0	71.2	71.2	71.2	39.7	1.0
Mass Reduction Level 1 (%)	8.0	14.1	14.1	14.1	39.5	8.0
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	0.0	0.0	0.0	0.0	0.0	38.8
Mass Reduction Level 4 (%)	74.8	4.5	4.5	4.5	4.5	36.0
Mass Reduction Level 5 (%)	16.3	10.1	10.1	10.1	16.3	16.3
Avg Curb Weight - Fleet (pounds)	4,713	5,161	5,161	5,161	5,069	4,790
Diff. from Baseline - Fleet (pounds)	0	-448	-448	-448	-356	-77
Avg Curb Weight - Passenger Car (pounds)	3,711	4,067	4,067	4,067	3,947	3,947
Diff. from Baseline - Passenger Car (pounds)	0	-356	-356	-356	-236	-236
Avg Curb Weight - Light Truck (pounds)	4,748	5,530	5,530	5,530	5,447	5,075
Diff. from Baseline - Light Trucks (pounds)	0	-782	-782	-782	-699	-327

Table 440 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (KIA), MY 2031 Total Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (KIA), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 1 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	0.0	57.9	57.9	57.9	57.9	0.0
Mass Reduction Level 4 (%)	92.1	34.1	34.1	34.1	34.1	92.0
Mass Reduction Level 5 (%)	7.9	8.0	8.0	8.0	8.0	8.0
Avg Curb Weight - Fleet (pounds)	3,545	3,626	3,626	3,626	3,626	3,545
Diff. from Baseline - Fleet (pounds)	0	-81	-81	-81	-81	0
Avg Curb Weight - Passenger Car (pounds)	2,942	3,626	3,626	3,626	3,626	3,545
Diff. from Baseline - Passenger Car (pounds)	0	-684	-684	-684	-684	-603
Avg Curb Weight - Light Truck (pounds)	3,888	0	0	0	0	0
Diff. from Baseline - Light Trucks (pounds)	0	3,888	3,888	3,888	3,888	3,888

Table 441 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Mazda), MY 2031 Total Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Mazda), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	0.0	35.4	35.4	35.4	0.0	0.0
Mass Reduction Level 1 (%)	0.0	0.0	0.0	0.0	35.4	0.0
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	18.1	63.2	63.2	63.2	18.1	18.1
Mass Reduction Level 4 (%)	80.4	1.5	1.5	1.5	46.6	80.4
Mass Reduction Level 5 (%)	1.5	0.0	0.0	0.0	0.0	1.5
Avg Curb Weight - Fleet (pounds)	3,644	3,854	3,854	3,854	3,743	3,644
Diff. from Baseline - Fleet (pounds)	0	-210	-210	-210	-99	0
Avg Curb Weight - Passenger Car (pounds)	2,934	3,854	3,854	3,854	3,743	3,644
Diff. from Baseline - Passenger Car (pounds)	0	-920	-920	-920	-809	-710
Avg Curb Weight - Light Truck (pounds)	3,702	0	0	0	0	0
Diff. from Baseline - Light Trucks (pounds)	0	3,702	3,702	3,702	3,702	3,702

Table 442 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Mercedes-Benz), MY 2031 Total Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Mercedes-Benz), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	15.1	41.5	41.5	15.2	15.2	15.1
Mass Reduction Level 1 (%)	1.2	8.6	8.6	33.6	1.2	1.2
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	0.0	0.0	0.0	1.5	26.4	0.0
Mass Reduction Level 4 (%)	76.3	49.8	49.8	49.8	49.8	76.2
Mass Reduction Level 5 (%)	7.4	0.0	0.0	0.0	7.4	7.4
Avg Curb Weight - Fleet (pounds)	4,330	4,484	4,484	4,441	4,370	4,330
Diff. from Baseline - Fleet (pounds)	0	-154	-154	-111	-40	0
Avg Curb Weight - Passenger Car (pounds)	3,930	4,223	4,223	4,141	4,008	3,930
Diff. from Baseline - Passenger Car (pounds)	0	-293	-293	-211	-78	0
Avg Curb Weight - Light Truck (pounds)	4,501	4,773	4,773	4,773	4,773	4,773
Diff. from Baseline - Light Trucks (pounds)	0	-272	-272	-272	-272	-272

Table 443 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Mitsubishi), MY 2031 Total Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Mitsubishi), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	15.5	64.4	64.4	64.4	64.3	15.5
Mass Reduction Level 1 (%)	0.0	14.2	14.2	14.2	14.2	0.0
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	48.9	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 4 (%)	21.4	21.5	21.5	21.5	21.5	84.5
Mass Reduction Level 5 (%)	14.2	0.0	0.0	0.0	0.0	0.0
Avg Curb Weight - Fleet (pounds)	3,146	3,332	3,332	3,332	3,332	3,096
Diff. from Baseline - Fleet (pounds)	0	-186	-186	-186	-186	50
Avg Curb Weight - Passenger Car (pounds)	2,059	3,332	3,332	3,332	3,332	3,096
Diff. from Baseline - Passenger Car (pounds)	0	-1,273	-1,273	-1,273	-1,273	-1,037
Avg Curb Weight - Light Truck (pounds)	3,444	0	0	0	0	0
Diff. from Baseline - Light Trucks (pounds)	0	3,444	3,444	3,444	3,444	3,444

Table 444 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Nissan), MY 2031 Total Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Nissan), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	7.2	7.2	7.2	7.2	7.2	7.2
Mass Reduction Level 1 (%)	0.0	47.2	47.2	47.2	47.2	0.0
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	43.6	33.6	33.6	33.6	33.6	43.6
Mass Reduction Level 4 (%)	47.6	12.0	12.0	12.0	12.0	47.7
Mass Reduction Level 5 (%)	1.5	0.0	0.0	0.0	0.0	1.5
Avg Curb Weight - Fleet (pounds)	3,649	3,760	3,760	3,760	3,760	3,648
Diff. from Baseline - Fleet (pounds)	0	-111	-111	-111	-111	1
Avg Curb Weight - Passenger Car (pounds)	3,041	3,515	3,515	3,515	3,515	3,401
Diff. from Baseline - Passenger Car (pounds)	0	-474	-474	-474	-474	-360
Avg Curb Weight - Light Truck (pounds)	4,320	5,052	5,052	5,052	5,052	4,947
Diff. from Baseline - Light Trucks (pounds)	0	-732	-732	-732	-732	-627

Table 445 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Stellantis), MY 2031 Total Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Stellantis), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	3.3	57.7	57.7	47.8	21.7	21.7
Mass Reduction Level 1 (%)	0.0	0.0	0.0	0.0	26.1	0.0
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	0.0	30.0	30.0	39.8	34.6	0.0
Mass Reduction Level 4 (%)	95.4	12.2	12.2	12.2	16.3	77.0
Mass Reduction Level 5 (%)	1.3	0.2	0.2	0.2	1.3	1.3
Avg Curb Weight - Fleet (pounds)	4,433	4,781	4,781	4,756	4,698	4,547
Diff. from Baseline - Fleet (pounds)	0	-348	-348	-323	-265	-114
Avg Curb Weight - Passenger Car (pounds)	4,081	4,225	4,225	4,147	4,122	4,049
Diff. from Baseline - Passenger Car (pounds)	0	-144	-144	-66	-41	32
Avg Curb Weight - Light Truck (pounds)	4,442	5,053	5,053	5,053	4,979	4,790
Diff. from Baseline - Light Trucks (pounds)	0	-611	-611	-611	-537	-348

Table 446 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Subaru), MY 2031 Total Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Subaru), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 1 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	0.4	0.4	0.4	0.4	0.4	0.4
Mass Reduction Level 4 (%)	99.6	99.6	99.6	99.6	99.6	99.6
Mass Reduction Level 5 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Avg Curb Weight - Fleet (pounds)	3,379	3,378	3,378	3,378	3,378	3,378
Diff. from Baseline - Fleet (pounds)	0	1	1	1	1	1
Avg Curb Weight - Passenger Car (pounds)	3,133	3,378	3,378	3,378	3,378	3,378
Diff. from Baseline - Passenger Car (pounds)	0	-245	-245	-245	-245	-245
Avg Curb Weight - Light Truck (pounds)	3,407	0	0	0	0	0
Diff. from Baseline - Light Trucks (pounds)	0	3,407	3,407	3,407	3,407	3,407

Table 447 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Toyota), MY 2031 Total Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Toyota), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	25.0	25.0	25.0	25.0	25.0	25.0
Mass Reduction Level 1 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 2 (%)	0.0	16.3	16.3	16.3	16.3	16.3
Mass Reduction Level 3 (%)	0.0	1.2	1.2	1.2	1.2	1.2
Mass Reduction Level 4 (%)	75.0	57.5	57.5	57.5	57.5	57.5
Mass Reduction Level 5 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Avg Curb Weight - Fleet (pounds)	4,013	4,042	4,042	4,042	4,042	4,043
Diff. from Baseline - Fleet (pounds)	0	-29	-29	-29	-29	-30
Avg Curb Weight - Passenger Car (pounds)	3,196	3,688	3,688	3,688	3,688	3,688
Diff. from Baseline - Passenger Car (pounds)	0	-492	-492	-492	-492	-492
Avg Curb Weight - Light Truck (pounds)	4,359	5,111	5,111	5,111	5,111	5,111
Diff. from Baseline - Light Trucks (pounds)	0	-752	-752	-752	-752	-752

Table 448 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Volvo), MY 2031 Total Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (Volvo), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 1 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 2 (%)	11.5	11.6	11.6	11.6	11.6	11.6
Mass Reduction Level 3 (%)	0.0	1.5	0.0	0.0	0.0	0.0
Mass Reduction Level 4 (%)	68.4	68.4	69.9	69.9	68.3	68.4
Mass Reduction Level 5 (%)	20.1	18.5	18.5	18.5	20.0	20.0
Avg Curb Weight - Fleet (pounds)	4,182	4,185	4,184	4,184	4,182	4,182
Diff. from Baseline - Fleet (pounds)	0	-3	-2	-2	0	0
Avg Curb Weight - Passenger Car (pounds)	3,915	4,185	4,184	4,184	4,182	4,182
Diff. from Baseline - Passenger Car (pounds)	0	-270	-269	-269	-267	-267
Avg Curb Weight - Light Truck (pounds)	4,227	0	0	0	0	0
Diff. from Baseline - Light Trucks (pounds)	0	4,227	4,227	4,227	4,227	4,227

Table 449 - Mass Reduction Penetration Rate and Curb Weights for Manufacturer (VWA), MY 2031 Total Fleet by Alternative

Mass Reduction Penetration Rate and Curb Weights for Manufacturer (VWA), MY 2031 Total Fleet by Alternative						
Alternative	Alt 0 - No Action	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Mass Reduction Level 0 (%)	1.4	1.4	1.4	1.4	1.4	1.4
Mass Reduction Level 1 (%)	0.0	18.1	18.1	18.1	0.0	0.0
Mass Reduction Level 2 (%)	0.0	0.0	0.0	0.0	0.0	0.0
Mass Reduction Level 3 (%)	0.0	29.2	29.2	29.2	44.5	0.0
Mass Reduction Level 4 (%)	93.1	51.0	51.0	51.0	53.9	93.1
Mass Reduction Level 5 (%)	5.4	0.2	0.2	0.2	0.2	5.5
Avg Curb Weight - Fleet (pounds)	3,682	3,778	3,778	3,778	3,753	3,681
Diff. from Baseline - Fleet (pounds)	0	-96	-96	-96	-71	1
Avg Curb Weight - Passenger Car (pounds)	3,127	3,733	3,733	3,733	3,706	3,630
Diff. from Baseline - Passenger Car (pounds)	0	-606	-606	-606	-579	-503
Avg Curb Weight - Light Truck (pounds)	3,880	4,540	4,540	4,540	4,540	4,540
Diff. from Baseline - Light Trucks (pounds)	0	-660	-660	-660	-660	-660

A12. Required and Achieved CAFE Levels, Comparison

Table 450 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 1												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	40.7	34.3	-6.4	47.6	21.3	-26.3	34.4	32.2	-2.2	35.9	30.9	-5.0
2025	44.0	38.5	-5.5	51.7	21.3	-30.4	37.3	33.5	-3.8	38.8	32.7	-6.1
2026	48.7	40.2	-8.5	57.5	21.5	-36.0	41.5	33.5	-8.0	43.0	34.1	-8.9
2027	30.8	42.6	11.8	35.1	21.5	-13.6	26.5	37.2	10.7	27.0	36.1	9.1
2028	30.9	40.6	9.7	35.3	22.0	-13.3	26.5	34.8	8.3	27.1	35.0	7.9
2029	31.0	40.6	9.6	35.4	22.0	-13.4	26.7	34.8	8.1	27.3	35.3	8.0
2030	32.0	40.6	8.6	36.0	23.0	-13.0	27.0	35.5	8.5	27.8	35.3	7.5
2031	32.0	41.0	9.0	36.1	24.2	-11.9	27.1	35.5	8.4	27.8	35.5	7.7

Table 451 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 1												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	43.1	42.9	-0.2	41.5	38.0	-3.5	36.6	20.7	-15.9	35.7	28.3	-7.4
2025	46.6	44.6	-2.0	45.0	39.7	-5.3	39.7	20.7	-19.0	38.8	30.0	-8.8
2026	51.6	46.3	-5.3	49.8	42.7	-7.1	44.1	20.7	-23.4	43.1	32.1	-11.0
2027	32.4	46.5	14.1	31.5	43.8	12.3	28.6	20.7	-7.9	27.7	33.4	5.7
2028	32.5	43.8	11.3	31.7	41.8	10.1	28.8	19.9	-8.9	27.9	31.5	3.6
2029	32.6	44.1	11.5	31.7	41.8	10.1	28.9	19.9	-9.0	28.0	32.4	4.4
2030	35.5	44.5	9.0	34.7	41.7	7.0	26.5	19.9	-6.6	27.3	32.4	5.1
2031	35.6	44.7	9.1	34.7	41.7	7.0	26.6	28.1	1.5	27.4	33.6	6.2

Table 452 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 1												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	41.6	37.0	-4.6	39.4	37.1	-2.3	39.0	30.7	-8.3	43.9	40.9	-3.0
2025	45.0	42.2	-2.8	42.7	37.5	-5.2	42.1	31.3	-10.8	47.4	42.8	-4.6
2026	49.8	46.8	-3.0	47.5	37.5	-10.0	46.7	37.8	-8.9	52.6	45.3	-7.3
2027	31.4	46.9	15.5	30.7	41.2	10.5	29.7	38.2	8.5	33.5	47.0	13.5
2028	31.5	45.4	13.9	30.9	38.8	7.9	29.8	36.7	6.9	33.6	46.3	12.7
2029	31.7	45.4	13.7	31.0	40.0	9.0	30.0	37.4	7.4	33.8	48.6	14.8
2030	35.1	45.3	10.2	35.8	39.9	4.1	29.7	37.8	8.1	38.1	48.5	10.4
2031	35.1	45.3	10.2	35.9	41.1	5.2	29.8	37.9	8.1	38.2	48.4	10.2

Table 453 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 1												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	43.2	39.4	-3.8	34.9	29.3	-5.6	41.5	37.8	-3.7	39.7	40.2	0.5
2025	46.6	41.7	-4.9	37.9	30.0	-7.9	45.0	41.9	-3.1	42.8	43.1	0.3
2026	51.6	43.6	-8.0	42.1	31.0	-11.1	49.9	48.1	-1.8	47.4	45.4	-2.0
2027	32.1	45.5	13.4	27.0	32.5	5.5	32.5	48.4	15.9	30.0	46.6	16.6
2028	32.2	43.8	11.6	27.2	31.2	4.0	32.6	46.1	13.5	30.1	43.9	13.8
2029	32.3	45.4	13.1	27.3	32.5	5.2	32.8	47.7	14.9	30.3	44.1	13.8
2030	33.8	46.2	12.4	27.1	32.6	5.5	37.6	47.7	10.1	31.8	44.4	12.6
2031	33.8	46.1	12.3	27.1	32.8	5.7	37.7	47.7	10.0	31.9	44.5	12.6

Table 454 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 1									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	38.5	36.7	-1.8	41.1	34.3	-6.8	38.8	35.4	-3.4
2025	41.7	36.6	-5.1	44.4	38.7	-5.7	41.9	37.5	-4.4
2026	46.3	41.8	-4.5	49.3	39.8	-9.5	46.5	39.3	-7.2
2027	29.8	45.0	15.2	31.3	42.9	11.6	29.5	41.1	11.6
2028	29.9	41.8	11.9	31.5	40.2	8.7	29.6	39.2	9.6
2029	30.0	42.8	12.8	31.7	40.2	8.5	29.7	39.6	9.9
2030	33.9	42.7	8.8	35.3	40.6	5.3	31.2	39.9	8.7
2031	34.0	42.7	8.7	35.4	40.6	5.2	31.3	40.0	8.7

Table 455 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 1												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	47.6	35.8	-11.8	47.6	21.3	-26.3	48.8	34.3	-14.5	49.5	40.4	-9.1
2025	51.7	40.3	-11.4	51.7	21.3	-30.4	53.0	34.3	-18.7	53.8	43.9	-9.9
2026	57.4	44.5	-12.9	57.5	21.5	-36.0	58.9	34.3	-24.6	59.8	49.9	-9.9
2027	34.9	44.9	10.0	35.1	21.5	-13.6	35.6	38.3	2.7	36.0	51.4	15.4
2028	35.1	45.0	9.9	35.3	22.0	-13.3	35.8	36.6	0.8	36.2	48.1	11.9
2029	35.2	45.0	9.8	35.4	22.0	-13.4	36.0	36.6	0.6	36.3	49.8	13.5
2030	35.0	42.8	7.8	36.0	23.0	-13.0	35.6	39.8	4.2	36.1	46.3	10.2
2031	35.1	43.5	8.4	36.1	24.2	-11.9	35.6	39.8	4.2	36.2	46.5	10.3

Table 456 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 1												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.1	48.4	-0.7	48.6	42.6	-6.0	0.0	0.0	0.0	47.4	29.4	-18.0
2025	53.4	48.8	-4.6	52.9	44.1	-8.8	0.0	0.0	0.0	51.5	29.4	-22.1
2026	59.3	50.5	-8.8	58.7	44.7	-14.0	0.0	0.0	0.0	57.2	44.8	-12.4
2027	35.8	50.5	14.7	35.5	47.1	11.6	0.0	0.0	0.0	34.9	44.8	9.9
2028	36.0	47.4	11.4	35.7	46.0	10.3	0.0	0.0	0.0	35.0	42.6	7.6
2029	36.1	48.2	12.1	35.8	46.1	10.3	0.0	0.0	0.0	35.2	42.6	7.4
2030	36.0	44.9	8.9	35.4	42.3	6.9	0.0	0.0	0.0	35.1	40.1	5.0
2031	36.1	45.1	9.0	35.4	42.3	6.9	0.0	0.0	0.0	35.2	40.1	4.9

Table 457 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 1												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.7	44.4	-5.3	50.7	41.4	-9.3	46.1	35.1	-11.0	55.4	55.3	-0.1
2025	54.0	50.5	-3.5	55.1	41.4	-13.7	50.1	36.3	-13.8	60.2	55.3	-4.9
2026	60.0	53.8	-6.2	61.2	41.4	-19.8	55.7	37.7	-18.0	66.9	79.6	12.7
2027	36.1	54.9	18.8	36.4	48.1	11.7	34.3	38.8	4.5	37.9	79.8	41.9
2028	36.3	52.8	16.5	36.6	46.1	9.5	34.4	38.7	4.3	38.1	76.9	38.8
2029	36.5	52.8	16.3	36.8	46.1	9.3	34.6	41.1	6.5	38.3	76.9	38.6
2030	35.1	45.3	10.2	35.8	39.9	4.1	34.6	38.5	3.9	38.1	48.5	10.4
2031	35.1	45.3	10.2	35.9	41.1	5.2	34.7	38.7	4.0	38.2	48.4	10.2

Table 458 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 1												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.6	46.1	-3.5	50.5	40.5	-10.0	50.5	37.4	-13.1	49.3	47.8	-1.5
2025	53.9	50.0	-3.9	54.9	41.0	-13.9	54.9	38.3	-16.6	53.6	51.8	-1.8
2026	59.9	53.0	-6.9	61.0	41.0	-20.0	61.0	43.7	-17.3	59.5	55.4	-4.1
2027	36.1	56.1	20.0	36.6	45.4	8.8	36.6	45.6	9.0	35.9	58.0	22.1
2028	36.2	56.1	19.9	36.7	43.2	6.5	36.7	43.9	7.2	36.1	55.2	19.1
2029	36.4	56.1	19.7	36.9	43.2	6.3	36.9	47.5	10.6	36.3	55.5	19.2
2030	36.2	49.9	13.7	33.5	35.5	2.0	37.6	47.7	10.1	35.8	51.8	16.0
2031	36.3	49.8	13.5	33.5	35.5	2.0	37.7	47.7	10.0	35.9	52.1	16.2

Table 459 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 1									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	46.8	38.9	-7.9	50.2	37.6	-12.6	49.3	43.2	-6.1
2025	50.9	38.9	-12.0	54.6	41.7	-12.9	53.6	46.1	-7.5
2026	56.6	49.4	-7.2	60.6	42.8	-17.8	59.5	49.2	-10.3
2027	34.5	50.4	15.9	36.3	45.5	9.2	35.9	51.1	15.2
2028	34.7	48.4	13.7	36.4	44.1	7.7	36.1	49.1	13.0
2029	34.9	48.4	13.5	36.6	44.1	7.5	36.2	49.7	13.5
2030	33.9	42.7	8.8	36.1	41.2	5.1	35.8	45.0	9.2
2031	34.0	42.7	8.7	36.2	41.2	5.0	35.9	45.2	9.3

Table 460 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 1												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	36.4	33.1	-3.3	0.0	0.0	0.0	33.4	32.0	-1.4	32.1	28.1	-4.0
2025	39.6	37.3	-2.3	0.0	0.0	0.0	36.3	33.4	-2.9	34.9	29.7	-5.2
2026	43.9	37.6	-6.3	0.0	0.0	0.0	40.4	33.4	-7.0	38.8	30.4	-8.4
2027	28.5	41.1	12.6	0.0	0.0	0.0	25.9	37.1	11.2	24.8	32.6	7.8
2028	28.6	38.1	9.5	0.0	0.0	0.0	26.0	34.7	8.7	24.9	32.0	7.1
2029	28.8	38.2	9.4	0.0	0.0	0.0	26.2	34.7	8.5	25.1	32.1	7.0
2030	25.6	35.3	9.7	0.0	0.0	0.0	23.5	33.3	9.8	22.5	28.3	5.8
2031	25.6	35.3	9.7	0.0	0.0	0.0	23.6	33.3	9.7	22.5	28.6	6.1

Table 461 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 1												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	37.4	37.6	0.2	37.4	35.1	-2.3	36.6	20.7	-15.9	35.3	28.3	-7.0
2025	40.7	40.6	-0.1	40.7	37.1	-3.6	39.7	20.7	-19.0	38.4	30.0	-8.4
2026	45.2	42.4	-2.8	45.2	41.5	-3.7	44.1	20.7	-23.4	42.7	31.7	-11.0
2027	29.4	42.9	13.5	29.4	42.0	12.6	28.6	20.7	-7.9	27.5	33.1	5.6
2028	29.5	40.6	11.1	29.6	39.6	10.0	28.8	19.9	-8.9	27.7	31.2	3.5
2029	29.7	40.6	10.9	29.7	39.6	9.9	28.9	19.9	-9.0	27.8	32.1	4.3
2030	24.5	35.7	11.2	26.1	34.4	8.3	26.5	19.9	-6.6	25.4	30.4	5.0
2031	24.6	35.7	11.1	26.2	34.4	8.2	26.6	28.1	1.5	25.5	31.8	6.3

Table 462 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 1												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	37.0	32.9	-4.1	38.5	36.7	-1.8	35.8	28.6	-7.2	40.8	37.3	-3.5
2025	40.3	37.9	-2.4	41.8	37.2	-4.6	38.9	29.2	-9.7	44.3	39.8	-4.5
2026	44.7	43.0	-1.7	46.5	37.2	-9.3	43.2	37.8	-5.4	49.2	39.8	-9.4
2027	29.0	43.0	14.0	30.3	40.7	10.4	27.9	37.9	10.0	32.3	41.8	9.5
2028	29.2	41.8	12.6	30.5	38.3	7.8	28.1	35.9	7.8	32.5	41.4	8.9
2029	29.4	41.8	12.4	30.6	39.5	8.9	28.3	35.9	7.6	32.7	43.9	11.2
2030	0.0	0.0	0.0	0.0	0.0	0.0	25.6	37.1	11.5	0.0	0.0	0.0
2031	0.0	0.0	0.0	0.0	0.0	0.0	25.7	37.1	11.4	0.0	0.0	0.0

Table 463 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 1												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	36.2	32.4	-3.8	34.5	29.0	-5.5	40.4	37.9	-2.5	35.7	36.9	1.2
2025	39.4	34.0	-5.4	37.5	29.8	-7.7	43.9	42.5	-1.4	38.8	39.7	0.9
2026	43.7	35.4	-8.3	41.7	30.8	-10.9	48.7	48.8	0.1	43.1	41.7	-1.4
2027	28.3	36.9	8.6	26.8	32.2	5.4	32.0	48.8	16.8	27.9	42.7	14.8
2028	28.5	34.7	6.2	27.0	31.0	4.0	32.1	46.4	14.3	28.0	40.2	12.2
2029	28.6	37.2	8.6	27.1	32.3	5.2	32.3	47.7	15.4	28.2	40.4	12.2
2030	24.9	33.0	8.1	24.8	31.3	6.5	0.0	0.0	0.0	23.7	30.9	7.2
2031	25.0	33.0	8.0	24.8	31.6	6.8	0.0	0.0	0.0	23.8	31.0	7.2

Table 464 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 1									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	37.0	36.2	-0.8	37.8	32.9	-4.9	35.4	32.7	-2.7
2025	40.2	36.2	-4.0	41.1	37.5	-3.6	38.4	34.8	-3.6
2026	44.7	40.5	-4.2	45.7	38.7	-7.0	42.7	36.3	-6.4
2027	29.0	44.1	15.1	29.7	41.9	12.2	27.6	38.3	10.7
2028	29.1	40.8	11.7	29.9	38.9	9.0	27.7	36.5	8.8
2029	29.3	41.9	12.6	30.1	38.9	8.8	27.9	36.9	9.0
2030	0.0	0.0	0.0	26.2	32.6	6.4	23.7	31.1	7.4
2031	0.0	0.0	0.0	26.3	32.6	6.3	23.8	31.3	7.5

Table 465 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 1												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	0.0	0.0	0.0	0.0	0.0	0.0	48.8	34.3	-14.5	48.4	37.0	-11.4
2025	0.0	0.0	0.0	0.0	0.0	0.0	53.0	34.3	-18.7	52.6	43.3	-9.3
2026	0.0	0.0	0.0	0.0	0.0	0.0	58.9	34.3	-24.6	58.5	51.4	-7.1
2027	0.0	0.0	0.0	0.0	0.0	0.0	35.6	38.3	2.7	35.4	51.4	16.0
2028	0.0	0.0	0.0	0.0	0.0	0.0	35.8	36.6	0.8	35.6	48.1	12.5
2029	0.0	0.0	0.0	0.0	0.0	0.0	36.0	36.6	0.6	35.7	51.4	15.7
2030	0.0	0.0	0.0	0.0	0.0	0.0	37.8	39.6	1.8	35.2	45.0	9.8
2031	0.0	0.0	0.0	0.0	0.0	0.0	37.9	39.6	1.7	35.2	45.2	10.0

Table 466 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 1												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.1	48.4	-0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	53.4	48.8	-4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2026	59.3	50.5	-8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2027	35.8	50.5	14.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2028	36.0	47.4	11.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2029	36.1	48.2	12.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2030	36.0	44.9	8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2031	36.1	45.1	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 467 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 1												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	50.6	46.0	-4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	55.0	46.0	-9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2026	61.1	46.0	-15.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2027	36.6	48.1	11.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2028	36.8	46.2	9.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2029	36.9	46.2	9.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2030	38.4	46.2	7.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2031	38.5	46.2	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 468 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 1												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.6	46.6	-3.0	0.0	0.0	0.0	0.0	0.0	0.0	47.7	44.2	-3.5
2025	53.9	51.5	-2.4	0.0	0.0	0.0	0.0	0.0	0.0	51.8	62.7	10.9
2026	59.9	54.7	-5.2	0.0	0.0	0.0	0.0	0.0	0.0	57.6	62.7	5.1
2027	36.1	58.0	21.9	0.0	0.0	0.0	0.0	0.0	0.0	35.0	62.7	27.7
2028	36.2	58.6	22.4	0.0	0.0	0.0	0.0	0.0	0.0	35.2	59.1	23.9
2029	36.4	58.6	22.2	0.0	0.0	0.0	0.0	0.0	0.0	35.3	59.1	23.8
2030	35.9	52.3	16.4	33.0	34.9	1.9	0.0	0.0	0.0	34.9	50.1	15.2
2031	35.9	52.2	16.3	33.0	34.9	1.9	0.0	0.0	0.0	35.0	51.6	16.6

Table 469 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 1									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	46.6	41.4	-5.2	44.3	30.7	-13.6	49.0	43.5	-5.5
2025	50.7	41.4	-9.3	48.1	30.7	-17.4	53.2	47.2	-6.0
2026	56.3	56.9	0.6	53.5	30.7	-22.8	59.1	50.1	-9.0
2027	34.4	56.9	22.5	33.0	37.1	4.1	35.7	51.5	15.8
2028	34.6	53.3	18.7	33.2	35.7	2.5	35.9	49.2	13.3
2029	34.8	53.3	18.5	33.3	35.7	2.4	36.0	50.1	14.1
2030	35.1	53.3	18.2	32.9	33.7	0.8	35.5	43.7	8.2
2031	35.2	53.3	18.1	33.0	33.7	0.7	35.5	43.8	8.3

Table 470 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 1												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	47.6	35.8	-11.8	47.6	21.3	-26.3	0.0	0.0	0.0	50.6	44.5	-6.1
2025	51.7	40.3	-11.4	51.7	21.3	-30.4	0.0	0.0	0.0	55.0	44.5	-10.5
2026	57.4	44.5	-12.9	57.5	21.5	-36.0	0.0	0.0	0.0	61.2	48.5	-12.7
2027	34.9	44.9	10.0	35.1	21.5	-13.6	0.0	0.0	0.0	36.6	51.4	14.8
2028	35.1	45.0	9.9	35.3	22.0	-13.3	0.0	0.0	0.0	36.8	48.1	11.3
2029	35.2	45.0	9.8	35.4	22.0	-13.4	0.0	0.0	0.0	37.0	48.3	11.3
2030	35.0	42.8	7.8	36.0	23.0	-13.0	33.8	40.0	6.2	38.1	49.1	11.0
2031	35.1	43.5	8.4	36.1	24.2	-11.9	33.9	40.0	6.1	38.2	49.1	10.9

Table 471 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 1												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	0.0	0.0	0.0	48.6	42.6	-6.0	0.0	0.0	0.0	47.4	29.4	-18.0
2025	0.0	0.0	0.0	52.9	44.1	-8.8	0.0	0.0	0.0	51.5	29.4	-22.1
2026	0.0	0.0	0.0	58.7	44.7	-14.0	0.0	0.0	0.0	57.2	44.8	-12.4
2027	0.0	0.0	0.0	35.5	47.1	11.6	0.0	0.0	0.0	34.9	44.8	9.9
2028	0.0	0.0	0.0	35.7	46.0	10.3	0.0	0.0	0.0	35.0	42.6	7.6
2029	0.0	0.0	0.0	35.8	46.1	10.3	0.0	0.0	0.0	35.2	42.6	7.4
2030	0.0	0.0	0.0	35.4	42.3	6.9	0.0	0.0	0.0	35.1	40.1	5.0
2031	0.0	0.0	0.0	35.4	42.3	6.9	0.0	0.0	0.0	35.2	40.1	4.9

Table 472 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 1												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.2	43.4	-5.8	50.7	41.4	-9.3	46.1	35.1	-11.0	55.4	55.3	-0.1
2025	53.4	53.8	0.4	55.1	41.4	-13.7	50.1	36.3	-13.8	60.2	55.3	-4.9
2026	59.4	60.3	0.9	61.2	41.4	-19.8	55.7	37.7	-18.0	66.9	79.6	12.7
2027	35.8	60.3	24.5	36.4	48.1	11.7	34.3	38.8	4.5	37.9	79.8	41.9
2028	36.0	58.0	22.0	36.6	46.1	9.5	34.4	38.7	4.3	38.1	76.9	38.8
2029	36.2	58.0	21.8	36.8	46.1	9.3	34.6	41.1	6.5	38.3	76.9	38.6
2030	34.6	45.2	10.6	35.8	39.9	4.1	34.6	38.5	3.9	38.1	48.5	10.4
2031	34.6	45.1	10.5	35.9	41.1	5.2	34.7	38.7	4.0	38.2	48.4	10.2

Table 473 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 1												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.6	43.6	-6.0	50.5	40.5	-10.0	50.5	37.4	-13.1	49.7	48.7	-1.0
2025	54.0	43.6	-10.4	54.9	41.0	-13.9	54.9	38.3	-16.6	54.0	49.8	-4.2
2026	60.0	45.7	-14.3	61.0	41.0	-20.0	61.0	43.7	-17.3	60.0	53.9	-6.1
2027	36.1	48.0	11.9	36.6	45.4	8.8	36.6	45.6	9.0	36.1	57.0	20.9
2028	36.3	46.0	9.7	36.7	43.2	6.5	36.7	43.9	7.2	36.3	54.4	18.1
2029	36.4	46.0	9.6	36.9	43.2	6.3	36.9	47.5	10.6	36.5	54.7	18.2
2030	37.0	45.3	8.3	37.1	39.7	2.6	37.6	47.7	10.1	35.9	52.0	16.1
2031	37.1	45.3	8.2	37.2	39.6	2.4	37.7	47.7	10.0	36.0	52.1	16.1

Table 474 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 1

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 1									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	47.8	31.7	-16.1	50.7	38.2	-12.5	49.5	43.0	-6.5
2025	51.9	31.7	-20.2	55.1	42.8	-12.3	53.9	45.2	-8.7
2026	57.7	32.9	-24.8	61.2	44.1	-17.1	59.8	48.4	-11.4
2027	35.1	35.3	0.2	36.6	46.3	9.7	36.0	50.8	14.8
2028	35.2	35.9	0.7	36.7	44.9	8.2	36.2	48.9	12.7
2029	35.4	35.9	0.5	36.9	44.9	8.0	36.4	49.4	13.0
2030	33.7	41.6	7.9	37.3	44.5	7.2	36.0	45.7	9.7
2031	33.8	41.6	7.8	37.4	44.6	7.2	36.1	45.9	9.8

Table 475 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 2												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	40.7	34.3	-6.4	47.6	21.3	-26.3	34.4	32.2	-2.2	35.9	30.9	-5.0
2025	44.0	38.5	-5.5	51.7	21.3	-30.4	37.3	33.5	-3.8	38.8	32.7	-6.1
2026	48.7	40.2	-8.5	57.5	21.5	-36.0	41.5	33.5	-8.0	43.0	34.1	-8.9
2027	31.6	42.6	11.0	36.1	21.5	-14.6	27.1	37.2	10.1	27.7	36.1	8.4
2028	31.7	40.6	8.9	36.3	22.0	-14.3	27.2	34.9	7.7	27.8	35.0	7.2
2029	31.8	40.6	8.8	36.5	22.0	-14.5	27.4	34.9	7.5	27.8	35.3	7.5
2030	32.8	40.6	7.8	37.1	23.0	-14.1	27.6	35.5	7.9	28.5	35.3	6.8
2031	32.9	41.0	8.1	37.2	24.2	-13.0	27.7	35.6	7.9	28.5	35.5	7.0

Table 476 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 2												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	43.1	42.9	-0.2	41.5	38.0	-3.5	36.6	20.7	-15.9	35.7	28.3	-7.4
2025	46.6	44.6	-2.0	45.0	39.7	-5.3	39.7	20.7	-19.0	38.8	30.0	-8.8
2026	51.6	46.3	-5.3	49.8	42.7	-7.1	44.1	20.7	-23.4	43.1	32.1	-11.0
2027	33.2	46.5	13.3	32.3	43.8	11.5	29.3	20.7	-8.6	28.4	33.4	5.0
2028	33.3	43.8	10.5	32.4	41.8	9.4	29.4	19.9	-9.5	28.5	31.5	3.0
2029	33.4	44.1	10.7	32.6	41.8	9.2	29.6	19.9	-9.7	28.6	32.4	3.8
2030	36.6	44.5	7.9	35.6	41.7	6.1	27.1	19.9	-7.2	28.0	32.4	4.4
2031	36.7	44.7	8.0	35.7	41.7	6.0	27.2	28.1	0.9	28.0	33.6	5.6

Table 477 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 2												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	41.6	37.0	-4.6	39.4	37.1	-2.3	39.0	30.7	-8.3	43.9	40.9	-3.0
2025	45.0	42.2	-2.8	42.7	37.5	-5.2	42.1	31.3	-10.8	47.4	42.8	-4.6
2026	49.8	46.8	-3.0	47.5	37.5	-10.0	46.7	37.8	-8.9	52.6	45.3	-7.3
2027	32.2	46.9	14.7	31.5	41.2	9.7	30.5	38.2	7.7	34.3	47.0	12.7
2028	32.4	45.4	13.0	31.5	38.8	7.3	30.5	36.7	6.2	34.4	46.3	11.9
2029	32.5	45.4	12.9	31.7	40.0	8.3	30.7	37.4	6.7	34.6	48.6	14.0
2030	36.1	45.3	9.2	36.8	39.9	3.1	30.5	37.8	7.3	39.3	48.5	9.2
2031	36.2	45.3	9.1	36.9	41.1	4.2	30.5	37.9	7.4	39.3	48.4	9.1

Table 478 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 2												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	43.2	39.4	-3.8	34.9	29.3	-5.6	41.5	37.8	-3.7	39.7	40.2	0.5
2025	46.6	41.7	-4.9	37.9	30.0	-7.9	45.0	41.9	-3.1	42.8	43.1	0.3
2026	51.6	43.6	-8.0	42.1	31.0	-11.1	49.9	48.1	-1.8	47.4	45.4	-2.0
2027	33.0	45.5	12.5	27.7	32.5	4.8	33.2	48.4	15.2	30.8	46.6	15.8
2028	33.0	43.8	10.8	27.8	31.2	3.4	33.4	46.1	12.7	30.8	43.9	13.1
2029	33.2	45.4	12.2	27.9	32.5	4.6	33.5	47.7	14.2	31.0	44.1	13.1
2030	34.7	46.2	11.5	27.7	32.6	4.9	38.7	47.7	9.0	32.7	44.4	11.7
2031	34.8	46.1	11.3	27.8	32.8	5.0	38.8	47.7	8.9	32.7	44.5	11.8

Table 479 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 2									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	38.5	36.7	-1.8	41.1	34.3	-6.8	38.8	35.4	-3.4
2025	41.7	36.6	-5.1	44.4	38.7	-5.7	41.9	37.5	-4.4
2026	46.3	41.8	-4.5	49.3	39.8	-9.5	46.5	39.3	-7.2
2027	30.5	45.0	14.5	32.1	43.2	11.1	30.2	41.2	11.0
2028	30.6	41.8	11.2	32.3	40.5	8.2	30.3	39.2	8.9
2029	30.7	42.8	12.1	32.4	40.5	8.1	30.4	39.7	9.3
2030	34.9	42.7	7.8	36.4	40.9	4.5	32.0	39.9	7.9
2031	35.0	42.7	7.7	36.5	40.9	4.4	32.1	40.0	7.9

Table 480 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 2												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	47.6	35.8	-11.8	47.6	21.3	-26.3	48.8	34.3	-14.5	49.5	40.4	-9.1
2025	51.7	40.3	-11.4	51.7	21.3	-30.4	53.0	34.3	-18.7	53.8	43.9	-9.9
2026	57.4	44.5	-12.9	57.5	21.5	-36.0	58.9	34.3	-24.6	59.8	49.9	-9.9
2027	36.0	44.9	8.9	36.1	21.5	-14.6	36.7	38.9	2.2	37.1	51.4	14.3
2028	36.1	45.0	8.9	36.3	22.0	-14.3	36.9	37.1	0.2	37.3	48.1	10.8
2029	36.3	45.0	8.7	36.5	22.0	-14.5	37.0	37.1	0.1	37.4	49.8	12.4
2030	36.0	42.8	6.8	37.1	23.0	-14.1	36.6	39.9	3.3	37.2	46.3	9.1
2031	36.1	43.5	7.4	37.2	24.2	-13.0	36.7	40.0	3.3	37.3	46.5	9.2

Table 481 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 2												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.1	48.4	-0.7	48.6	42.6	-6.0	0.0	0.0	0.0	47.4	29.4	-18.0
2025	53.4	48.8	-4.6	52.9	44.1	-8.8	0.0	0.0	0.0	51.5	29.4	-22.1
2026	59.3	50.5	-8.8	58.7	44.7	-14.0	0.0	0.0	0.0	57.2	44.8	-12.4
2027	36.9	50.5	13.6	36.6	47.1	10.5	0.0	0.0	0.0	35.9	44.8	8.9
2028	37.0	47.4	10.4	36.7	46.0	9.3	0.0	0.0	0.0	36.1	42.6	6.5
2029	37.2	48.2	11.0	36.9	46.1	9.2	0.0	0.0	0.0	36.2	42.6	6.4
2030	37.1	44.9	7.8	36.4	42.3	5.9	0.0	0.0	0.0	36.1	40.1	4.0
2031	37.2	45.1	7.9	36.5	42.3	5.8	0.0	0.0	0.0	36.2	40.1	3.9

Table 482 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 2												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.7	44.4	-5.3	50.7	41.4	-9.3	46.1	35.1	-11.0	55.4	55.3	-0.1
2025	54.0	50.5	-3.5	55.1	41.4	-13.7	50.1	36.3	-13.8	60.2	55.3	-4.9
2026	60.0	53.8	-6.2	61.2	41.4	-19.8	55.7	37.7	-18.0	66.9	79.6	12.7
2027	37.2	54.9	17.7	37.5	48.1	10.6	35.3	38.8	3.5	39.0	79.8	40.8
2028	37.4	52.8	15.4	37.7	46.1	8.4	35.4	38.7	3.3	39.2	76.9	37.7
2029	37.6	52.8	15.2	37.9	46.1	8.2	35.6	41.1	5.5	39.4	76.9	37.5
2030	36.1	45.3	9.2	36.8	39.9	3.1	35.6	38.5	2.9	39.3	48.5	9.2
2031	36.2	45.3	9.1	36.9	41.1	4.2	35.7	38.7	3.0	39.3	48.4	9.1

Table 483 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 2												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.6	46.1	-3.5	50.5	40.5	-10.0	50.5	37.4	-13.1	49.3	47.8	-1.5
2025	53.9	50.0	-3.9	54.9	41.0	-13.9	54.9	38.3	-16.6	53.6	51.8	-1.8
2026	59.9	53.0	-6.9	61.0	41.0	-20.0	61.0	43.7	-17.3	59.5	55.4	-4.1
2027	37.1	56.1	19.0	37.7	45.4	7.7	37.6	45.6	8.0	37.0	58.0	21.0
2028	37.3	56.1	18.8	37.9	43.2	5.3	37.8	43.9	6.1	37.2	55.2	18.0
2029	37.5	56.1	18.6	38.0	43.2	5.2	38.0	47.5	9.5	37.4	55.5	18.1
2030	37.3	49.9	12.6	34.5	35.5	1.0	38.7	47.7	9.0	36.9	51.8	14.9
2031	37.4	49.8	12.4	34.5	35.5	1.0	38.8	47.7	8.9	37.0	52.1	15.1

Table 484 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 2									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	46.8	38.9	-7.9	50.2	37.6	-12.6	49.3	43.2	-6.1
2025	50.9	38.9	-12.0	54.6	41.7	-12.9	53.6	46.1	-7.5
2026	56.6	49.4	-7.2	60.6	42.8	-17.8	59.5	49.2	-10.3
2027	35.6	50.5	14.9	37.4	45.5	8.1	37.0	51.1	14.1
2028	35.7	48.7	13.0	37.6	44.1	6.5	37.1	49.1	12.0
2029	35.9	48.7	12.8	37.7	44.1	6.4	37.3	49.7	12.4
2030	34.9	42.7	7.8	37.2	41.5	4.3	36.9	45.0	8.1
2031	35.0	42.7	7.7	37.2	41.6	4.4	37.0	45.2	8.2

Table 485 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 2												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	36.4	33.1	-3.3	0.0	0.0	0.0	33.4	32.0	-1.4	32.1	28.1	-4.0
2025	39.6	37.3	-2.3	0.0	0.0	0.0	36.3	33.4	-2.9	34.9	29.7	-5.2
2026	43.9	37.6	-6.3	0.0	0.0	0.0	40.4	33.4	-7.0	38.8	30.4	-8.4
2027	29.1	41.1	12.0	0.0	0.0	0.0	26.5	37.1	10.6	25.4	32.6	7.2
2028	29.3	38.1	8.8	0.0	0.0	0.0	26.6	34.7	8.1	25.5	32.0	6.5
2029	29.4	38.2	8.8	0.0	0.0	0.0	26.8	34.7	7.9	25.6	32.1	6.5
2030	26.1	35.3	9.2	0.0	0.0	0.0	24.0	33.3	9.3	23.0	28.3	5.3
2031	26.2	35.3	9.1	0.0	0.0	0.0	24.1	33.3	9.2	23.0	28.6	5.6

Table 486 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 2												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	37.4	37.6	0.2	37.4	35.1	-2.3	36.6	20.7	-15.9	35.3	28.3	-7.0
2025	40.7	40.6	-0.1	40.7	37.1	-3.6	39.7	20.7	-19.0	38.4	30.0	-8.4
2026	45.2	42.4	-2.8	45.2	41.5	-3.7	44.1	20.7	-23.4	42.7	31.7	-11.0
2027	30.1	42.9	12.8	30.1	42.0	11.9	29.3	20.7	-8.6	28.2	33.1	4.9
2028	30.2	40.6	10.4	30.2	39.6	9.4	29.4	19.9	-9.5	28.3	31.2	2.9
2029	30.3	40.6	10.3	30.4	39.6	9.2	29.6	19.9	-9.7	28.4	32.1	3.7
2030	25.1	35.7	10.6	26.7	34.4	7.7	27.1	19.9	-7.2	26.0	30.4	4.4
2031	25.2	35.7	10.5	26.7	34.4	7.7	27.2	28.1	0.9	26.0	31.8	5.8

Table 487 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 2												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	37.0	32.9	-4.1	38.5	36.7	-1.8	35.8	28.6	-7.2	40.8	37.3	-3.5
2025	40.3	37.9	-2.4	41.8	37.2	-4.6	38.9	29.2	-9.7	44.3	39.8	-4.5
2026	44.7	43.0	-1.7	46.5	37.2	-9.3	43.2	37.8	-5.4	49.2	39.8	-9.4
2027	29.7	43.0	13.3	31.0	40.7	9.7	28.6	37.9	9.3	33.1	41.8	8.7
2028	29.9	41.8	11.9	31.1	38.3	7.2	28.7	35.9	7.2	33.2	41.4	8.2
2029	30.0	41.8	11.8	31.3	39.5	8.2	28.9	35.9	7.0	33.4	43.9	10.5
2030	0.0	0.0	0.0	0.0	0.0	0.0	26.2	37.1	10.9	0.0	0.0	0.0
2031	0.0	0.0	0.0	0.0	0.0	0.0	26.2	37.1	10.9	0.0	0.0	0.0

Table 488 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 2												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	36.2	32.4	-3.8	34.5	29.0	-5.5	40.4	37.9	-2.5	35.7	36.9	1.2
2025	39.4	34.0	-5.4	37.5	29.8	-7.7	43.9	42.5	-1.4	38.8	39.7	0.9
2026	43.7	35.4	-8.3	41.7	30.8	-10.9	48.7	48.8	0.1	43.1	41.7	-1.4
2027	29.0	36.9	7.9	27.5	32.2	4.7	32.7	48.8	16.1	28.5	42.7	14.2
2028	29.1	34.7	5.6	27.6	31.0	3.4	32.9	46.4	13.5	28.6	40.2	11.6
2029	29.2	37.2	8.0	27.7	32.3	4.6	33.0	47.7	14.7	28.8	40.4	11.6
2030	25.5	33.0	7.5	25.3	31.3	6.0	0.0	0.0	0.0	24.3	30.9	6.6
2031	25.6	33.0	7.4	25.4	31.6	6.2	0.0	0.0	0.0	24.3	31.0	6.7

Table 489 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 2									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	37.0	36.2	-0.8	37.8	32.9	-4.9	35.4	32.7	-2.7
2025	40.2	36.2	-4.0	41.1	37.5	-3.6	38.4	34.8	-3.6
2026	44.7	40.5	-4.2	45.7	38.7	-7.0	42.7	36.3	-6.4
2027	29.7	44.1	14.4	30.4	42.3	11.9	28.2	38.3	10.1
2028	29.8	40.8	11.0	30.6	39.3	8.7	28.3	36.5	8.2
2029	29.9	41.9	12.0	30.7	39.3	8.6	28.5	37.0	8.5
2030	0.0	0.0	0.0	26.8	32.6	5.8	24.2	31.1	6.9
2031	0.0	0.0	0.0	26.8	32.6	5.8	24.3	31.3	7.0

Table 490 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 2												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	0.0	0.0	0.0	0.0	0.0	0.0	48.8	34.3	-14.5	48.4	37.0	-11.4
2025	0.0	0.0	0.0	0.0	0.0	0.0	53.0	34.3	-18.7	52.6	43.3	-9.3
2026	0.0	0.0	0.0	0.0	0.0	0.0	58.9	34.3	-24.6	58.5	51.4	-7.1
2027	0.0	0.0	0.0	0.0	0.0	0.0	36.7	38.9	2.2	36.5	51.4	14.9
2028	0.0	0.0	0.0	0.0	0.0	0.0	36.9	37.1	0.2	36.7	48.1	11.4
2029	0.0	0.0	0.0	0.0	0.0	0.0	37.0	37.1	0.1	36.8	51.4	14.6
2030	0.0	0.0	0.0	0.0	0.0	0.0	38.9	39.8	0.9	36.2	45.0	8.8
2031	0.0	0.0	0.0	0.0	0.0	0.0	39.0	39.9	0.9	36.3	45.2	8.9

Table 491 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 2												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.1	48.4	-0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	53.4	48.8	-4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2026	59.3	50.5	-8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2027	36.9	50.5	13.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2028	37.0	47.4	10.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2029	37.2	48.2	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2030	37.1	44.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2031	37.2	45.1	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 492 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 2												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	50.6	46.0	-4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	55.0	46.0	-9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2026	61.1	46.0	-15.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2027	37.7	48.1	10.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2028	37.9	46.2	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2029	38.1	46.2	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2030	39.5	46.2	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2031	39.6	46.2	6.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 493 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 2												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.6	46.6	-3.0	0.0	0.0	0.0	0.0	0.0	0.0	47.7	44.2	-3.5
2025	53.9	51.5	-2.4	0.0	0.0	0.0	0.0	0.0	0.0	51.8	62.7	10.9
2026	59.9	54.7	-5.2	0.0	0.0	0.0	0.0	0.0	0.0	57.6	62.7	5.1
2027	37.1	58.0	20.9	0.0	0.0	0.0	0.0	0.0	0.0	36.1	62.7	26.6
2028	37.3	58.6	21.3	0.0	0.0	0.0	0.0	0.0	0.0	36.2	59.1	22.9
2029	37.5	58.6	21.1	0.0	0.0	0.0	0.0	0.0	0.0	36.4	59.1	22.7
2030	36.9	52.3	15.4	33.9	34.9	1.0	0.0	0.0	0.0	36.0	50.1	14.1
2031	37.0	52.2	15.2	34.0	34.9	0.9	0.0	0.0	0.0	36.1	51.6	15.5

Table 494 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 2									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	46.6	41.4	-5.2	44.3	30.7	-13.6	49.0	43.5	-5.5
2025	50.7	41.4	-9.3	48.1	30.7	-17.4	53.2	47.2	-6.0
2026	56.3	56.9	0.6	53.5	30.7	-22.8	59.1	50.1	-9.0
2027	35.5	56.9	21.4	34.0	37.1	3.1	36.8	51.6	14.8
2028	35.6	53.3	17.7	34.1	35.7	1.6	36.9	49.3	12.4
2029	35.8	53.3	17.5	34.3	35.7	1.4	37.1	50.2	13.1
2030	36.1	53.3	17.2	33.9	34.6	0.7	36.5	43.8	7.3
2031	36.2	53.3	17.1	34.0	34.6	0.6	36.6	43.9	7.3

Table 495 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 2												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	47.6	35.8	-11.8	47.6	21.3	-26.3	0.0	0.0	0.0	50.6	44.5	-6.1
2025	51.7	40.3	-11.4	51.7	21.3	-30.4	0.0	0.0	0.0	55.0	44.5	-10.5
2026	57.4	44.5	-12.9	57.5	21.5	-36.0	0.0	0.0	0.0	61.2	48.5	-12.7
2027	36.0	44.9	8.9	36.1	21.5	-14.6	0.0	0.0	0.0	37.7	51.4	13.7
2028	36.1	45.0	8.9	36.3	22.0	-14.3	0.0	0.0	0.0	37.9	48.1	10.2
2029	36.3	45.0	8.7	36.5	22.0	-14.5	0.0	0.0	0.0	38.1	48.3	10.2
2030	36.0	42.8	6.8	37.1	23.0	-14.1	34.8	40.0	5.2	39.2	49.1	9.9
2031	36.1	43.5	7.4	37.2	24.2	-13.0	34.9	40.0	5.1	39.3	49.1	9.8

Table 496 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 2												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	0.0	0.0	0.0	48.6	42.6	-6.0	0.0	0.0	0.0	47.4	29.4	-18.0
2025	0.0	0.0	0.0	52.9	44.1	-8.8	0.0	0.0	0.0	51.5	29.4	-22.1
2026	0.0	0.0	0.0	58.7	44.7	-14.0	0.0	0.0	0.0	57.2	44.8	-12.4
2027	0.0	0.0	0.0	36.6	47.1	10.5	0.0	0.0	0.0	35.9	44.8	8.9
2028	0.0	0.0	0.0	36.7	46.0	9.3	0.0	0.0	0.0	36.1	42.6	6.5
2029	0.0	0.0	0.0	36.9	46.1	9.2	0.0	0.0	0.0	36.2	42.6	6.4
2030	0.0	0.0	0.0	36.4	42.3	5.9	0.0	0.0	0.0	36.1	40.1	4.0
2031	0.0	0.0	0.0	36.5	42.3	5.8	0.0	0.0	0.0	36.2	40.1	3.9

Table 497 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 2												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.2	43.4	-5.8	50.7	41.4	-9.3	46.1	35.1	-11.0	55.4	55.3	-0.1
2025	53.4	53.8	0.4	55.1	41.4	-13.7	50.1	36.3	-13.8	60.2	55.3	-4.9
2026	59.4	60.3	0.9	61.2	41.4	-19.8	55.7	37.7	-18.0	66.9	79.6	12.7
2027	36.9	60.3	23.4	37.5	48.1	10.6	35.3	38.8	3.5	39.0	79.8	40.8
2028	37.1	58.0	20.9	37.7	46.1	8.4	35.4	38.7	3.3	39.2	76.9	37.7
2029	37.3	58.0	20.7	37.9	46.1	8.2	35.6	41.1	5.5	39.4	76.9	37.5
2030	35.6	45.2	9.6	36.8	39.9	3.1	35.6	38.5	2.9	39.3	48.5	9.2
2031	35.7	45.1	9.4	36.9	41.1	4.2	35.7	38.7	3.0	39.3	48.4	9.1

Table 498 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 2												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.6	43.6	-6.0	50.5	40.5	-10.0	50.5	37.4	-13.1	49.7	48.7	-1.0
2025	54.0	43.6	-10.4	54.9	41.0	-13.9	54.9	38.3	-16.6	54.0	49.8	-4.2
2026	60.0	45.7	-14.3	61.0	41.0	-20.0	61.0	43.7	-17.3	60.0	53.9	-6.1
2027	37.2	48.0	10.8	37.7	45.4	7.7	37.6	45.6	8.0	37.2	57.0	19.8
2028	37.3	46.0	8.7	37.9	43.2	5.3	37.8	43.9	6.1	37.4	54.4	17.0
2029	37.5	46.0	8.5	38.0	43.2	5.2	38.0	47.5	9.5	37.6	54.7	17.1
2030	38.1	45.3	7.2	38.3	39.7	1.4	38.7	47.7	9.0	37.0	52.0	15.0
2031	38.2	45.3	7.1	38.3	39.6	1.3	38.8	47.7	8.9	37.1	52.1	15.0

Table 499 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 2

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 2									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	47.8	31.7	-16.1	50.7	38.2	-12.5	49.5	43.0	-6.5
2025	51.9	31.7	-20.2	55.1	42.8	-12.3	53.9	45.2	-8.7
2026	57.7	32.9	-24.8	61.2	44.1	-17.1	59.8	48.4	-11.4
2027	36.1	35.4	-0.7	37.7	46.3	8.6	37.1	50.8	13.7
2028	36.3	36.6	0.3	37.9	44.9	7.0	37.3	48.9	11.6
2029	36.4	36.6	0.2	38.0	44.9	6.9	37.5	49.4	11.9
2030	34.7	41.6	6.9	38.4	44.5	6.1	37.1	45.7	8.6
2031	34.8	41.6	6.8	38.5	44.6	6.1	37.2	45.9	8.7

Table 500 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 3												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	40.7	34.3	-6.4	47.6	21.3	-26.3	34.4	32.2	-2.2	35.9	30.9	-5.0
2025	44.0	38.5	-5.5	51.7	21.3	-30.4	37.3	33.5	-3.8	38.8	32.7	-6.1
2026	48.7	40.2	-8.5	57.5	21.5	-36.0	41.5	33.5	-8.0	43.0	34.1	-8.9
2027	33.7	42.6	8.9	38.4	21.5	-16.9	29.0	37.7	8.7	29.6	36.1	6.5
2028	33.9	40.6	6.7	38.7	22.0	-16.7	29.2	35.2	6.0	29.7	35.0	5.3
2029	34.1	40.6	6.5	39.1	22.0	-17.1	29.3	35.2	5.9	29.9	35.3	5.4
2030	35.5	40.6	5.1	40.0	23.0	-17.0	29.9	36.0	6.1	30.8	35.3	4.5
2031	35.8	41.0	5.2	40.4	24.2	-16.2	30.1	36.0	5.9	31.1	35.5	4.4

Table 501 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 3												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	43.1	42.9	-0.2	41.5	38.0	-3.5	36.6	20.7	-15.9	35.7	28.3	-7.4
2025	46.6	44.6	-2.0	45.0	39.7	-5.3	39.7	20.7	-19.0	38.8	30.0	-8.8
2026	51.6	46.3	-5.3	49.8	42.7	-7.1	44.1	20.7	-23.4	43.1	32.1	-11.0
2027	35.4	46.5	11.1	34.5	43.8	9.3	31.4	20.7	-10.7	30.4	33.4	3.0
2028	35.6	43.8	8.2	34.7	41.8	7.1	31.6	19.9	-11.7	30.6	31.5	0.9
2029	35.8	44.1	8.3	34.9	41.8	6.9	31.7	19.9	-11.8	30.7	32.4	1.7
2030	39.4	44.5	5.1	38.5	41.7	3.2	29.2	19.9	-9.3	30.1	32.4	2.3
2031	39.8	44.7	4.9	38.9	41.7	2.8	29.6	29.6	0.0	30.4	33.6	3.2

Table 502 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 3												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	41.6	37.0	-4.6	39.4	37.1	-2.3	39.0	30.7	-8.3	43.9	40.9	-3.0
2025	45.0	42.2	-2.8	42.7	37.5	-5.2	42.1	31.3	-10.8	47.4	42.8	-4.6
2026	49.8	46.8	-3.0	47.5	37.5	-10.0	46.7	37.8	-8.9	52.6	45.3	-7.3
2027	34.5	46.9	12.4	33.7	41.2	7.5	32.6	38.2	5.6	36.7	47.0	10.3
2028	34.6	45.4	10.8	33.9	38.8	4.9	32.7	36.7	4.0	36.8	46.3	9.5
2029	34.8	45.4	10.6	34.1	40.0	5.9	32.9	37.4	4.5	37.1	48.6	11.5
2030	38.9	45.3	6.4	39.7	39.9	0.2	32.9	38.0	5.1	42.3	48.5	6.2
2031	39.3	45.3	6.0	40.1	41.1	1.0	33.2	38.1	4.9	42.8	48.4	5.6

Table 503 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 3												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	43.2	39.4	-3.8	34.9	29.3	-5.6	41.5	37.8	-3.7	39.7	40.2	0.5
2025	46.6	41.7	-4.9	37.9	30.0	-7.9	45.0	41.9	-3.1	42.8	43.1	0.3
2026	51.6	43.6	-8.0	42.1	31.0	-11.1	49.9	48.1	-1.8	47.4	45.4	-2.0
2027	35.2	45.5	10.3	29.7	33.0	3.3	35.6	48.4	12.8	32.9	46.6	13.7
2028	35.3	43.8	8.5	29.8	31.7	1.9	35.7	46.1	10.4	33.0	43.9	10.9
2029	35.6	45.4	9.8	30.0	33.1	3.1	35.9	47.7	11.8	33.2	44.1	10.9
2030	37.5	46.2	8.7	29.9	33.1	3.2	41.7	47.7	6.0	35.3	44.4	9.1
2031	37.8	46.1	8.3	30.2	33.3	3.1	42.2	47.7	5.5	35.6	44.5	8.9

Table 504 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 3									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	38.5	36.7	-1.8	41.1	34.3	-6.8	38.8	35.4	-3.4
2025	41.7	36.6	-5.1	44.4	38.7	-5.7	41.9	37.5	-4.4
2026	46.3	41.8	-4.5	49.3	39.8	-9.5	46.5	39.3	-7.2
2027	32.6	45.0	12.4	34.3	44.2	9.9	32.3	41.3	9.0
2028	32.8	42.0	9.2	34.5	41.4	6.9	32.4	39.4	7.0
2029	32.9	42.9	10.0	34.7	41.4	6.7	32.6	39.8	7.2
2030	37.7	42.9	5.2	39.3	41.8	2.5	34.6	40.0	5.4
2031	38.0	42.9	4.9	39.6	41.8	2.2	34.9	40.2	5.3

Table 505 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 3												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	47.6	35.8	-11.8	47.6	21.3	-26.3	48.8	34.3	-14.5	49.5	40.4	-9.1
2025	51.7	40.3	-11.4	51.7	21.3	-30.4	53.0	34.3	-18.7	53.8	43.9	-9.9
2026	57.4	44.5	-12.9	57.5	21.5	-36.0	58.9	34.3	-24.6	59.8	49.9	-9.9
2027	38.2	44.9	6.7	38.4	21.5	-16.9	38.9	40.0	1.1	39.3	51.4	12.1
2028	38.5	45.0	6.5	38.7	22.0	-16.7	39.3	38.1	-1.2	39.7	48.1	8.4
2029	38.8	45.0	6.2	39.1	22.0	-17.1	39.6	38.1	-1.5	40.1	49.8	9.7
2030	38.9	42.8	3.9	40.0	23.0	-17.0	39.5	41.3	1.8	40.1	46.3	6.2
2031	39.3	43.5	4.2	40.4	24.2	-16.2	39.9	41.3	1.4	40.5	46.5	6.0

Table 506 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 3												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.1	48.4	-0.7	48.6	42.6	-6.0	0.0	0.0	0.0	47.4	29.4	-18.0
2025	53.4	48.8	-4.6	52.9	44.1	-8.8	0.0	0.0	0.0	51.5	29.4	-22.1
2026	59.3	50.5	-8.8	58.7	44.7	-14.0	0.0	0.0	0.0	57.2	44.8	-12.4
2027	39.1	50.5	11.4	38.8	47.1	8.3	0.0	0.0	0.0	38.1	44.8	6.7
2028	39.5	47.4	7.9	39.1	46.0	6.9	0.0	0.0	0.0	38.4	42.6	4.2
2029	39.8	48.2	8.4	39.5	46.1	6.6	0.0	0.0	0.0	38.8	42.6	3.8
2030	40.0	44.9	4.9	39.3	42.3	3.0	0.0	0.0	0.0	38.9	40.1	1.2
2031	40.4	45.1	4.7	39.7	42.3	2.6	0.0	0.0	0.0	39.3	40.1	0.8

Table 507 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 3												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.7	44.4	-5.3	50.7	41.4	-9.3	46.1	35.1	-11.0	55.4	55.3	-0.1
2025	54.0	50.5	-3.5	55.1	41.4	-13.7	50.1	36.3	-13.8	60.2	55.3	-4.9
2026	60.0	53.8	-6.2	61.2	41.4	-19.8	55.7	37.7	-18.0	66.9	79.6	12.7
2027	39.5	54.9	15.4	39.8	48.1	8.3	37.4	38.8	1.4	41.4	79.8	38.4
2028	39.8	52.8	13.0	40.2	46.1	5.9	37.8	38.7	0.9	41.8	76.9	35.1
2029	40.2	52.8	12.6	40.5	46.1	5.6	38.1	41.2	3.1	42.2	76.9	34.7
2030	38.9	45.3	6.4	39.7	39.9	0.2	38.4	38.8	0.4	42.3	48.5	6.2
2031	39.3	45.3	6.0	40.1	41.1	1.0	38.8	39.1	0.3	42.8	48.4	5.6

Table 508 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 3												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.6	46.1	-3.5	50.5	40.5	-10.0	50.5	37.4	-13.1	49.3	47.8	-1.5
2025	53.9	50.0	-3.9	54.9	41.0	-13.9	54.9	38.3	-16.6	53.6	51.8	-1.8
2026	59.9	53.0	-6.9	61.0	41.0	-20.0	61.0	43.7	-17.3	59.5	55.4	-4.1
2027	39.4	56.1	16.7	40.0	46.9	6.9	39.9	45.6	5.7	39.3	58.0	18.7
2028	39.7	56.1	16.4	40.3	44.5	4.2	40.3	43.9	3.6	39.6	55.2	15.6
2029	40.1	56.1	16.0	40.7	44.5	3.8	40.7	47.5	6.8	40.0	55.5	15.5
2030	40.2	49.9	9.7	37.2	37.6	0.4	41.7	47.7	6.0	39.8	51.8	12.0
2031	40.6	49.8	9.2	37.6	37.6	0.0	42.2	47.7	5.5	40.2	52.1	11.9

Table 509 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 3									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	46.8	38.9	-7.9	50.2	37.6	-12.6	49.3	43.2	-6.1
2025	50.9	38.9	-12.0	54.6	41.7	-12.9	53.6	46.1	-7.5
2026	56.6	49.4	-7.2	60.6	42.8	-17.8	59.5	49.2	-10.3
2027	37.7	50.5	12.8	39.7	46.1	6.4	39.2	51.3	12.1
2028	38.1	49.7	11.6	40.0	44.7	4.7	39.6	49.2	9.6
2029	38.4	49.7	11.3	40.4	44.7	4.3	39.9	49.9	10.0
2030	37.7	42.9	5.2	40.1	42.5	2.4	39.8	45.4	5.6
2031	38.0	42.9	4.9	40.5	42.5	2.0	40.2	45.5	5.3

Table 510 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 3												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	36.4	33.1	-3.3	0.0	0.0	0.0	33.4	32.0	-1.4	32.1	28.1	-4.0
2025	39.6	37.3	-2.3	0.0	0.0	0.0	36.3	33.4	-2.9	34.9	29.7	-5.2
2026	43.9	37.6	-6.3	0.0	0.0	0.0	40.4	33.4	-7.0	38.8	30.4	-8.4
2027	31.2	41.1	9.9	0.0	0.0	0.0	28.4	37.5	9.1	27.2	32.6	5.4
2028	31.4	38.1	6.7	0.0	0.0	0.0	28.6	35.0	6.4	27.3	32.0	4.7
2029	31.6	38.2	6.6	0.0	0.0	0.0	28.7	35.0	6.3	27.5	32.1	4.6
2030	28.2	35.3	7.1	0.0	0.0	0.0	26.0	33.3	7.3	24.8	28.3	3.5
2031	28.5	35.3	6.8	0.0	0.0	0.0	26.2	33.3	7.1	25.1	28.6	3.5

Table 511 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 3												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	37.4	37.6	0.2	37.4	35.1	-2.3	36.6	20.7	-15.9	35.3	28.3	-7.0
2025	40.7	40.6	-0.1	40.7	37.1	-3.6	39.7	20.7	-19.0	38.4	30.0	-8.4
2026	45.2	42.4	-2.8	45.2	41.5	-3.7	44.1	20.7	-23.4	42.7	31.7	-11.0
2027	32.2	42.9	10.7	32.3	42.0	9.7	31.4	20.7	-10.7	30.2	33.1	2.9
2028	32.4	40.6	8.2	32.4	39.6	7.2	31.6	19.9	-11.7	30.4	31.2	0.8
2029	32.6	40.6	8.0	32.6	39.6	7.0	31.7	19.9	-11.8	30.5	32.1	1.6
2030	27.1	35.7	8.6	28.8	34.4	5.6	29.2	19.9	-9.3	28.0	30.4	2.4
2031	27.4	35.7	8.3	29.1	34.4	5.3	29.6	29.6	0.0	28.3	31.8	3.5

Table 512 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 3												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	37.0	32.9	-4.1	38.5	36.7	-1.8	35.8	28.6	-7.2	40.8	37.3	-3.5
2025	40.3	37.9	-2.4	41.8	37.2	-4.6	38.9	29.2	-9.7	44.3	39.8	-4.5
2026	44.7	43.0	-1.7	46.5	37.2	-9.3	43.2	37.8	-5.4	49.2	39.8	-9.4
2027	31.9	43.0	11.1	33.2	40.7	7.5	30.7	37.9	7.2	35.5	41.8	6.3
2028	32.0	41.8	9.8	33.4	38.3	4.9	30.8	35.9	5.1	35.6	41.4	5.8
2029	32.2	41.8	9.6	33.6	39.5	5.9	31.0	35.9	4.9	35.8	43.9	8.1
2030	0.0	0.0	0.0	0.0	0.0	0.0	28.3	37.1	8.8	0.0	0.0	0.0
2031	0.0	0.0	0.0	0.0	0.0	0.0	28.6	37.1	8.5	0.0	0.0	0.0

Table 513 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 3												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	36.2	32.4	-3.8	34.5	29.0	-5.5	40.4	37.9	-2.5	35.7	36.9	1.2
2025	39.4	34.0	-5.4	37.5	29.8	-7.7	43.9	42.5	-1.4	38.8	39.7	0.9
2026	43.7	35.4	-8.3	41.7	30.8	-10.9	48.7	48.8	0.1	43.1	41.7	-1.4
2027	31.1	36.9	5.8	29.5	32.7	3.2	35.1	48.8	13.7	30.6	42.7	12.1
2028	31.2	34.7	3.5	29.6	31.5	1.9	35.2	46.4	11.2	30.7	40.2	9.5
2029	31.4	37.2	5.8	29.8	32.9	3.1	35.4	47.7	12.3	30.9	40.4	9.5
2030	27.5	33.0	5.5	27.3	31.3	4.0	0.0	0.0	0.0	26.2	30.9	4.7
2031	27.8	33.0	5.2	27.6	31.6	4.0	0.0	0.0	0.0	26.5	31.0	4.5

Table 514 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 3									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	37.0	36.2	-0.8	37.8	32.9	-4.9	35.4	32.7	-2.7
2025	40.2	36.2	-4.0	41.1	37.5	-3.6	38.4	34.8	-3.6
2026	44.7	40.5	-4.2	45.7	38.7	-7.0	42.7	36.3	-6.4
2027	31.8	44.1	12.3	32.6	43.5	10.9	30.3	38.5	8.2
2028	32.0	40.8	8.8	32.8	40.3	7.5	30.4	36.7	6.3
2029	32.1	41.9	9.8	33.0	40.3	7.3	30.6	37.1	6.5
2030	0.0	0.0	0.0	28.9	32.6	3.7	26.2	31.1	4.9
2031	0.0	0.0	0.0	29.2	32.6	3.4	26.4	31.3	4.9

Table 515 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 3												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	0.0	0.0	0.0	0.0	0.0	0.0	48.8	34.3	-14.5	48.4	37.0	-11.4
2025	0.0	0.0	0.0	0.0	0.0	0.0	53.0	34.3	-18.7	52.6	43.3	-9.3
2026	0.0	0.0	0.0	0.0	0.0	0.0	58.9	34.3	-24.6	58.5	51.4	-7.1
2027	0.0	0.0	0.0	0.0	0.0	0.0	38.9	40.0	1.1	38.7	51.4	12.7
2028	0.0	0.0	0.0	0.0	0.0	0.0	39.3	38.1	-1.2	39.1	48.1	9.0
2029	0.0	0.0	0.0	0.0	0.0	0.0	39.6	38.1	-1.5	39.4	51.4	12.0
2030	0.0	0.0	0.0	0.0	0.0	0.0	42.0	42.9	0.9	39.1	45.0	5.9
2031	0.0	0.0	0.0	0.0	0.0	0.0	42.4	43.0	0.6	39.4	45.2	5.8

Table 516 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 3												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.1	48.4	-0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	53.4	48.8	-4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2026	59.3	50.5	-8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2027	39.1	50.5	11.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2028	39.5	47.4	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2029	39.8	48.2	8.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2030	40.0	44.9	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2031	40.4	45.1	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 517 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 3												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	50.6	46.0	-4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	55.0	46.0	-9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2026	61.1	46.0	-15.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2027	40.0	48.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2028	40.4	46.2	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2029	40.7	46.2	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2030	42.6	46.2	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2031	43.0	46.2	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 518 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 3												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.6	46.6	-3.0	0.0	0.0	0.0	0.0	0.0	0.0	47.7	44.2	-3.5
2025	53.9	51.5	-2.4	0.0	0.0	0.0	0.0	0.0	0.0	51.8	62.7	10.9
2026	59.9	54.7	-5.2	0.0	0.0	0.0	0.0	0.0	0.0	57.6	62.7	5.1
2027	39.4	58.0	18.6	0.0	0.0	0.0	0.0	0.0	0.0	38.3	62.7	24.4
2028	39.7	58.6	18.9	0.0	0.0	0.0	0.0	0.0	0.0	38.6	59.1	20.5
2029	40.1	58.6	18.5	0.0	0.0	0.0	0.0	0.0	0.0	39.0	59.1	20.1
2030	39.8	52.3	12.5	36.6	37.0	0.4	0.0	0.0	0.0	38.8	50.1	11.3
2031	40.2	52.2	12.0	37.0	37.0	0.0	0.0	0.0	0.0	39.2	51.6	12.4

Table 519 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 3									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	46.6	41.4	-5.2	44.3	30.7	-13.6	49.0	43.5	-5.5
2025	50.7	41.4	-9.3	48.1	30.7	-17.4	53.2	47.2	-6.0
2026	56.3	56.9	0.6	53.5	30.7	-22.8	59.1	50.1	-9.0
2027	37.6	56.9	19.3	36.1	44.1	8.0	39.0	51.9	12.9
2028	38.0	53.3	15.3	36.4	42.2	5.8	39.4	49.5	10.1
2029	38.3	53.3	15.0	36.7	42.2	5.5	39.7	50.4	10.7
2030	39.0	53.3	14.3	36.6	37.4	0.8	39.4	44.6	5.2
2031	39.4	53.3	13.9	36.9	37.4	0.5	39.8	44.7	4.9

Table 520 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 3												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	47.6	35.8	-11.8	47.6	21.3	-26.3	0.0	0.0	0.0	50.6	44.5	-6.1
2025	51.7	40.3	-11.4	51.7	21.3	-30.4	0.0	0.0	0.0	55.0	44.5	-10.5
2026	57.4	44.5	-12.9	57.5	21.5	-36.0	0.0	0.0	0.0	61.2	48.5	-12.7
2027	38.2	44.9	6.7	38.4	21.5	-16.9	0.0	0.0	0.0	40.0	51.4	11.4
2028	38.5	45.0	6.5	38.7	22.0	-16.7	0.0	0.0	0.0	40.4	48.1	7.7
2029	38.8	45.0	6.2	39.1	22.0	-17.1	0.0	0.0	0.0	40.8	48.3	7.5
2030	38.9	42.8	3.9	40.0	23.0	-17.0	37.5	40.0	2.5	42.3	49.1	6.8
2031	39.3	43.5	4.2	40.4	24.2	-16.2	37.9	40.0	2.1	42.8	49.1	6.3

Table 521 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 3												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	0.0	0.0	0.0	48.6	42.6	-6.0	0.0	0.0	0.0	47.4	29.4	-18.0
2025	0.0	0.0	0.0	52.9	44.1	-8.8	0.0	0.0	0.0	51.5	29.4	-22.1
2026	0.0	0.0	0.0	58.7	44.7	-14.0	0.0	0.0	0.0	57.2	44.8	-12.4
2027	0.0	0.0	0.0	38.8	47.1	8.3	0.0	0.0	0.0	38.1	44.8	6.7
2028	0.0	0.0	0.0	39.1	46.0	6.9	0.0	0.0	0.0	38.4	42.6	4.2
2029	0.0	0.0	0.0	39.5	46.1	6.6	0.0	0.0	0.0	38.8	42.6	3.8
2030	0.0	0.0	0.0	39.3	42.3	3.0	0.0	0.0	0.0	38.9	40.1	1.2
2031	0.0	0.0	0.0	39.7	42.3	2.6	0.0	0.0	0.0	39.3	40.1	0.8

Table 522 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 3												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.2	43.4	-5.8	50.7	41.4	-9.3	46.1	35.1	-11.0	55.4	55.3	-0.1
2025	53.4	53.8	0.4	55.1	41.4	-13.7	50.1	36.3	-13.8	60.2	55.3	-4.9
2026	59.4	60.3	0.9	61.2	41.4	-19.8	55.7	37.7	-18.0	66.9	79.6	12.7
2027	39.2	60.3	21.1	39.8	48.1	8.3	37.4	38.8	1.4	41.4	79.8	38.4
2028	39.5	58.0	18.5	40.2	46.1	5.9	37.8	38.7	0.9	41.8	76.9	35.1
2029	39.9	58.0	18.1	40.5	46.1	5.6	38.1	41.2	3.1	42.2	76.9	34.7
2030	38.4	45.2	6.8	39.7	39.9	0.2	38.4	38.8	0.4	42.3	48.5	6.2
2031	38.8	45.1	6.3	40.1	41.1	1.0	38.8	39.1	0.3	42.8	48.4	5.6

Table 523 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 3												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.6	43.6	-6.0	50.5	40.5	-10.0	50.5	37.4	-13.1	49.7	48.7	-1.0
2025	54.0	43.6	-10.4	54.9	41.0	-13.9	54.9	38.3	-16.6	54.0	49.8	-4.2
2026	60.0	45.7	-14.3	61.0	41.0	-20.0	61.0	43.7	-17.3	60.0	53.9	-6.1
2027	39.4	48.0	8.6	40.0	46.9	6.9	39.9	45.6	5.7	39.5	57.0	17.5
2028	39.8	46.0	6.2	40.3	44.5	4.2	40.3	43.9	3.6	39.8	54.4	14.6
2029	40.2	46.0	5.8	40.7	44.5	3.8	40.7	47.5	6.8	40.2	54.7	14.5
2030	41.1	45.3	4.2	41.3	41.7	0.4	41.7	47.7	6.0	39.9	52.0	12.1
2031	41.6	45.3	3.7	41.7	41.7	0.0	42.2	47.7	5.5	40.3	52.1	11.8

Table 524 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 3

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 3									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	47.8	31.7	-16.1	50.7	38.2	-12.5	49.5	43.0	-6.5
2025	51.9	31.7	-20.2	55.1	42.8	-12.3	53.9	45.2	-8.7
2026	57.7	32.9	-24.8	61.2	44.1	-17.1	59.8	48.4	-11.4
2027	38.3	35.4	-2.9	40.0	46.3	6.3	39.4	50.8	11.4
2028	38.7	39.7	1.0	40.3	44.9	4.6	39.7	49.0	9.3
2029	39.0	39.7	0.7	40.7	44.9	4.2	40.1	49.4	9.3
2030	37.5	41.8	4.3	41.5	44.5	3.0	40.0	45.8	5.8
2031	37.8	41.8	4.0	41.9	44.6	2.7	40.4	45.9	5.5

Table 525 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 4												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	40.7	34.3	-6.4	47.6	21.3	-26.3	34.4	32.2	-2.2	35.9	30.9	-5.0
2025	44.0	38.5	-5.5	51.7	21.3	-30.4	37.3	33.5	-3.8	38.8	32.7	-6.1
2026	48.7	40.2	-8.5	57.5	21.5	-36.0	41.5	33.5	-8.0	43.0	34.1	-8.9
2027	37.2	43.3	6.1	42.9	21.5	-21.4	31.8	38.1	6.3	32.6	36.1	3.5
2028	37.7	41.4	3.7	43.5	22.0	-21.5	32.3	35.8	3.5	33.0	35.0	2.0
2029	38.2	41.5	3.3	44.0	22.0	-22.0	32.8	35.8	3.0	33.4	35.3	1.9
2030	39.7	41.6	1.9	44.9	23.0	-21.9	33.3	36.6	3.3	34.3	35.3	1.0
2031	39.8	42.0	2.2	45.1	24.2	-20.9	33.5	36.6	3.1	34.5	35.5	1.0

Table 526 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 4												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	43.1	42.9	-0.2	41.5	38.0	-3.5	36.6	20.7	-15.9	35.7	28.3	-7.4
2025	46.6	44.6	-2.0	45.0	39.7	-5.3	39.7	20.7	-19.0	38.8	30.0	-8.8
2026	51.6	46.3	-5.3	49.8	42.7	-7.1	44.1	20.7	-23.4	43.1	32.1	-11.0
2027	39.1	46.5	7.4	38.1	44.0	5.9	34.4	20.7	-13.7	33.4	34.3	0.9
2028	39.6	43.8	4.2	38.6	42.4	3.8	34.9	19.9	-15.0	33.9	32.3	-1.6
2029	40.2	44.1	3.9	39.1	43.4	4.3	35.4	19.9	-15.5	34.4	34.3	-0.1
2030	44.2	44.5	0.3	43.1	43.6	0.5	32.6	19.9	-12.7	33.6	34.3	0.7
2031	44.4	44.7	0.3	43.3	43.5	0.2	32.7	31.0	-1.7	33.8	35.5	1.7

Table 527 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 4												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	41.6	37.0	-4.6	39.4	37.1	-2.3	39.0	30.7	-8.3	43.9	40.9	-3.0
2025	45.0	42.2	-2.8	42.7	37.5	-5.2	42.1	31.3	-10.8	47.4	42.8	-4.6
2026	49.8	46.8	-3.0	47.5	37.5	-10.0	46.7	37.8	-8.9	52.6	45.3	-7.3
2027	38.0	46.9	8.9	37.0	45.4	8.4	35.9	38.6	2.7	40.3	47.0	6.7
2028	38.5	45.4	6.9	37.5	42.4	4.9	36.3	37.1	0.8	40.9	46.3	5.4
2029	39.0	45.7	6.7	38.0	44.7	6.7	36.8	37.9	1.1	41.5	48.6	7.1
2030	43.7	45.7	2.0	44.6	44.6	0.0	36.7	40.1	3.4	47.5	48.5	1.0
2031	43.9	45.6	1.7	44.8	46.2	1.4	36.9	40.3	3.4	47.7	48.4	0.7

Table 528 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 4												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	43.2	39.4	-3.8	34.9	29.3	-5.6	41.5	37.8	-3.7	39.7	40.2	0.5
2025	46.6	41.7	-4.9	37.9	30.0	-7.9	45.0	41.9	-3.1	42.8	43.1	0.3
2026	51.6	43.6	-8.0	42.1	31.0	-11.1	49.9	48.1	-1.8	47.4	45.4	-2.0
2027	38.9	45.7	6.8	32.5	34.3	1.8	39.0	48.4	9.4	36.2	46.6	10.4
2028	39.4	44.1	4.7	33.0	33.2	0.2	39.6	46.1	6.5	36.7	43.9	7.2
2029	39.9	45.7	5.8	33.5	35.2	1.7	40.2	47.7	7.5	37.2	44.1	6.9
2030	42.0	46.5	4.5	33.4	35.4	2.0	46.8	47.7	0.9	39.5	44.4	4.9
2031	42.2	46.4	4.2	33.6	35.4	1.8	47.1	47.7	0.6	39.6	44.5	4.9

Table 529 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 4									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	38.5	36.7	-1.8	41.1	34.3	-6.8	38.8	35.4	-3.4
2025	41.7	36.6	-5.1	44.4	38.7	-5.7	41.9	37.5	-4.4
2026	46.3	41.8	-4.5	49.3	39.8	-9.5	46.5	39.3	-7.2
2027	35.8	45.3	9.5	37.8	46.4	8.6	35.5	41.8	6.3
2028	36.4	42.3	5.9	38.4	44.3	5.9	36.0	39.9	3.9
2029	36.9	43.3	6.4	38.9	44.3	5.4	36.5	40.6	4.1
2030	42.2	43.3	1.1	44.0	44.2	0.2	38.7	40.9	2.2
2031	42.4	43.2	0.8	44.3	44.3	0.0	38.9	41.0	2.1

Table 530 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 4												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	47.6	35.8	-11.8	47.6	21.3	-26.3	48.8	34.3	-14.5	49.5	40.4	-9.1
2025	51.7	40.3	-11.4	51.7	21.3	-30.4	53.0	34.3	-18.7	53.8	43.9	-9.9
2026	57.4	44.5	-12.9	57.5	21.5	-36.0	58.9	34.3	-24.6	59.8	49.9	-9.9
2027	42.7	44.9	2.2	42.9	21.5	-21.4	43.5	40.0	-3.5	44.0	51.4	7.4
2028	43.2	45.5	2.3	43.5	22.0	-21.5	44.1	38.1	-6.0	44.6	48.1	3.5
2029	43.8	45.5	1.7	44.0	22.0	-22.0	44.7	38.1	-6.6	45.2	49.8	4.6
2030	43.6	43.7	0.1	44.9	23.0	-21.9	44.3	43.5	-0.8	45.0	46.3	1.3
2031	43.8	44.3	0.5	45.1	24.2	-20.9	44.5	43.5	-1.0	45.2	46.5	1.3

Table 531 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 4												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.1	48.4	-0.7	48.6	42.6	-6.0	0.0	0.0	0.0	47.4	29.4	-18.0
2025	53.4	48.8	-4.6	52.9	44.1	-8.8	0.0	0.0	0.0	51.5	29.4	-22.1
2026	59.3	50.5	-8.8	58.7	44.7	-14.0	0.0	0.0	0.0	57.2	44.8	-12.4
2027	43.7	50.5	6.8	43.4	47.6	4.2	0.0	0.0	0.0	42.6	44.8	2.2
2028	44.3	47.4	3.1	43.9	46.8	2.9	0.0	0.0	0.0	43.2	42.6	-0.6
2029	44.9	48.2	3.3	44.5	47.4	2.9	0.0	0.0	0.0	43.7	42.6	-1.1
2030	44.9	44.9	0.0	44.1	44.3	0.2	0.0	0.0	0.0	43.7	44.7	1.0
2031	45.1	45.1	0.0	44.3	44.3	0.0	0.0	0.0	0.0	43.9	44.7	0.8

Table 532 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 4												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.7	44.4	-5.3	50.7	41.4	-9.3	46.1	35.1	-11.0	55.4	55.3	-0.1
2025	54.0	50.5	-3.5	55.1	41.4	-13.7	50.1	36.3	-13.8	60.2	55.3	-4.9
2026	60.0	53.8	-6.2	61.2	41.4	-19.8	55.7	37.7	-18.0	66.9	79.6	12.7
2027	44.1	54.9	10.8	44.5	63.6	19.1	41.9	39.6	-2.3	46.3	79.8	33.5
2028	44.7	52.8	8.1	45.1	60.1	15.0	42.4	39.7	-2.7	46.9	76.9	30.0
2029	45.3	54.0	8.7	45.7	60.1	14.4	43.0	42.9	-0.1	47.6	76.9	29.3
2030	43.7	45.7	2.0	44.6	44.6	0.0	43.1	43.2	0.1	47.5	48.5	1.0
2031	43.9	45.6	1.7	44.8	46.2	1.4	43.4	43.6	0.2	47.7	48.4	0.7

Table 533 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 4												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.6	46.1	-3.5	50.5	40.5	-10.0	50.5	37.4	-13.1	49.3	47.8	-1.5
2025	53.9	50.0	-3.9	54.9	41.0	-13.9	54.9	38.3	-16.6	53.6	51.8	-1.8
2026	59.9	53.0	-6.9	61.0	41.0	-20.0	61.0	43.7	-17.3	59.5	55.4	-4.1
2027	44.0	56.1	12.1	44.7	47.4	2.7	44.7	45.7	1.0	43.8	58.0	14.2
2028	44.6	56.1	11.5	45.3	44.9	-0.4	45.2	44.1	-1.1	44.4	55.2	10.8
2029	45.2	56.1	10.9	45.9	44.9	-1.0	45.9	47.6	1.7	45.0	55.5	10.5
2030	45.2	50.3	5.1	41.8	41.5	-0.3	46.8	47.7	0.9	44.7	51.8	7.1
2031	45.4	50.3	4.9	42.0	41.4	-0.6	47.1	47.7	0.6	44.9	52.1	7.2

Table 534 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 4									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	46.8	38.9	-7.9	50.2	37.6	-12.6	49.3	43.2	-6.1
2025	50.9	38.9	-12.0	54.6	41.7	-12.9	53.6	46.1	-7.5
2026	56.6	49.4	-7.2	60.6	42.8	-17.8	59.5	49.2	-10.3
2027	42.2	50.5	8.3	44.4	46.5	2.1	43.8	51.5	7.7
2028	42.8	50.3	7.5	45.0	48.4	3.4	44.4	49.7	5.3
2029	43.4	50.3	6.9	45.6	48.4	2.8	45.0	50.5	5.5
2030	42.2	43.3	1.1	45.0	45.2	0.2	44.7	46.5	1.8
2031	42.4	43.2	0.8	45.2	45.2	0.0	44.9	46.7	1.8

Table 535 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 4												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	36.4	33.1	-3.3	0.0	0.0	0.0	33.4	32.0	-1.4	32.1	28.1	-4.0
2025	39.6	37.3	-2.3	0.0	0.0	0.0	36.3	33.4	-2.9	34.9	29.7	-5.2
2026	43.9	37.6	-6.3	0.0	0.0	0.0	40.4	33.4	-7.0	38.8	30.4	-8.4
2027	34.2	42.2	8.0	0.0	0.0	0.0	31.1	37.9	6.8	29.8	32.6	2.8
2028	34.7	39.1	4.4	0.0	0.0	0.0	31.6	35.6	4.0	30.2	32.0	1.8
2029	35.3	39.3	4.0	0.0	0.0	0.0	32.1	35.6	3.5	30.7	32.1	1.4
2030	31.4	36.6	5.2	0.0	0.0	0.0	28.9	33.3	4.4	27.6	28.3	0.7
2031	31.6	36.6	5.0	0.0	0.0	0.0	29.1	33.3	4.2	27.8	28.6	0.8

Table 536 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 4												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	37.4	37.6	0.2	37.4	35.1	-2.3	36.6	20.7	-15.9	35.3	28.3	-7.0
2025	40.7	40.6	-0.1	40.7	37.1	-3.6	39.7	20.7	-19.0	38.4	30.0	-8.4
2026	45.2	42.4	-2.8	45.2	41.5	-3.7	44.1	20.7	-23.4	42.7	31.7	-11.0
2027	35.3	42.9	7.6	35.3	42.0	6.7	34.4	20.7	-13.7	33.1	34.0	0.9
2028	35.8	40.6	4.8	35.9	40.1	4.2	34.9	19.9	-15.0	33.6	32.0	-1.6
2029	36.4	40.6	4.2	36.4	41.3	4.9	35.4	19.9	-15.5	34.1	34.1	0.0
2030	30.2	35.7	5.5	32.1	34.4	2.3	32.6	19.9	-12.7	31.2	31.8	0.6
2031	30.3	35.7	5.4	32.2	34.4	2.2	32.7	31.0	-1.7	31.4	33.2	1.8

Table 537 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 4												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	37.0	32.9	-4.1	38.5	36.7	-1.8	35.8	28.6	-7.2	40.8	37.3	-3.5
2025	40.3	37.9	-2.4	41.8	37.2	-4.6	38.9	29.2	-9.7	44.3	39.8	-4.5
2026	44.7	43.0	-1.7	46.5	37.2	-9.3	43.2	37.8	-5.4	49.2	39.8	-9.4
2027	34.9	43.0	8.1	36.4	44.2	7.8	33.6	38.1	4.5	38.8	41.8	3.0
2028	35.4	41.8	6.4	37.0	41.3	4.3	34.1	36.0	1.9	39.4	41.4	2.0
2029	36.0	41.8	5.8	37.5	43.7	6.2	34.6	36.0	1.4	40.0	43.9	3.9
2030	0.0	0.0	0.0	0.0	0.0	0.0	31.5	37.1	5.6	0.0	0.0	0.0
2031	0.0	0.0	0.0	0.0	0.0	0.0	31.6	37.1	5.5	0.0	0.0	0.0

Table 538 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 4												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	36.2	32.4	-3.8	34.5	29.0	-5.5	40.4	37.9	-2.5	35.7	36.9	1.2
2025	39.4	34.0	-5.4	37.5	29.8	-7.7	43.9	42.5	-1.4	38.8	39.7	0.9
2026	43.7	35.4	-8.3	41.7	30.8	-10.9	48.7	48.8	0.1	43.1	41.7	-1.4
2027	34.0	37.3	3.3	32.3	34.0	1.7	38.4	48.8	10.4	33.5	42.7	9.2
2028	34.6	35.1	0.5	32.8	33.0	0.2	39.0	46.4	7.4	34.0	40.2	6.2
2029	35.1	37.6	2.5	33.3	35.0	1.7	39.6	47.7	8.1	34.5	40.4	5.9
2030	30.7	33.0	2.3	30.4	33.0	2.6	0.0	0.0	0.0	29.2	30.9	1.7
2031	30.8	33.0	2.2	30.6	33.0	2.4	0.0	0.0	0.0	29.3	31.0	1.7

Table 539 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 4									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	37.0	36.2	-0.8	37.8	32.9	-4.9	35.4	32.7	-2.7
2025	40.2	36.2	-4.0	41.1	37.5	-3.6	38.4	34.8	-3.6
2026	44.7	40.5	-4.2	45.7	38.7	-7.0	42.7	36.3	-6.4
2027	34.8	44.4	9.6	35.7	46.3	10.6	33.1	39.0	5.9
2028	35.4	41.1	5.7	36.3	42.9	6.6	33.7	37.2	3.5
2029	35.9	42.2	6.3	36.8	42.9	6.1	34.2	37.9	3.7
2030	0.0	0.0	0.0	32.2	32.6	0.4	29.1	31.4	2.3
2031	0.0	0.0	0.0	32.4	32.6	0.2	29.3	31.6	2.3

Table 540 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 4												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	0.0	0.0	0.0	0.0	0.0	0.0	48.8	34.3	-14.5	48.4	37.0	-11.4
2025	0.0	0.0	0.0	0.0	0.0	0.0	53.0	34.3	-18.7	52.6	43.3	-9.3
2026	0.0	0.0	0.0	0.0	0.0	0.0	58.9	34.3	-24.6	58.5	51.4	-7.1
2027	0.0	0.0	0.0	0.0	0.0	0.0	43.5	40.0	-3.5	43.3	51.4	8.1
2028	0.0	0.0	0.0	0.0	0.0	0.0	44.1	38.1	-6.0	43.9	48.1	4.2
2029	0.0	0.0	0.0	0.0	0.0	0.0	44.7	38.1	-6.6	44.5	51.4	6.9
2030	0.0	0.0	0.0	0.0	0.0	0.0	47.1	44.8	-2.3	43.8	45.0	1.2
2031	0.0	0.0	0.0	0.0	0.0	0.0	47.3	44.9	-2.4	44.0	45.2	1.2

Table 541 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 4												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.1	48.4	-0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	53.4	48.8	-4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2026	59.3	50.5	-8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2027	43.7	50.5	6.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2028	44.3	47.4	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2029	44.9	48.2	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2030	44.9	44.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2031	45.1	45.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 542 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 4												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	50.6	46.0	-4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	55.0	46.0	-9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2026	61.1	46.0	-15.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2027	44.7	48.1	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2028	45.3	46.2	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2029	45.9	48.6	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2030	47.8	48.6	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2031	48.1	48.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 543 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 4												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.6	46.6	-3.0	0.0	0.0	0.0	0.0	0.0	0.0	47.7	44.2	-3.5
2025	53.9	51.5	-2.4	0.0	0.0	0.0	0.0	0.0	0.0	51.8	62.7	10.9
2026	59.9	54.7	-5.2	0.0	0.0	0.0	0.0	0.0	0.0	57.6	62.7	5.1
2027	44.0	58.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0	42.8	62.7	19.9
2028	44.6	58.6	14.0	0.0	0.0	0.0	0.0	0.0	0.0	43.4	59.1	15.7
2029	45.2	58.6	13.4	0.0	0.0	0.0	0.0	0.0	0.0	43.9	59.1	15.2
2030	44.7	52.3	7.6	41.1	41.3	0.2	0.0	0.0	0.0	43.6	50.1	6.5
2031	44.9	52.2	7.3	41.3	41.3	0.0	0.0	0.0	0.0	43.7	51.6	7.9

Table 544 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 4									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	46.6	41.4	-5.2	44.3	30.7	-13.6	49.0	43.5	-5.5
2025	50.7	41.4	-9.3	48.1	30.7	-17.4	53.2	47.2	-6.0
2026	56.3	56.9	0.6	53.5	30.7	-22.8	59.1	50.1	-9.0
2027	42.1	56.9	14.8	40.3	44.1	3.8	43.6	51.9	8.3
2028	42.7	53.3	10.6	40.9	42.2	1.3	44.2	49.5	5.3
2029	43.2	53.3	10.1	41.4	42.2	0.8	44.8	50.6	5.8
2030	43.7	53.3	9.6	41.0	41.2	0.2	44.2	45.6	1.4
2031	44.0	53.3	9.3	41.2	41.2	0.0	44.4	45.8	1.4

Table 545 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 4												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	47.6	35.8	-11.8	47.6	21.3	-26.3	0.0	0.0	0.0	50.6	44.5	-6.1
2025	51.7	40.3	-11.4	51.7	21.3	-30.4	0.0	0.0	0.0	55.0	44.5	-10.5
2026	57.4	44.5	-12.9	57.5	21.5	-36.0	0.0	0.0	0.0	61.2	48.5	-12.7
2027	42.7	44.9	2.2	42.9	21.5	-21.4	0.0	0.0	0.0	44.8	51.4	6.6
2028	43.2	45.5	2.3	43.5	22.0	-21.5	0.0	0.0	0.0	45.4	48.1	2.7
2029	43.8	45.5	1.7	44.0	22.0	-22.0	0.0	0.0	0.0	46.0	48.3	2.3
2030	43.6	43.7	0.1	44.9	23.0	-21.9	42.1	42.4	0.3	47.5	49.1	1.6
2031	43.8	44.3	0.5	45.1	24.2	-20.9	42.3	42.4	0.1	47.7	49.1	1.4

Table 546 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 4												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	0.0	0.0	0.0	48.6	42.6	-6.0	0.0	0.0	0.0	47.4	29.4	-18.0
2025	0.0	0.0	0.0	52.9	44.1	-8.8	0.0	0.0	0.0	51.5	29.4	-22.1
2026	0.0	0.0	0.0	58.7	44.7	-14.0	0.0	0.0	0.0	57.2	44.8	-12.4
2027	0.0	0.0	0.0	43.4	47.6	4.2	0.0	0.0	0.0	42.6	44.8	2.2
2028	0.0	0.0	0.0	43.9	46.8	2.9	0.0	0.0	0.0	43.2	42.6	-0.6
2029	0.0	0.0	0.0	44.5	47.4	2.9	0.0	0.0	0.0	43.7	42.6	-1.1
2030	0.0	0.0	0.0	44.1	44.3	0.2	0.0	0.0	0.0	43.7	44.7	1.0
2031	0.0	0.0	0.0	44.3	44.3	0.0	0.0	0.0	0.0	43.9	44.7	0.8

Table 547 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 4												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.2	43.4	-5.8	50.7	41.4	-9.3	46.1	35.1	-11.0	55.4	55.3	-0.1
2025	53.4	53.8	0.4	55.1	41.4	-13.7	50.1	36.3	-13.8	60.2	55.3	-4.9
2026	59.4	60.3	0.9	61.2	41.4	-19.8	55.7	37.7	-18.0	66.9	79.6	12.7
2027	43.8	60.3	16.5	44.5	63.6	19.1	41.9	39.6	-2.3	46.3	79.8	33.5
2028	44.4	58.0	13.6	45.1	60.1	15.0	42.4	39.7	-2.7	46.9	76.9	30.0
2029	45.0	58.0	13.0	45.7	60.1	14.4	43.0	42.9	-0.1	47.6	76.9	29.3
2030	43.1	45.2	2.1	44.6	44.6	0.0	43.1	43.2	0.1	47.5	48.5	1.0
2031	43.3	45.1	1.8	44.8	46.2	1.4	43.4	43.6	0.2	47.7	48.4	0.7

Table 548 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 4												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.6	43.6	-6.0	50.5	40.5	-10.0	50.5	37.4	-13.1	49.7	48.7	-1.0
2025	54.0	43.6	-10.4	54.9	41.0	-13.9	54.9	38.3	-16.6	54.0	49.8	-4.2
2026	60.0	45.7	-14.3	61.0	41.0	-20.0	61.0	43.7	-17.3	60.0	53.9	-6.1
2027	44.1	48.0	3.9	44.7	47.4	2.7	44.7	45.7	1.0	44.1	57.0	12.9
2028	44.7	46.0	1.3	45.3	44.9	-0.4	45.2	44.1	-1.1	44.7	54.4	9.7
2029	45.3	46.0	0.7	45.9	44.9	-1.0	45.9	47.6	1.7	45.3	54.7	9.4
2030	46.2	46.4	0.2	46.3	42.4	-3.9	46.8	47.7	0.9	44.8	52.0	7.2
2031	46.4	46.4	0.0	46.5	42.4	-4.1	47.1	47.7	0.6	45.0	52.1	7.1

Table 549 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 4

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 4									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	47.8	31.7	-16.1	50.7	38.2	-12.5	49.5	43.0	-6.5
2025	51.9	31.7	-20.2	55.1	42.8	-12.3	53.9	45.2	-8.7
2026	57.7	32.9	-24.8	61.2	44.1	-17.1	59.8	48.4	-11.4
2027	42.8	35.4	-7.4	44.7	46.7	2.0	44.0	51.2	7.2
2028	43.4	41.4	-2.0	45.3	48.9	3.6	44.6	49.9	5.3
2029	44.0	41.4	-2.6	45.9	48.9	3.0	45.2	50.4	5.2
2030	42.0	42.2	0.2	46.5	46.7	0.2	44.9	47.0	2.1
2031	42.2	42.2	0.0	46.8	46.8	0.0	45.1	47.2	2.1

Table 550 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 5												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	40.7	34.3	-6.4	47.6	21.3	-26.3	34.4	32.2	-2.2	35.9	30.9	-5.0
2025	44.0	38.5	-5.5	51.7	21.3	-30.4	37.3	33.5	-3.8	38.8	32.7	-6.1
2026	48.7	40.2	-8.5	57.5	21.5	-36.0	41.5	33.5	-8.0	43.0	34.1	-8.9
2027	40.2	45.4	5.2	46.3	21.5	-24.8	34.5	38.7	4.2	35.2	37.6	2.4
2028	41.4	43.6	2.2	47.6	22.0	-25.6	35.5	36.7	1.2	36.2	36.9	0.7
2029	42.6	44.3	1.7	49.0	22.0	-27.0	36.6	36.7	0.1	37.3	37.7	0.4
2030	44.1	44.3	0.2	50.0	23.0	-27.0	37.2	37.7	0.5	38.3	38.0	-0.3
2031	44.4	45.2	0.8	50.2	24.2	-26.0	37.3	37.7	0.4	38.5	38.7	0.2

Table 551 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 5												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	43.1	42.9	-0.2	41.5	38.0	-3.5	36.6	20.7	-15.9	35.7	28.3	-7.4
2025	46.6	44.6	-2.0	45.0	39.7	-5.3	39.7	20.7	-19.0	38.8	30.0	-8.8
2026	51.6	46.3	-5.3	49.8	42.7	-7.1	44.1	20.7	-23.4	43.1	32.1	-11.0
2027	42.3	46.6	4.3	41.1	46.2	5.1	37.2	20.7	-16.5	36.1	34.3	-1.8
2028	43.6	46.9	3.3	42.3	46.7	4.4	38.4	19.9	-18.5	37.2	32.3	-4.9
2029	44.8	48.5	3.7	43.6	49.2	5.6	39.6	19.9	-19.7	38.4	35.2	-3.2
2030	49.2	49.7	0.5	47.9	49.0	1.1	36.3	19.9	-16.4	37.5	35.3	-2.2
2031	49.5	49.7	0.2	48.2	49.0	0.8	36.5	31.0	-5.5	37.7	37.3	-0.4

Table 552 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 5												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	41.6	37.0	-4.6	39.4	37.1	-2.3	39.0	30.7	-8.3	43.9	40.9	-3.0
2025	45.0	42.2	-2.8	42.7	37.5	-5.2	42.1	31.3	-10.8	47.4	42.8	-4.6
2026	49.8	46.8	-3.0	47.5	37.5	-10.0	46.7	37.8	-8.9	52.6	45.3	-7.3
2027	41.0	47.2	6.2	40.0	45.9	5.9	38.8	38.8	0.0	43.6	47.2	3.6
2028	42.2	48.3	6.1	41.2	42.9	1.7	39.9	37.4	-2.5	44.9	48.2	3.3
2029	43.4	49.4	6.0	42.5	45.2	2.7	41.1	38.2	-2.9	46.3	53.5	7.2
2030	48.6	49.3	0.7	49.6	45.1	-4.5	40.9	40.8	-0.1	52.9	53.4	0.5
2031	48.8	49.3	0.5	49.8	51.3	1.5	41.1	41.1	0.0	53.1	53.3	0.2

Table 553 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 5												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	43.2	39.4	-3.8	34.9	29.3	-5.6	41.5	37.8	-3.7	39.7	40.2	0.5
2025	46.6	41.7	-4.9	37.9	30.0	-7.9	45.0	41.9	-3.1	42.8	43.1	0.3
2026	51.6	43.6	-8.0	42.1	31.0	-11.1	49.9	48.1	-1.8	47.4	45.4	-2.0
2027	42.0	47.5	5.5	35.2	35.6	0.4	42.2	48.4	6.2	39.1	46.6	7.5
2028	43.2	45.7	2.5	36.3	35.8	-0.5	43.5	47.3	3.8	40.3	44.0	3.7
2029	44.4	47.5	3.1	37.4	38.0	0.6	44.9	52.2	7.3	41.5	44.9	3.4
2030	46.8	48.8	2.0	37.2	38.0	0.8	52.1	52.2	0.1	44.0	45.3	1.3
2031	47.0	48.8	1.8	37.4	38.0	0.6	52.4	52.4	0.0	44.2	45.4	1.2

Table 554 - Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Total Fleet for Alt 5									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	38.5	36.7	-1.8	41.1	34.3	-6.8	38.8	35.4	-3.4
2025	41.7	36.6	-5.1	44.4	38.7	-5.7	41.9	37.5	-4.4
2026	46.3	41.8	-4.5	49.3	39.8	-9.5	46.5	39.3	-7.2
2027	38.8	46.5	7.7	40.9	47.7	6.8	38.4	42.7	4.3
2028	39.9	43.4	3.5	42.1	46.8	4.7	39.5	41.6	2.1
2029	41.2	46.6	5.4	43.4	46.8	3.4	40.7	42.9	2.2
2030	47.0	46.6	-0.4	49.0	46.7	-2.3	43.1	43.4	0.3
2031	47.2	46.6	-0.6	49.2	46.8	-2.4	43.3	43.7	0.4

Table 555 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 5												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	47.6	35.8	-11.8	47.6	21.3	-26.3	48.8	34.3	-14.5	49.5	40.4	-9.1
2025	51.7	40.3	-11.4	51.7	21.3	-30.4	53.0	34.3	-18.7	53.8	43.9	-9.9
2026	57.4	44.5	-12.9	57.5	21.5	-36.0	58.9	34.3	-24.6	59.8	49.9	-9.9
2027	46.0	45.4	-0.6	46.3	21.5	-24.8	47.0	40.0	-7.0	47.5	52.5	5.0
2028	47.4	46.7	-0.7	47.6	22.0	-25.6	48.3	38.1	-10.2	48.9	49.1	0.2
2029	48.7	46.7	-2.0	49.0	22.0	-27.0	49.7	38.1	-11.6	50.2	52.9	2.7
2030	48.5	45.8	-2.7	50.0	23.0	-27.0	49.3	45.1	-4.2	50.1	49.3	-0.8
2031	48.8	47.1	-1.7	50.2	24.2	-26.0	49.5	45.1	-4.4	50.3	49.6	-0.7

Table 556 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 5												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.1	48.4	-0.7	48.6	42.6	-6.0	0.0	0.0	0.0	47.4	29.4	-18.0
2025	53.4	48.8	-4.6	52.9	44.1	-8.8	0.0	0.0	0.0	51.5	29.4	-22.1
2026	59.3	50.5	-8.8	58.7	44.7	-14.0	0.0	0.0	0.0	57.2	44.8	-12.4
2027	47.2	50.7	3.5	46.8	55.0	8.2	0.0	0.0	0.0	46.0	44.8	-1.2
2028	48.6	51.7	3.1	48.1	56.9	8.8	0.0	0.0	0.0	47.3	42.6	-4.7
2029	50.0	55.9	5.9	49.5	59.5	10.0	0.0	0.0	0.0	48.6	42.6	-6.0
2030	49.9	50.3	0.4	49.0	50.1	1.1	0.0	0.0	0.0	48.6	44.7	-3.9
2031	50.2	50.3	0.1	49.3	50.1	0.8	0.0	0.0	0.0	48.9	44.7	-4.2

Table 557 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 5												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.7	44.4	-5.3	50.7	41.4	-9.3	46.1	35.1	-11.0	55.4	55.3	-0.1
2025	54.0	50.5	-3.5	55.1	41.4	-13.7	50.1	36.3	-13.8	60.2	55.3	-4.9
2026	60.0	53.8	-6.2	61.2	41.4	-19.8	55.7	37.7	-18.0	66.9	79.6	12.7
2027	47.6	56.0	8.4	48.0	66.5	18.5	45.2	39.6	-5.6	50.0	79.8	29.8
2028	49.0	55.7	6.7	49.4	62.7	13.3	46.5	39.7	-6.8	51.4	76.9	25.5
2029	50.4	59.8	9.4	50.9	62.7	11.8	47.8	42.9	-4.9	52.9	76.9	24.0
2030	48.6	49.3	0.7	49.6	45.1	-4.5	48.0	44.8	-3.2	52.9	53.4	0.5
2031	48.8	49.3	0.5	49.8	51.3	1.5	48.2	45.5	-2.7	53.1	53.3	0.2

Table 558 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 5												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.6	46.1	-3.5	50.5	40.5	-10.0	50.5	37.4	-13.1	49.3	47.8	-1.5
2025	53.9	50.0	-3.9	54.9	41.0	-13.9	54.9	38.3	-16.6	53.6	51.8	-1.8
2026	59.9	53.0	-6.9	61.0	41.0	-20.0	61.0	43.7	-17.3	59.5	55.4	-4.1
2027	47.5	58.4	10.9	48.2	47.4	-0.8	48.2	45.7	-2.5	47.3	58.0	10.7
2028	48.9	58.3	9.4	49.6	44.9	-4.7	49.6	44.1	-5.5	48.7	55.3	6.6
2029	50.3	58.3	8.0	51.1	44.9	-6.2	51.0	59.1	8.1	50.1	55.5	5.4
2030	50.2	52.9	2.7	46.4	44.9	-1.5	52.1	52.2	0.1	49.7	51.8	2.1
2031	50.5	52.9	2.4	46.6	44.9	-1.7	52.4	52.4	0.0	50.0	52.1	2.1

Table 559 - Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Passenger Car Fleet for Alt 5									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	46.8	38.9	-7.9	50.2	37.6	-12.6	49.3	43.2	-6.1
2025	50.9	38.9	-12.0	54.6	41.7	-12.9	53.6	46.1	-7.5
2026	56.6	49.4	-7.2	60.6	42.8	-17.8	59.5	49.2	-10.3
2027	45.6	50.5	4.9	47.8	47.5	-0.3	47.3	52.7	5.4
2028	46.9	50.3	3.4	49.2	52.7	3.5	48.7	52.1	3.4
2029	48.3	50.3	2.0	50.7	52.7	2.0	50.1	54.4	4.3
2030	47.0	46.6	-0.4	50.1	47.3	-2.8	49.7	49.4	-0.3
2031	47.2	46.6	-0.6	50.3	47.4	-2.9	49.9	49.8	-0.1

Table 560 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 5												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	36.4	33.1	-3.3	0.0	0.0	0.0	33.4	32.0	-1.4	32.1	28.1	-4.0
2025	39.6	37.3	-2.3	0.0	0.0	0.0	36.3	33.4	-2.9	34.9	29.7	-5.2
2026	43.9	37.6	-6.3	0.0	0.0	0.0	40.4	33.4	-7.0	38.8	30.4	-8.4
2027	37.0	45.4	8.4	0.0	0.0	0.0	33.7	38.6	4.9	32.2	34.1	1.9
2028	38.2	41.7	3.5	0.0	0.0	0.0	34.7	36.6	1.9	33.2	33.9	0.7
2029	39.4	42.8	3.4	0.0	0.0	0.0	35.8	36.6	0.8	34.3	34.3	0.0
2030	35.0	40.5	5.5	0.0	0.0	0.0	32.3	34.3	2.0	30.8	30.8	0.0
2031	35.2	40.5	5.3	0.0	0.0	0.0	32.4	34.3	1.9	31.0	31.6	0.6

Table 561 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 5												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	37.4	37.6	0.2	37.4	35.1	-2.3	36.6	20.7	-15.9	35.3	28.3	-7.0
2025	40.7	40.6	-0.1	40.7	37.1	-3.6	39.7	20.7	-19.0	38.4	30.0	-8.4
2026	45.2	42.4	-2.8	45.2	41.5	-3.7	44.1	20.7	-23.4	42.7	31.7	-11.0
2027	38.2	42.9	4.7	38.2	42.0	3.8	37.2	20.7	-16.5	35.8	34.0	-1.8
2028	39.4	42.8	3.4	39.4	42.1	2.7	38.4	19.9	-18.5	36.9	32.0	-4.9
2029	40.6	42.8	2.2	40.6	44.5	3.9	39.6	19.9	-19.7	38.1	35.0	-3.1
2030	33.6	35.7	2.1	35.8	36.7	0.9	36.3	19.9	-16.4	34.8	32.9	-1.9
2031	33.8	35.7	1.9	36.0	36.7	0.7	36.5	31.0	-5.5	35.0	35.3	0.3

Table 562 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 5												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	37.0	32.9	-4.1	38.5	36.7	-1.8	35.8	28.6	-7.2	40.8	37.3	-3.5
2025	40.3	37.9	-2.4	41.8	37.2	-4.6	38.9	29.2	-9.7	44.3	39.8	-4.5
2026	44.7	43.0	-1.7	46.5	37.2	-9.3	43.2	37.8	-5.4	49.2	39.8	-9.4
2027	37.7	43.0	5.3	39.4	44.6	5.2	36.3	38.5	2.2	42.0	42.0	0.0
2028	38.9	44.7	5.8	40.6	41.7	1.1	37.5	36.4	-1.1	43.3	43.4	0.1
2029	40.1	44.7	4.6	41.9	44.1	2.2	38.6	36.4	-2.2	44.7	49.2	4.5
2030	0.0	0.0	0.0	0.0	0.0	0.0	35.1	37.1	2.0	0.0	0.0	0.0
2031	0.0	0.0	0.0	0.0	0.0	0.0	35.3	37.1	1.8	0.0	0.0	0.0

Table 563 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 5												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	36.2	32.4	-3.8	34.5	29.0	-5.5	40.4	37.9	-2.5	35.7	36.9	1.2
2025	39.4	34.0	-5.4	37.5	29.8	-7.7	43.9	42.5	-1.4	38.8	39.7	0.9
2026	43.7	35.4	-8.3	41.7	30.8	-10.9	48.7	48.8	0.1	43.1	41.7	-1.4
2027	36.8	38.7	1.9	34.9	35.4	0.5	41.5	48.8	7.3	36.2	42.7	6.5
2028	38.0	36.3	-1.7	36.0	35.6	-0.4	42.8	47.7	4.9	37.3	40.3	3.0
2029	39.1	39.1	0.0	37.1	37.8	0.7	44.2	51.5	7.3	38.5	41.4	2.9
2030	34.2	34.6	0.4	33.9	35.4	1.5	0.0	0.0	0.0	32.6	32.7	0.1
2031	34.4	34.6	0.2	34.1	35.4	1.3	0.0	0.0	0.0	32.7	32.7	0.0

Table 564 - Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Light Truck Fleet for Alt 5									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	37.0	36.2	-0.8	37.8	32.9	-4.9	35.4	32.7	-2.7
2025	40.2	36.2	-4.0	41.1	37.5	-3.6	38.4	34.8	-3.6
2026	44.7	40.5	-4.2	45.7	38.7	-7.0	42.7	36.3	-6.4
2027	37.7	45.8	8.1	38.7	47.8	9.1	35.9	39.9	4.0
2028	38.8	42.3	3.5	39.9	44.9	5.0	37.0	38.7	1.7
2029	40.1	46.0	5.9	41.1	44.9	3.8	38.1	39.8	1.7
2030	0.0	0.0	0.0	35.9	38.3	2.4	32.5	33.4	0.9
2031	0.0	0.0	0.0	36.1	38.3	2.2	32.7	33.7	1.0

Table 565 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 5												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	0.0	0.0	0.0	0.0	0.0	0.0	48.8	34.3	-14.5	48.4	37.0	-11.4
2025	0.0	0.0	0.0	0.0	0.0	0.0	53.0	34.3	-18.7	52.6	43.3	-9.3
2026	0.0	0.0	0.0	0.0	0.0	0.0	58.9	34.3	-24.6	58.5	51.4	-7.1
2027	0.0	0.0	0.0	0.0	0.0	0.0	47.0	40.0	-7.0	46.7	51.4	4.7
2028	0.0	0.0	0.0	0.0	0.0	0.0	48.3	38.1	-10.2	48.1	48.1	0.0
2029	0.0	0.0	0.0	0.0	0.0	0.0	49.7	38.1	-11.6	49.4	52.0	2.6
2030	0.0	0.0	0.0	0.0	0.0	0.0	52.4	44.8	-7.6	48.8	47.5	-1.3
2031	0.0	0.0	0.0	0.0	0.0	0.0	52.6	44.9	-7.7	49.0	47.9	-1.1

Table 566 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 5												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.1	48.4	-0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	53.4	48.8	-4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2026	59.3	50.5	-8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2027	47.2	50.7	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2028	48.6	51.7	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2029	50.0	55.9	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2030	49.9	50.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2031	50.2	50.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 567 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 5												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	50.6	46.0	-4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	55.0	46.0	-9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2026	61.1	46.0	-15.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2027	48.3	50.2	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2028	49.7	48.2	-1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2029	51.1	56.6	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2030	53.2	56.6	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2031	53.5	56.6	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 568 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 5												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.6	46.6	-3.0	0.0	0.0	0.0	0.0	0.0	0.0	47.7	44.2	-3.5
2025	53.9	51.5	-2.4	0.0	0.0	0.0	0.0	0.0	0.0	51.8	62.7	10.9
2026	59.9	54.7	-5.2	0.0	0.0	0.0	0.0	0.0	0.0	57.6	62.7	5.1
2027	47.5	59.2	11.7	0.0	0.0	0.0	0.0	0.0	0.0	46.2	62.7	16.5
2028	48.9	59.7	10.8	0.0	0.0	0.0	0.0	0.0	0.0	47.5	59.1	11.6
2029	50.3	59.7	9.4	0.0	0.0	0.0	0.0	0.0	0.0	48.9	59.1	10.2
2030	49.7	53.1	3.4	45.7	45.3	-0.4	0.0	0.0	0.0	48.5	50.1	1.6
2031	50.0	53.1	3.1	45.9	45.3	-0.6	0.0	0.0	0.0	48.7	51.6	2.9

Table 569 - Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Domestic Car Fleet for Alt 5									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	46.6	41.4	-5.2	44.3	30.7	-13.6	49.0	43.5	-5.5
2025	50.7	41.4	-9.3	48.1	30.7	-17.4	53.2	47.2	-6.0
2026	56.3	56.9	0.6	53.5	30.7	-22.8	59.1	50.1	-9.0
2027	45.4	56.9	11.5	43.5	46.9	3.4	47.1	52.3	5.2
2028	46.7	53.3	6.6	44.8	44.7	-0.1	48.5	51.5	3.0
2029	48.1	53.3	5.2	46.1	44.7	-1.4	49.8	54.2	4.4
2030	48.7	53.3	4.6	45.6	42.8	-2.8	49.2	48.7	-0.5
2031	48.9	53.3	4.4	45.9	42.8	-3.1	49.4	48.9	-0.5

Table 570 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 5												
Model Year	BMW			Ferrari			Ford			GM		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	47.6	35.8	-11.8	47.6	21.3	-26.3	0.0	0.0	0.0	50.6	44.5	-6.1
2025	51.7	40.3	-11.4	51.7	21.3	-30.4	0.0	0.0	0.0	55.0	44.5	-10.5
2026	57.4	44.5	-12.9	57.5	21.5	-36.0	0.0	0.0	0.0	61.2	48.5	-12.7
2027	46.0	45.4	-0.6	46.3	21.5	-24.8	0.0	0.0	0.0	48.3	53.6	5.3
2028	47.4	46.7	-0.7	47.6	22.0	-25.6	0.0	0.0	0.0	49.7	50.1	0.4
2029	48.7	46.7	-2.0	49.0	22.0	-27.0	0.0	0.0	0.0	51.1	53.9	2.8
2030	48.5	45.8	-2.7	50.0	23.0	-27.0	46.8	45.3	-1.5	52.8	53.1	0.3
2031	48.8	47.1	-1.7	50.2	24.2	-26.0	47.1	45.3	-1.8	53.1	53.3	0.2

Table 571 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 5												
Model Year	Honda			Hyundai			Ineos			JLR		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	0.0	0.0	0.0	48.6	42.6	-6.0	0.0	0.0	0.0	47.4	29.4	-18.0
2025	0.0	0.0	0.0	52.9	44.1	-8.8	0.0	0.0	0.0	51.5	29.4	-22.1
2026	0.0	0.0	0.0	58.7	44.7	-14.0	0.0	0.0	0.0	57.2	44.8	-12.4
2027	0.0	0.0	0.0	46.8	55.0	8.2	0.0	0.0	0.0	46.0	44.8	-1.2
2028	0.0	0.0	0.0	48.1	56.9	8.8	0.0	0.0	0.0	47.3	42.6	-4.7
2029	0.0	0.0	0.0	49.5	59.5	10.0	0.0	0.0	0.0	48.6	42.6	-6.0
2030	0.0	0.0	0.0	49.0	50.1	1.1	0.0	0.0	0.0	48.6	44.7	-3.9
2031	0.0	0.0	0.0	49.3	50.1	0.8	0.0	0.0	0.0	48.9	44.7	-4.2

Table 572 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 5												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.2	43.4	-5.8	50.7	41.4	-9.3	46.1	35.1	-11.0	55.4	55.3	-0.1
2025	53.4	53.8	0.4	55.1	41.4	-13.7	50.1	36.3	-13.8	60.2	55.3	-4.9
2026	59.4	60.3	0.9	61.2	41.4	-19.8	55.7	37.7	-18.0	66.9	79.6	12.7
2027	47.2	60.3	13.1	48.0	66.5	18.5	45.2	39.6	-5.6	50.0	79.8	29.8
2028	48.6	61.8	13.2	49.4	62.7	13.3	46.5	39.7	-6.8	51.4	76.9	25.5
2029	50.0	62.0	12.0	50.9	62.7	11.8	47.8	42.9	-4.9	52.9	76.9	24.0
2030	47.9	48.3	0.4	49.6	45.1	-4.5	48.0	44.8	-3.2	52.9	53.4	0.5
2031	48.1	48.3	0.2	49.8	51.3	1.5	48.2	45.5	-2.7	53.1	53.3	0.2

Table 573 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 5												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	49.6	43.6	-6.0	50.5	40.5	-10.0	50.5	37.4	-13.1	49.7	48.7	-1.0
2025	54.0	43.6	-10.4	54.9	41.0	-13.9	54.9	38.3	-16.6	54.0	49.8	-4.2
2026	60.0	45.7	-14.3	61.0	41.0	-20.0	61.0	43.7	-17.3	60.0	53.9	-6.1
2027	47.6	54.5	6.9	48.2	47.4	-0.8	48.2	45.7	-2.5	47.6	57.0	9.4
2028	49.0	51.9	2.9	49.6	44.9	-4.7	49.6	44.1	-5.5	49.0	54.5	5.5
2029	50.4	51.9	1.5	51.1	44.9	-6.2	51.0	59.1	8.1	50.4	54.7	4.3
2030	51.4	52.4	1.0	51.5	42.4	-9.1	52.1	52.2	0.1	49.8	52.0	2.2
2031	51.6	52.4	0.8	51.8	42.4	-9.4	52.4	52.4	0.0	50.1	52.1	2.0

Table 574 - Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 5

Required and Achieved CAFE Levels (mpg) for Imported Car Fleet for Alt 5									
Model Year	Volvo			VWA			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2024	47.8	31.7	-16.1	50.7	38.2	-12.5	49.5	43.0	-6.5
2025	51.9	31.7	-20.2	55.1	42.8	-12.3	53.9	45.2	-8.7
2026	57.7	32.9	-24.8	61.2	44.1	-17.1	59.8	48.4	-11.4
2027	46.2	35.4	-10.8	48.2	47.5	-0.7	47.5	53.1	5.6
2028	47.6	41.4	-6.2	49.6	53.4	3.8	48.8	52.7	3.9
2029	48.9	41.4	-7.5	51.1	53.4	2.3	50.2	54.5	4.3
2030	46.8	45.8	-1.0	51.8	49.1	-2.7	49.9	49.7	-0.2
2031	47.0	45.8	-1.2	52.0	49.2	-2.8	50.2	50.3	0.1

A13. Regulatory Cost, Comparison

Table 575 - Regulatory Costs ($Billions) for Total Fleet Between Alt 0 - No Action and Alt 1

Regulatory Costs ($Billions) for Total Fleet Between Alt 0 - No Action and Alt 1			
Model Year	Total		
	Alt 0 - No Action	Alt 1	Difference
2024	0.0	0.0	0.0
2025	6.2	6.2	0.0
2026	9.8	9.8	0.0
2027	17.7	10.7	-7.0
2028	21.7	10.5	-11.2
2029	24.1	10.5	-13.7
2030	25.6	10.9	-14.7
2031	26.7	11.1	-15.7

Table 576 - Regulatory Costs ($Billions) for Passenger Car Fleet Between Alt 0 - No Action and Alt 1

Regulatory Costs ($Billions) for Passenger Car Fleet Between Alt 0 - No Action and Alt 1			
Model Year	Total		
	Alt 0 - No Action	Alt 1	Difference
2024	0.0	0.0	0.0
2025	2.0	2.0	0.0
2026	3.3	3.3	0.0
2027	5.0	3.2	-1.8
2028	5.9	3.1	-2.8
2029	7.0	3.0	-4.1
2030	7.1	8.5	1.4
2031	7.2	8.6	1.4

Table 577 - Regulatory Costs ($Billions) for Light Truck Fleet Between Alt 0 - No Action and Alt 1

Regulatory Costs ($Billions) for Light Truck Fleet Between Alt 0 - No Action and Alt 1			
Model Year	Total		
	Alt 0 - No Action	Alt 1	Difference
2024	0.0	0.0	0.0
2025	4.2	4.2	0.0
2026	6.4	6.4	0.0
2027	12.7	7.4	-5.2
2028	15.8	7.4	-8.4
2029	17.1	7.5	-9.6
2030	18.5	2.4	-16.1
2031	19.5	2.5	-17.0

Table 578 - Regulatory Costs ($Billions) for Total Fleet Between Alt 0 - No Action and Alt 2

Regulatory Costs ($Billions) for Total Fleet Between Alt 0 - No Action and Alt 2			
Model Year	Total		
	Alt 0 - No Action	Alt 2	Difference
2024	0.0	0.0	0.0
2025	6.2	6.2	0.0
2026	9.8	9.8	0.0
2027	17.7	10.7	-7.0
2028	21.7	10.5	-11.2
2029	24.1	10.5	-13.6
2030	25.6	10.9	-14.6
2031	26.7	11.1	-15.6

Table 579 - Regulatory Costs ($Billions) for Passenger Car Fleet Between Alt 0 - No Action and Alt 2

Regulatory Costs ($Billions) for Passenger Car Fleet Between Alt 0 - No Action and Alt 2			
Model Year	Total		
	Alt 0 - No Action	Alt 2	Difference
2024	0.0	0.0	0.0
2025	2.0	2.0	0.0
2026	3.3	3.3	0.0
2027	5.0	3.2	-1.8
2028	5.9	3.1	-2.8
2029	7.0	3.0	-4.1
2030	7.1	8.5	1.4
2031	7.2	8.6	1.4

Table 580 - Regulatory Costs ($Billions) for Light Truck Fleet Between Alt 0 - No Action and Alt 2

Regulatory Costs ($Billions) for Light Truck Fleet Between Alt 0 - No Action and Alt 2			
Model Year	Total		
	Alt 0 - No Action	Alt 2	Difference
2024	0.0	0.0	0.0
2025	4.2	4.2	0.0
2026	6.4	6.4	0.0
2027	12.7	7.5	-5.2
2028	15.8	7.4	-8.4
2029	17.1	7.5	-9.6
2030	18.5	2.4	-16.1
2031	19.5	2.5	-17.0

Table 581 - Regulatory Costs ($Billions) for Total Fleet Between Alt 0 - No Action and Alt 3

Regulatory Costs ($Billions) for Total Fleet Between Alt 0 - No Action and Alt 3			
Model Year	Total		
	Alt 0 - No Action	Alt 3	Difference
2024	0.0	0.0	0.0
2025	6.2	6.2	0.0
2026	9.8	9.8	0.0
2027	17.7	11.0	-6.7
2028	21.7	10.8	-10.9
2029	24.1	10.8	-13.3
2030	25.6	11.2	-14.3
2031	26.7	11.4	-15.3

Table 582 - Regulatory Costs ($Billions) for Passenger Car Fleet Between Alt 0 - No Action and Alt 3

Regulatory Costs ($Billions) for Passenger Car Fleet Between Alt 0 - No Action and Alt 3			
Model Year	Total		
	Alt 0 - No Action	Alt 3	Difference
2024	0.0	0.0	0.0
2025	2.0	2.0	0.0
2026	3.3	3.3	0.0
2027	5.0	3.3	-1.7
2028	5.9	3.1	-2.8
2029	7.0	3.0	-4.0
2030	7.1	8.8	1.7
2031	7.2	8.9	1.7

Table 583 - Regulatory Costs ($Billions) for Light Truck Fleet Between Alt 0 - No Action and Alt 3

Regulatory Costs ($Billions) for Light Truck Fleet Between Alt 0 - No Action and Alt 3			
Model Year	Total		
	Alt 0 - No Action	Alt 3	Difference
2024	0.0	0.0	0.0
2025	4.2	4.2	0.0
2026	6.4	6.4	0.0
2027	12.7	7.7	-4.9
2028	15.8	7.7	-8.1
2029	17.1	7.8	-9.3
2030	18.5	2.4	-16.1
2031	19.5	2.5	-17.0

Table 584 - Regulatory Costs ($Billions) for Total Fleet Between Alt 0 - No Action and Alt 4

Regulatory Costs ($Billions) for Total Fleet Between Alt 0 - No Action and Alt 4			
Model Year	Total		
	Alt 0 - No Action	Alt 4	Difference
2024	0.0	0.0	0.0
2025	6.2	6.2	0.0
2026	9.8	9.8	0.0
2027	17.7	12.2	-5.5
2028	21.7	12.2	-9.5
2029	24.1	12.5	-11.7
2030	25.6	13.1	-12.5
2031	26.7	13.3	-13.5

Table 585 - Regulatory Costs ($Billions) for Passenger Car Fleet Between Alt 0 - No Action and Alt 4

Regulatory Costs ($Billions) for Passenger Car Fleet Between Alt 0 - No Action and Alt 4			
Model Year	Total		
	Alt 0 - No Action	Alt 4	Difference
2024	0.0	0.0	0.0
2025	2.0	2.0	0.0
2026	3.3	3.3	0.0
2027	5.0	3.4	-1.6
2028	5.9	3.4	-2.5
2029	7.0	3.3	-3.7
2030	7.1	10.4	3.3
2031	7.2	10.6	3.3

Table 586 - Regulatory Costs ($Billions) for Light Truck Fleet Between Alt 0 - No Action and Alt 4

Regulatory Costs ($Billions) for Light Truck Fleet Between Alt 0 - No Action and Alt 4			
Model Year	Total		
	Alt 0 - No Action	Alt 4	Difference
2024	0.0	0.0	0.0
2025	4.2	4.2	0.0
2026	6.4	6.4	0.0
2027	12.7	8.7	-3.9
2028	15.8	8.8	-7.0
2029	17.1	9.2	-7.9
2030	18.5	2.6	-15.9
2031	19.5	2.7	-16.8

Table 587 - Regulatory Costs ($Billions) for Total Fleet Between Alt 0 - No Action and Alt 5

Regulatory Costs ($Billions) for Total Fleet Between Alt 0 - No Action and Alt 5			
Model Year	Total		
	Alt 0 - No Action	Alt 5	Difference
2024	0.0	0.0	0.0
2025	6.2	6.2	0.0
2026	9.8	9.8	0.0
2027	17.7	14.7	-3.0
2028	21.7	16.7	-5.0
2029	24.1	18.5	-5.7
2030	25.6	19.5	-6.1
2031	26.7	20.4	-6.4

Table 588 - Regulatory Costs ($Billions) for Passenger Car Fleet Between Alt 0 - No Action and Alt 5

Regulatory Costs ($Billions) for Passenger Car Fleet Between Alt 0 - No Action and Alt 5			
Model Year	Total		
	Alt 0 - No Action	Alt 5	Difference
2024	0.0	0.0	0.0
2025	2.0	2.0	0.0
2026	3.3	3.3	0.0
2027	5.0	4.1	-0.9
2028	5.9	4.5	-1.4
2029	7.0	5.1	-2.0
2030	7.1	14.6	7.5
2031	7.2	15.3	8.1

Table 589 - Regulatory Costs ($Billions) for Light Truck Fleet Between Alt 0 - No Action and Alt 5

Regulatory Costs ($Billions) for Light Truck Fleet Between Alt 0 - No Action and Alt 5			
Model Year	Total		
	Alt 0 - No Action	Alt 5	Difference
2024	0.0	0.0	0.0
2025	4.2	4.2	0.0
2026	6.4	6.4	0.0
2027	12.7	10.6	-2.1
2028	15.8	12.2	-3.6
2029	17.1	13.4	-3.7
2030	18.5	4.9	-13.6
2031	19.5	5.0	-14.4

Table 590 - Regulatory Costs ($Billions) for Total Fleet Between Alt 0 - No Action and Alt 2

Regulatory Costs ($Billions) for Total Fleet Between Alt 0 - No Action and Alt 2												
Model Year	BMW			Ferrari			Ford			GM		
	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	0.3	0.3	0.0	0.0	0.0	0.0	0.8	0.8	0.0	1.3	1.3	0.0
2026	0.4	0.4	0.0	0.0	0.0	0.0	0.7	0.7	0.0	2.1	2.1	0.0
2027	0.6	0.4	-0.1	0.0	0.0	0.0	1.9	1.1	-0.8	4.7	2.3	-2.4
2028	0.6	0.4	-0.2	0.0	0.0	0.0	2.2	1.1	-1.1	6.1	2.2	-3.8
2029	0.7	0.4	-0.3	0.0	0.0	0.0	2.2	1.1	-1.1	6.6	2.2	-4.4
2030	0.7	0.4	-0.3	0.0	0.0	0.0	2.6	1.2	-1.4	7.0	2.3	-4.7
2031	0.8	0.4	-0.4	0.0	0.0	0.0	2.7	1.2	-1.4	7.3	2.3	-5.0

Table 591 - Regulatory Costs ($Billions) for Total Fleet Between Alt 0 - No Action and Alt 2

Regulatory Costs ($Billions) for Total Fleet Between Alt 0 - No Action and Alt 2												
Model Year	Honda			Hyundai			Ineos			JLR		
	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	0.3	0.3	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2026	0.4	0.4	0.0	0.6	0.6	0.0	0.0	0.0	0.0	0.1	0.1	0.0
2027	0.5	0.4	-0.1	0.9	0.6	-0.4	0.0	0.0	0.0	0.2	0.1	-0.1
2028	1.1	0.4	-0.8	1.6	0.6	-1.0	0.0	0.0	0.0	0.2	0.1	0.0
2029	1.4	0.3	-1.0	1.9	0.6	-1.3	0.0	0.0	0.0	0.2	0.1	-0.1
2030	1.4	0.3	-1.1	1.9	0.6	-1.3	0.0	0.0	0.0	0.2	0.1	-0.1
2031	1.4	0.2	-1.2	1.9	0.6	-1.3	0.0	0.0	0.0	0.2	0.0	-0.1

Table 592 - Regulatory Costs ($Billions) for Total Fleet Between Alt 0 - No Action and Alt 2

Regulatory Costs ($Billions) for Total Fleet Between Alt 0 - No Action and Alt 2												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2026	1.2	1.2	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.1	0.1	0.0
2027	1.2	1.2	0.0	0.5	0.1	-0.5	0.3	0.2	-0.1	0.1	0.1	-0.1
2028	1.5	1.1	-0.4	0.5	0.1	-0.5	0.3	0.2	-0.1	0.3	0.1	-0.2
2029	1.7	1.1	-0.6	0.6	0.1	-0.5	0.3	0.2	-0.1	0.3	0.1	-0.2
2030	1.7	1.1	-0.6	0.6	0.1	-0.6	0.4	0.2	-0.2	0.3	0.1	-0.2
2031	1.7	1.1	-0.6	0.8	0.1	-0.6	0.4	0.2	-0.2	0.3	0.1	-0.2

Table 593 - Regulatory Costs ($Billions) for Total Fleet Between Alt 0 - No Action and Alt 2

Regulatory Costs ($Billions) for Total Fleet Between Alt 0 - No Action and Alt 2												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	0.4	0.4	0.0	0.2	0.2	0.0	0.5	0.5	0.0	0.8	0.8	0.0
2026	0.5	0.5	0.0	0.4	0.4	0.0	0.7	0.7	0.0	1.7	1.7	0.0
2027	1.0	0.6	-0.4	1.4	0.6	-0.8	0.7	0.7	0.0	2.3	1.6	-0.7
2028	0.9	0.5	-0.4	1.8	0.6	-1.2	0.7	0.7	0.0	2.3	1.6	-0.7
2029	1.1	0.5	-0.6	2.2	0.7	-1.5	0.8	0.7	-0.1	2.6	1.6	-0.9
2030	1.2	0.5	-0.7	2.3	0.8	-1.6	0.9	0.7	-0.1	2.8	1.8	-1.0
2031	1.2	0.5	-0.7	2.4	0.8	-1.6	1.0	0.7	-0.3	2.9	1.8	-1.1

Table 594 - Regulatory Costs ($Billions) for Total Fleet Between Alt 0 - No Action and Alt 2

Regulatory Costs ($Billions) for Total Fleet Between Alt 0 - No Action and Alt 2									
Model Year	Volvo			VWA			Total		
	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	0.0	0.0	0.0	0.5	0.5	0.0	6.2	6.2	0.0
2026	0.2	0.2	0.0	0.6	0.6	0.0	9.8	9.8	0.0
2027	0.2	0.2	0.0	1.2	0.7	-0.5	17.7	10.7	-7.0
2028	0.2	0.2	0.0	1.5	0.7	-0.8	21.7	10.5	-11.2
2029	0.3	0.2	-0.1	1.5	0.7	-0.8	24.1	10.5	-13.6
2030	0.3	0.2	-0.1	1.5	0.7	-0.8	25.6	10.9	-14.6
2031	0.3	0.2	-0.1	1.5	0.7	-0.8	26.7	11.1	-15.6

Table 595 - Regulatory Costs ($Billions) for Passenger Car Fleet Between Alt 0 - No Action and Alt 2

Regulatory Costs ($Billions) for Passenger Car Fleet Between Alt 0 - No Action and Alt 2												
Model Year	BMW			Ferrari			Ford			GM		
	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.0
2026	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0
2027	0.2	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.0	1.1	1.0	-0.1
2028	0.3	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.0	1.0	0.9	-0.1
2029	0.3	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.0	1.6	0.9	-0.6
2030	0.3	0.4	0.1	0.0	0.0	0.0	0.1	0.6	0.5	1.5	1.9	0.4
2031	0.4	0.4	0.0	0.0	0.0	0.0	0.1	0.6	0.5	1.5	1.9	0.4

Table 596 - Regulatory Costs ($Billions) for Passenger Car Fleet Between Alt 0 - No Action and Alt 2

Regulatory Costs ($Billions) for Passenger Car Fleet Between Alt 0 - No Action and Alt 2												
Model Year	Honda			Hyundai			Ineos			JLR		
	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2026	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2027	0.1	0.0	-0.1	0.5	0.1	-0.4	0.0	0.0	0.0	0.0	0.0	0.0
2028	0.6	0.0	-0.6	0.7	0.1	-0.6	0.0	0.0	0.0	0.0	0.0	0.0
2029	0.8	0.0	-0.8	0.8	0.1	-0.7	0.0	0.0	0.0	0.0	0.0	0.0
2030	0.8	0.3	-0.6	0.8	0.6	-0.3	0.0	0.0	0.0	0.0	0.1	0.1
2031	0.8	0.2	-0.6	0.8	0.6	-0.2	0.0	0.0	0.0	0.0	0.1	0.1

Table 597 - Regulatory Costs ($Billions) for Passenger Car Fleet Between Alt 0 - No Action and Alt 2

Regulatory Costs ($Billions) for Passenger Car Fleet Between Alt 0 - No Action and Alt 2												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2026	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2027	0.4	0.4	0.0	0.1	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	0.0
2028	0.5	0.4	-0.1	0.1	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	0.0
2029	0.7	0.4	-0.3	0.1	0.0	-0.1	0.1	0.0	-0.1	0.0	0.0	0.0
2030	0.7	1.1	0.4	0.1	0.1	0.0	0.1	0.0	-0.1	0.0	0.1	0.0
2031	0.7	1.1	0.4	0.1	0.1	0.0	0.1	0.0	-0.1	0.0	0.1	0.0

Table 598 - Regulatory Costs ($Billions) for Passenger Car Fleet Between Alt 0 - No Action and Alt 2

Regulatory Costs ($Billions) for Passenger Car Fleet Between Alt 0 - No Action and Alt 2												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.0
2026	0.4	0.4	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.7	0.7	0.0
2027	0.7	0.4	-0.3	0.0	0.0	0.0	0.1	0.1	0.0	1.2	0.7	-0.6
2028	0.6	0.3	-0.3	0.0	0.0	0.0	0.1	0.1	0.0	1.2	0.6	-0.6
2029	0.6	0.3	-0.3	0.0	0.0	0.0	0.2	0.1	-0.1	1.2	0.6	-0.6
2030	0.6	0.3	-0.2	0.0	0.1	0.1	0.2	0.7	0.6	1.3	1.3	0.1
2031	0.6	0.3	-0.2	0.0	0.2	0.1	0.2	0.7	0.6	1.3	1.4	0.1

Table 599 - Regulatory Costs ($Billions) for Passenger Car Fleet Between Alt 0 - No Action and Alt 2

Regulatory Costs ($Billions) for Passenger Car Fleet Between Alt 0 - No Action and Alt 2									
Model Year	Volvo			VWA			Total		
	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	0.0	0.0	0.0	0.2	0.2	0.0	2.0	2.0	0.0
2026	0.0	0.0	0.0	0.2	0.2	0.0	3.3	3.3	0.0
2027	0.0	0.0	0.0	0.3	0.2	-0.1	5.0	3.2	-1.8
2028	0.0	0.0	0.0	0.5	0.2	-0.3	5.9	3.1	-2.8
2029	0.0	0.0	0.0	0.5	0.2	-0.3	7.0	3.0	-4.1
2030	0.0	0.2	0.2	0.5	0.7	0.2	7.1	8.5	1.4
2031	0.0	0.2	0.1	0.5	0.7	0.2	7.2	8.6	1.4

Table 600 - Regulatory Costs ($Billions) for Light Truck Fleet Between Alt 0 - No Action and Alt 2

Regulatory Costs ($Billions) for Light Truck Fleet Between Alt 0 - No Action and Alt 2												
Model Year	BMW			Ferrari			Ford			GM		
	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	0.2	0.2	0.0	0.0	0.0	0.0	0.8	0.8	0.0	0.8	0.8	0.0
2026	0.1	0.1	0.0	0.0	0.0	0.0	0.7	0.7	0.0	1.0	1.0	0.0
2027	0.3	0.2	-0.1	0.0	0.0	0.0	1.8	1.1	-0.7	3.6	1.3	-2.3
2028	0.3	0.2	-0.1	0.0	0.0	0.0	2.1	1.0	-1.1	5.0	1.3	-3.7
2029	0.4	0.2	-0.2	0.0	0.0	0.0	2.1	1.0	-1.1	5.1	1.3	-3.8
2030	0.4	0.0	-0.4	0.0	0.0	0.0	2.5	0.6	-1.9	5.4	0.3	-5.1
2031	0.4	0.0	-0.4	0.0	0.0	0.0	2.6	0.6	-1.9	5.8	0.4	-5.4

Table 601 - Regulatory Costs ($Billions) for Light Truck Fleet Between Alt 0 - No Action and Alt 2

Regulatory Costs ($Billions) for Light Truck Fleet Between Alt 0 - No Action and Alt 2												
Model Year	Honda			Hyundai			Ineos			JLR		
	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	0.3	0.3	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2026	0.4	0.4	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.1	0.1	0.0
2027	0.4	0.4	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.2	0.1	-0.1
2028	0.5	0.3	-0.2	0.9	0.5	-0.4	0.0	0.0	0.0	0.1	0.1	0.0
2029	0.5	0.3	-0.2	1.1	0.5	-0.6	0.0	0.0	0.0	0.2	0.1	-0.1
2030	0.6	0.0	-0.5	1.1	0.0	-1.1	0.0	0.0	0.0	0.2	0.0	-0.2
2031	0.6	0.0	-0.6	1.1	0.0	-1.1	0.0	0.0	0.0	0.1	-0.1	-0.2

Table 602 - Regulatory Costs ($Billions) for Light Truck Fleet Between Alt 0 - No Action and Alt 2

Regulatory Costs ($Billions) for Light Truck Fleet Between Alt 0 - No Action and Alt 2												
Model Year	KIA			Mazda			Mercedes-Benz			Mitsubishi		
	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2026	0.8	0.8	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0
2027	0.7	0.7	0.0	0.4	0.1	-0.4	0.2	0.1	-0.1	0.1	0.0	-0.1
2028	1.0	0.7	-0.3	0.4	0.1	-0.4	0.2	0.1	-0.1	0.2	0.0	-0.2
2029	1.0	0.7	-0.3	0.5	0.1	-0.4	0.2	0.1	-0.1	0.2	0.0	-0.2
2030	1.0	0.0	-1.0	0.5	0.0	-0.5	0.3	0.1	-0.1	0.2	0.0	-0.2
2031	1.0	0.0	-1.0	0.7	0.0	-0.7	0.3	0.1	-0.1	0.2	0.0	-0.2

Table 603 - Regulatory Costs ($Billions) for Light Truck Fleet Between Alt 0 - No Action and Alt 2

Regulatory Costs ($Billions) for Light Truck Fleet Between Alt 0 - No Action and Alt 2												
Model Year	Nissan			Stellantis			Subaru			Toyota		
	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	0.1	0.1	0.0	0.2	0.2	0.0	0.5	0.5	0.0	0.4	0.4	0.0
2026	0.1	0.1	0.0	0.4	0.4	0.0	0.6	0.6	0.0	1.0	1.0	0.0
2027	0.4	0.2	-0.2	1.4	0.6	-0.8	0.6	0.6	0.0	1.1	1.0	-0.1
2028	0.3	0.2	-0.1	1.8	0.6	-1.2	0.6	0.6	0.0	1.1	1.0	-0.2
2029	0.5	0.2	-0.3	2.2	0.7	-1.5	0.7	0.6	0.0	1.3	1.0	-0.3
2030	0.6	0.2	-0.4	2.3	0.6	-1.7	0.7	0.0	-0.7	1.5	0.4	-1.1
2031	0.6	0.2	-0.4	2.3	0.6	-1.7	0.9	0.0	-0.9	1.6	0.4	-1.2

Table 604 - Regulatory Costs ($Billions) for Light Truck Fleet Between Alt 0 - No Action and Alt 2

Regulatory Costs ($Billions) for Light Truck Fleet Between Alt 0 - No Action and Alt 2									
Model Year	Volvo			VWA			Total		
	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference	Alt 0 - No Action	Alt 2	Difference
2024	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2025	0.0	0.0	0.0	0.3	0.3	0.0	4.2	4.2	0.0
2026	0.2	0.2	0.0	0.4	0.4	0.0	6.4	6.4	0.0
2027	0.2	0.2	0.0	0.9	0.5	-0.4	12.7	7.5	-5.2
2028	0.2	0.1	0.0	1.0	0.5	-0.5	15.8	7.4	-8.4
2029	0.2	0.2	-0.1	1.0	0.5	-0.5	17.1	7.5	-9.6
2030	0.2	0.0	-0.2	1.0	0.0	-1.0	18.5	2.4	-16.1
2031	0.2	0.0	-0.2	1.0	0.0	-1.0	19.5	2.5	-17.0

A14. Regulatory Cost, Price Increase, Sales, and Labor Utilization

Table 605 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Total Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Total Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	13.7	13.7	0.0	0.0%	885	885	0.0	0.0%
2025	6	6	0	0%	484	484	0	0%	12.7	12.7	0.0	0.0%	833	833	0.0	0.0%
2026	10	10	0	0%	803	803	0	0%	12.2	12.2	0.0	0.0%	804	804	0.0	0.0%
2027	18	11	-7	-40%	1,525	917	-608	-40%	11.6	11.6	0.0	0.3%	776	772	-4.4	-0.6%
2028	22	10	-11	-52%	1,929	926	-1,003	-52%	11.3	11.3	0.1	0.5%	760	753	-7.0	-0.9%
2029	24	10	-14	-57%	2,143	925	-1,218	-57%	11.3	11.3	0.1	0.6%	764	755	-9.2	-1.2%
2030	26	11	-15	-57%	2,200	930	-1,269	-58%	11.6	11.7	0.1	0.6%	791	781	-9.7	-1.2%
2031	27	11	-16	-59%	2,238	921	-1,318	-59%	11.9	12.0	0.1	0.7%	814	804	-10.6	-1.3%

Table 606 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Passenger Car Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Passenger Car Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	4.3	4.3	0.0	0.0%	203	203	0.0	0.0%
2025	2	2	0	0%	533	533	0	0%	3.7	3.7	0.0	0.0%	179	179	0.0	0.0%
2026	3	3	0	0%	962	962	0	0%	3.5	3.5	0.0	0.0%	168	168	0.0	0.0%
2027	5	3	-2	-36%	1,574	1,006	-568	-36%	3.2	3.2	0.0	0.2%	155	154	-1.1	-0.7%
2028	6	3	-3	-48%	1,945	1,008	-937	-48%	3.0	3.0	0.0	0.2%	149	147	-2.1	-1.4%
2029	7	3	-4	-58%	2,361	984	-1,377	-58%	3.0	3.0	0.0	1.0%	147	145	-1.7	-1.2%
2030	7	8	1	20%	2,354	1,021	-1,333	-57%	3.0	8.3	5.3	176.3%	148	460	312.0	210.3%
2031	7	9	1	19%	2,383	1,009	-1,375	-58%	3.0	8.5	5.5	180.6%	150	472	322.5	215.4%

Table 607 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Light Truck Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Light Truck Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	9.4	9.4	0.0	0.0%	681	681	0.0	0.0%
2025	4	4	0	0%	463	463	0	0%	9.0	9.0	0.0	0.0%	654	654	0.0	0.0%
2026	6	6	0	0%	740	740	0	0%	8.7	8.7	0.0	0.0%	636	636	0.0	0.0%
2027	13	7	-5	-41%	1,506	883	-623	-41%	8.4	8.4	0.0	0.4%	621	618	-3.3	-0.5%
2028	16	7	-8	-53%	1,923	896	-1,027	-53%	8.2	8.3	0.1	0.6%	612	607	-4.9	-0.8%
2029	17	8	-10	-56%	2,065	904	-1,161	-56%	8.3	8.3	0.0	0.5%	617	610	-7.5	-1.2%
2030	18	2	-16	-87%	2,146	708	-1,438	-67%	8.6	3.4	-5.2	-60.8%	643	321	-321.8	-50.1%
2031	19	2	-17	-87%	2,189	706	-1,483	-68%	8.9	3.5	-5.4	-60.8%	665	332	-333.1	-50.1%

Table 608 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (BMW) Total Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (BMW) Total Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.4	0.4	0.0	0.0%	18	18	0.0	0.0%
2025	0	0	0	0%	977	977	0	0%	0.3	0.3	0.0	0.0%	17	17	0.0	0.0%
2026	0	0	0	0%	1,236	1,236	0	0%	0.3	0.3	0.0	0.0%	16	16	0.0	0.0%
2027	1	0	0	-26%	1,834	1,346	-488	-27%	0.3	0.3	0.0	0.3%	16	16	-0.1	-0.4%
2028	1	0	0	-29%	1,961	1,388	-573	-29%	0.3	0.3	0.0	0.5%	15	15	0.0	-0.2%
2029	1	0	0	-40%	2,281	1,366	-915	-40%	0.3	0.3	0.0	0.7%	15	15	0.0	-0.2%
2030	1	0	0	-41%	2,295	1,339	-955	-42%	0.3	0.3	0.0	0.7%	16	16	0.0	-0.2%
2031	1	0	0	-51%	2,691	1,311	-1,380	-51%	0.3	0.3	0.0	0.7%	16	16	0.0	-0.2%

Table 609 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ferrari) Total Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ferrari) Total Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2025	0	0	0	0%	14	14	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2026	0	0	0	0%	2,297	2,297	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2027	0	0	0	0%	2,229	2,228	-1	0%	0.0	0.0	0.0	0.2%	0	0	0.0	0.2%
2028	0	0	0	0%	2,253	2,251	-2	0%	0.0	0.0	0.0	0.2%	0	0	0.0	0.2%
2029	0	0	0	1%	2,184	2,180	-4	0%	0.0	0.0	0.0	1.1%	0	0	0.0	1.1%
2030	0	0	0	1%	2,907	2,906	-2	0%	0.0	0.0	0.0	0.9%	0	0	0.0	0.9%
2031	0	0	0	1%	2,971	2,969	-2	0%	0.0	0.0	0.0	1.0%	0	0	0.0	1.0%

Table 610 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ford) Total Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ford) Total Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	1.5	1.5	0.0	0.0%	132	132	0.0	0.0%
2025	1	1	0	0%	525	525	0	0%	1.4	1.4	0.0	0.0%	125	125	0.0	0.0%
2026	1	1	0	0%	514	514	0	0%	1.4	1.4	0.0	0.0%	121	121	0.0	0.0%
2027	2	1	-1	-41%	1,419	835	-584	-41%	1.3	1.3	0.0	0.3%	117	117	-0.3	-0.2%
2028	2	1	-1	-50%	1,687	835	-853	-51%	1.3	1.3	0.0	0.6%	114	114	-0.2	-0.2%
2029	2	1	-1	-50%	1,669	827	-842	-50%	1.3	1.3	0.0	0.5%	115	115	-0.3	-0.3%
2030	3	1	-1	-54%	1,908	864	-1,044	-55%	1.4	1.4	0.0	0.6%	119	119	-0.4	-0.3%
2031	3	1	-1	-54%	1,888	855	-1,033	-55%	1.4	1.4	0.0	0.6%	123	123	-0.4	-0.3%

Table 611 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (GM) Total Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (GM) Total Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	2.2	2.2	0.0	0.0%	169	169	0.0	0.0%
2025	1	1	0	0%	604	604	0	0%	2.1	2.1	0.0	0.0%	161	161	0.0	0.0%
2026	2	2	0	0%	1,039	1,039	0	0%	2.0	2.0	0.0	0.0%	155	155	0.0	0.0%
2027	5	2	-2	-52%	2,480	1,188	-1,292	-52%	1.9	1.9	0.0	0.3%	152	150	-2.3	-1.5%
2028	6	2	-4	-63%	3,299	1,210	-2,089	-63%	1.8	1.9	0.0	0.5%	150	146	-3.6	-2.4%
2029	7	2	-4	-66%	3,607	1,206	-2,401	-67%	1.8	1.9	0.0	0.6%	151	147	-4.1	-2.7%
2030	7	2	-5	-67%	3,663	1,186	-2,477	-68%	1.9	1.9	0.0	0.6%	156	152	-4.4	-2.8%
2031	7	2	-5	-68%	3,745	1,184	-2,561	-68%	2.0	2.0	0.0	0.6%	162	157	-4.7	-2.9%

Table 612 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Honda) Total Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Honda) Total Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	1.2	1.2	0.0	0.0%	102	102	0.0	0.0%
2025	0	0	0	0%	287	287	0	0%	1.1	1.1	0.0	0.0%	94	94	0.0	0.0%
2026	0	0	0	0%	377	377	0	0%	1.1	1.1	0.0	0.0%	89	89	0.0	0.0%
2027	1	0	0	-15%	496	421	-75	-15%	1.0	1.0	0.0	0.3%	85	85	0.1	0.1%
2028	1	0	-1	-66%	1,171	397	-774	-66%	1.0	1.0	0.0	0.4%	83	82	-1.1	-1.3%
2029	1	0	-1	-76%	1,399	330	-1,069	-76%	1.0	1.0	0.0	0.8%	83	82	-1.2	-1.4%
2030	1	0	-1	-79%	1,422	302	-1,120	-79%	1.0	1.0	0.0	0.7%	86	84	-1.3	-1.6%
2031	1	0	-1	-83%	1,395	242	-1,153	-83%	1.0	1.0	0.0	0.8%	88	86	-1.4	-1.6%

Table 613 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Hyundai) Total Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Hyundai) Total Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.8	0.8	0.0	0.0%	21	21	0.0	0.0%
2025	0	0	0	0%	254	254	0	0%	0.7	0.7	0.0	0.0%	20	20	0.0	0.0%
2026	1	1	0	0%	797	797	0	0%	0.7	0.7	0.0	0.0%	19	19	0.0	0.0%
2027	1	1	0	-38%	1,433	884	-550	-38%	0.7	0.7	0.0	0.3%	18	18	0.0	0.2%
2028	2	1	-1	-63%	2,481	902	-1,579	-64%	0.6	0.6	0.0	0.5%	18	18	-0.1	-0.4%
2029	2	1	-1	-70%	2,956	892	-2,065	-70%	0.6	0.6	0.0	0.7%	18	18	-0.3	-1.6%
2030	2	1	-1	-69%	2,905	888	-2,017	-69%	0.7	0.7	0.0	0.7%	19	19	-0.3	-1.6%
2031	2	1	-1	-69%	2,846	883	-1,963	-69%	0.7	0.7	0.0	0.7%	19	19	-0.3	-1.5%

Table 614 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ineos) Total Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ineos) Total Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2025	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2026	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2027	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.4%	0	0	0.0	0.4%
2028	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.6%	0	0	0.0	0.6%
2029	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.5%	0	0	0.0	0.5%
2030	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.5%	0	0	0.0	0.5%
2031	0	0	0	-41%	2,731	1,608	-1,123	-41%	0.0	0.0	0.0	0.5%	0	0	0.0	0.5%

Table 615 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (JLR) Total Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (JLR) Total Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.1	0.1	0.0	0.0%	1	1	0.0	0.0%
2025	0	0	0	0%	252	252	0	0%	0.1	0.1	0.0	0.0%	1	1	0.0	0.0%
2026	0	0	0	0%	1,089	1,089	0	0%	0.1	0.1	0.0	0.0%	1	1	0.0	0.0%
2027	0	0	0	-30%	1,997	1,386	-611	-31%	0.1	0.1	0.0	0.4%	1	1	0.0	-0.7%
2028	0	0	0	-30%	1,955	1,358	-597	-31%	0.1	0.1	0.0	0.6%	1	1	0.0	-0.5%
2029	0	0	0	-54%	2,020	926	-1,094	-54%	0.1	0.1	0.0	0.5%	1	1	0.0	-0.7%
2030	0	0	0	-54%	1,984	909	-1,076	-54%	0.1	0.1	0.0	0.5%	1	1	0.0	-0.6%
2031	0	0	0	-82%	1,723	303	-1,419	-82%	0.1	0.1	0.0	0.5%	1	1	0.0	-1.0%

Table 616 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (KIA) Total Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (KIA) Total Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.7	0.7	0.0	0.0%	37	37	0.0	0.0%
2025	1	1	0	0%	1,344	1,344	0	0%	0.6	0.6	0.0	0.0%	35	35	0.0	0.0%
2026	1	1	0	0%	2,025	2,025	0	0%	0.6	0.6	0.0	0.0%	34	34	0.0	0.0%
2027	1	1	0	-2%	2,048	2,011	-38	-2%	0.6	0.6	0.0	0.3%	33	33	0.1	0.3%
2028	1	1	0	-24%	2,614	1,979	-636	-24%	0.6	0.6	0.0	0.5%	32	32	0.0	0.0%
2029	2	1	-1	-34%	2,974	1,950	-1,023	-34%	0.6	0.6	0.0	0.7%	32	32	-0.1	-0.2%
2030	2	1	-1	-34%	2,927	1,923	-1,004	-34%	0.6	0.6	0.0	0.7%	33	33	0.0	-0.1%
2031	2	1	-1	-34%	2,897	1,892	-1,005	-35%	0.6	0.6	0.0	0.7%	34	34	-0.1	-0.2%

Table 617 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mazda) Total Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mazda) Total Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.4	0.4	0.0	0.0%	12	12	0.0	0.0%
2025	0	0	0	0%	16	16	0	0%	0.4	0.4	0.0	0.0%	12	12	0.0	0.0%
2026	0	0	0	0%	16	16	0	0%	0.4	0.4	0.0	0.0%	11	11	0.0	0.0%
2027	1	0	0	-88%	1,435	166	-1,269	-88%	0.4	0.4	0.0	0.3%	11	11	0.0	0.0%
2028	1	0	0	-88%	1,412	164	-1,247	-88%	0.4	0.4	0.0	0.6%	11	11	0.0	0.3%
2029	1	0	-1	-87%	1,687	213	-1,474	-87%	0.4	0.4	0.0	0.5%	11	11	-0.1	-1.1%
2030	1	0	-1	-87%	1,664	212	-1,452	-87%	0.4	0.4	0.0	0.6%	11	11	-0.1	-1.1%
2031	1	0	-1	-84%	1,930	300	-1,630	-84%	0.4	0.4	0.0	0.6%	12	12	-0.1	-1.1%

Table 618 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mercedes-Benz) Total Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mercedes-Benz) Total Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.3	0.3	0.0	0.0%	12	12	0.0	0.0%
2025	0	0	0	0%	93	93	0	0%	0.2	0.2	0.0	0.0%	11	11	0.0	0.0%
2026	0	0	0	0%	754	754	0	0%	0.2	0.2	0.0	0.0%	11	11	0.0	0.0%
2027	0	0	0	-36%	1,227	783	-444	-36%	0.2	0.2	0.0	0.3%	10	10	0.0	0.3%
2028	0	0	0	-35%	1,234	793	-442	-36%	0.2	0.2	0.0	0.5%	10	10	0.1	0.6%
2029	0	0	0	-42%	1,286	738	-549	-43%	0.2	0.2	0.0	0.7%	10	10	0.0	0.5%
2030	0	0	0	-57%	1,739	740	-999	-57%	0.2	0.2	0.0	0.7%	11	11	0.1	0.5%
2031	0	0	0	-58%	1,715	711	-1,003	-59%	0.2	0.2	0.0	0.7%	11	11	0.1	0.5%

Table 619 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mitsubishi) Total Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mitsubishi) Total Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.2	0.2	0.0	0.0%	2	2	0.0	0.0%
2025	0	0	0	0%	124	124	0	0%	0.1	0.1	0.0	0.0%	2	2	0.0	0.0%
2026	0	0	0	0%	451	451	0	0%	0.1	0.1	0.0	0.0%	2	2	0.0	0.0%
2027	0	0	0	-44%	921	511	-410	-45%	0.1	0.1	0.0	0.3%	2	2	0.0	0.2%
2028	0	0	0	-72%	2,007	567	-1,440	-72%	0.1	0.1	0.0	0.5%	2	2	0.0	0.4%
2029	0	0	0	-77%	2,021	453	-1,569	-78%	0.1	0.1	0.0	0.6%	2	2	0.0	0.3%
2030	0	0	0	-78%	1,987	439	-1,548	-78%	0.1	0.1	0.0	0.6%	2	2	0.0	0.3%
2031	0	0	0	-78%	1,940	427	-1,513	-78%	0.1	0.1	0.0	0.6%	2	2	0.0	0.3%

Table 620 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Nissan) Total Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Nissan) Total Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.8	0.8	0.0	0.0%	51	51	0.0	0.0%
2025	0	0	0	0%	490	490	0	0%	0.8	0.8	0.0	0.0%	47	47	0.0	0.0%
2026	1	1	0	0%	735	735	0	0%	0.7	0.7	0.0	0.0%	45	45	0.0	0.0%
2027	1	1	0	-44%	1,492	834	-659	-44%	0.7	0.7	0.0	0.3%	43	42	-0.2	-0.4%
2028	1	1	0	-44%	1,454	804	-650	-45%	0.7	0.7	0.0	0.4%	41	41	-0.1	-0.2%
2029	1	0	-1	-54%	1,621	733	-888	-55%	0.6	0.7	0.0	0.8%	41	41	-0.2	-0.6%
2030	1	1	-1	-58%	1,787	749	-1,038	-58%	0.7	0.7	0.0	0.7%	43	42	-0.4	-0.9%
2031	1	1	-1	-58%	1,760	738	-1,023	-58%	0.7	0.7	0.0	0.8%	44	43	-0.4	-0.8%

Table 621 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Stellantis) Total Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Stellantis) Total Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	1.0	1.0	0.0	0.0%	94	94	0.0	0.0%
2025	0	0	0	0%	207	207	0	0%	1.0	1.0	0.0	0.0%	90	90	0.0	0.0%
2026	0	0	0	0%	449	449	0	0%	0.9	0.9	0.0	0.0%	88	88	0.0	0.0%
2027	1	1	-1	-59%	1,544	636	-909	-59%	0.9	0.9	0.0	0.4%	86	85	-0.8	-0.9%
2028	2	1	-1	-66%	2,071	701	-1,370	-66%	0.9	0.9	0.0	0.6%	85	84	-1.3	-1.5%
2029	2	1	-1	-67%	2,555	844	-1,712	-67%	0.9	0.9	0.0	0.5%	86	84	-2.1	-2.4%
2030	2	1	-2	-67%	2,544	835	-1,709	-67%	0.9	0.9	0.0	0.6%	90	88	-2.1	-2.3%
2031	2	1	-2	-66%	2,511	842	-1,669	-66%	0.9	0.9	0.0	0.5%	93	91	-2.1	-2.2%

Table 622 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Subaru) Total Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Subaru) Total Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.7	0.7	0.0	0.0%	38	38	0.0	0.0%
2025	0	0	0	0%	736	736	0	0%	0.7	0.7	0.0	0.0%	36	36	0.0	0.0%
2026	1	1	0	0%	1,075	1,075	0	0%	0.7	0.7	0.0	0.0%	35	35	0.0	0.0%
2027	1	1	0	0%	1,064	1,062	-2	0%	0.6	0.6	0.0	0.3%	34	34	0.1	0.3%
2028	1	1	0	-1%	1,119	1,103	-16	-1%	0.6	0.6	0.0	0.6%	33	33	0.2	0.6%
2029	1	1	0	-15%	1,365	1,158	-207	-15%	0.6	0.6	0.0	0.5%	33	33	0.1	0.4%
2030	1	1	0	-14%	1,340	1,141	-199	-15%	0.6	0.6	0.0	0.6%	35	35	0.2	0.5%
2031	1	1	0	-28%	1,579	1,126	-453	-29%	0.7	0.7	0.0	0.6%	36	36	-0.1	-0.3%

Table 623 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Toyota) Total Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Toyota) Total Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	2.5	2.5	0.0	0.0%	171	171	0.0	0.0%
2025	1	1	0	0%	365	365	0	0%	2.3	2.3	0.0	0.0%	159	159	0.0	0.0%
2026	2	2	0	0%	764	764	0	0%	2.2	2.2	0.0	0.0%	154	154	0.0	0.0%
2027	2	2	-1	-30%	1,134	793	-342	-30%	2.1	2.1	0.0	0.3%	147	146	-0.7	-0.5%
2028	2	2	-1	-32%	1,172	796	-376	-32%	2.0	2.0	0.0	0.5%	143	142	-0.5	-0.3%
2029	3	2	-1	-36%	1,279	811	-468	-37%	2.0	2.0	0.0	0.6%	143	142	-0.6	-0.4%
2030	3	2	-1	-36%	1,334	843	-491	-37%	2.1	2.1	0.0	0.7%	147	147	-0.7	-0.4%
2031	3	2	-1	-38%	1,383	857	-526	-38%	2.1	2.1	0.0	0.7%	151	150	-0.8	-0.5%

Table 624 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Volvo) Total Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Volvo) Total Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.1	0.1	0.0	0.0%	3	3	0.0	0.0%
2025	0	0	0	0%	0	0	0	0%	0.1	0.1	0.0	0.0%	3	3	0.0	0.0%
2026	0	0	0	0%	1,688	1,688	0	0%	0.1	0.1	0.0	0.0%	3	3	0.0	0.0%
2027	0	0	0	-12%	1,853	1,624	-229	-12%	0.1	0.1	0.0	0.3%	2	2	0.0	0.3%
2028	0	0	0	-17%	1,933	1,602	-331	-17%	0.1	0.1	0.0	0.6%	2	2	0.0	0.3%
2029	0	0	0	-31%	2,438	1,683	-754	-31%	0.1	0.1	0.0	0.6%	2	2	0.0	0.6%
2030	0	0	0	-31%	2,395	1,650	-745	-31%	0.1	0.1	0.0	0.6%	2	2	0.0	0.6%
2031	0	0	0	-31%	2,326	1,595	-731	-31%	0.1	0.1	0.0	0.6%	2	2	0.0	0.6%

Table 625 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (VWA) Total Fleet Between Alt 0 - No Action and Alt 1

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (VWA) Total Fleet Between Alt 0 - No Action and Alt 1																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent	Alt 0 - No Action	Alt 1	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.7	0.7	0.0	0.0%	22	22	0.0	0.0%
2025	0	0	0	0%	691	691	0	0%	0.7	0.7	0.0	0.0%	21	21	0.0	0.0%
2026	1	1	0	0%	863	863	0	0%	0.7	0.7	0.0	0.0%	20	20	0.0	0.0%
2027	1	1	-1	-45%	1,920	1,049	-872	-45%	0.6	0.6	0.0	0.3%	20	19	-0.4	-2.3%
2028	1	1	-1	-57%	2,458	1,063	-1,395	-57%	0.6	0.6	0.0	0.5%	19	19	-0.4	-2.0%
2029	1	1	-1	-56%	2,420	1,052	-1,368	-57%	0.6	0.6	0.0	0.6%	19	19	-0.4	-2.0%
2030	1	1	-1	-52%	2,383	1,129	-1,254	-53%	0.6	0.6	0.0	0.6%	20	20	-0.3	-1.5%
2031	2	1	-1	-52%	2,372	1,121	-1,251	-53%	0.6	0.6	0.0	0.7%	20	20	-0.3	-1.5%

Table 626 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Total Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Total Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	13.7	13.7	0.0	0.0%	885	885	0.0	0.0%
2025	6	6	0	0%	484	484	0	0%	12.7	12.7	0.0	0.0%	833	833	0.0	0.0%
2026	10	10	0	0%	803	803	0	0%	12.2	12.2	0.0	0.0%	804	804	0.0	0.0%
2027	18	11	-7	-39%	1,525	920	-605	-40%	11.6	11.6	0.0	0.3%	776	772	-4.3	-0.6%
2028	22	11	-11	-52%	1,929	929	-1,000	-52%	11.3	11.3	0.1	0.5%	760	753	-6.9	-0.9%
2029	24	11	-14	-56%	2,143	928	-1,215	-57%	11.3	11.3	0.1	0.6%	764	755	-9.1	-1.2%
2030	26	11	-15	-57%	2,200	933	-1,266	-58%	11.6	11.7	0.1	0.6%	791	781	-9.7	-1.2%
2031	27	11	-16	-58%	2,238	924	-1,315	-59%	11.9	12.0	0.1	0.7%	814	804	-10.6	-1.3%

Table 627 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Passenger Car Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Passenger Car Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	4.3	4.3	0.0	0.0%	203	203	0.0	0.0%
2025	2	2	0	0%	533	533	0	0%	3.7	3.7	0.0	0.0%	179	179	0.0	0.0%
2026	3	3	0	0%	962	962	0	0%	3.5	3.5	0.0	0.0%	168	168	0.0	0.0%
2027	5	3	-2	-36%	1,574	1,010	-564	-36%	3.2	3.2	0.0	0.2%	155	154	-1.1	-0.7%
2028	6	3	-3	-48%	1,945	1,012	-933	-48%	3.0	3.0	0.0	0.2%	149	147	-2.1	-1.4%
2029	7	3	-4	-58%	2,361	988	-1,373	-58%	3.0	3.0	0.0	1.0%	147	145	-1.7	-1.2%
2030	7	9	1	20%	2,354	1,025	-1,329	-56%	3.0	8.3	5.3	176.3%	148	460	312.1	210.4%
2031	7	9	1	19%	2,383	1,013	-1,371	-58%	3.0	8.5	5.5	180.6%	150	472	322.6	215.4%

Table 628 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Light Truck Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Light Truck Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	9.4	9.4	0.0	0.0%	681	681	0.0	0.0%
2025	4	4	0	0%	463	463	0	0%	9.0	9.0	0.0	0.0%	654	654	0.0	0.0%
2026	6	6	0	0%	740	740	0	0%	8.7	8.7	0.0	0.0%	636	636	0.0	0.0%
2027	13	7	-5	-41%	1,506	886	-621	-41%	8.4	8.4	0.0	0.4%	621	618	-3.2	-0.5%
2028	16	7	-8	-53%	1,923	899	-1,025	-53%	8.2	8.3	0.1	0.6%	612	607	-4.8	-0.8%
2029	17	8	-10	-56%	2,065	906	-1,159	-56%	8.3	8.3	0.0	0.5%	617	610	-7.4	-1.2%
2030	18	2	-16	-87%	2,146	708	-1,438	-67%	8.6	3.4	-5.2	-60.8%	643	321	-321.8	-50.1%
2031	19	2	-17	-87%	2,189	706	-1,483	-68%	8.9	3.5	-5.4	-60.8%	665	332	-333.1	-50.1%

Table 629 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (BMW) Total Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (BMW) Total Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.4	0.4	0.0	0.0%	18	18	0.0	0.0%
2025	0	0	0	0%	977	977	0	0%	0.3	0.3	0.0	0.0%	17	17	0.0	0.0%
2026	0	0	0	0%	1,236	1,236	0	0%	0.3	0.3	0.0	0.0%	16	16	0.0	0.0%
2027	1	0	0	-26%	1,834	1,346	-488	-27%	0.3	0.3	0.0	0.3%	16	16	-0.1	-0.4%
2028	1	0	0	-29%	1,961	1,388	-573	-29%	0.3	0.3	0.0	0.5%	15	15	0.0	-0.2%
2029	1	0	0	-40%	2,281	1,366	-915	-40%	0.3	0.3	0.0	0.7%	15	15	0.0	-0.2%
2030	1	0	0	-41%	2,295	1,339	-955	-42%	0.3	0.3	0.0	0.7%	16	16	0.0	-0.2%
2031	1	0	0	-51%	2,691	1,311	-1,380	-51%	0.3	0.3	0.0	0.7%	16	16	0.0	-0.2%

Table 630 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ferrari) Total Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ferrari) Total Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2025	0	0	0	0%	14	14	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2026	0	0	0	0%	2,297	2,297	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2027	0	0	0	0%	2,229	2,228	-1	0%	0.0	0.0	0.0	0.2%	0	0	0.0	0.2%
2028	0	0	0	0%	2,253	2,251	-2	0%	0.0	0.0	0.0	0.2%	0	0	0.0	0.2%
2029	0	0	0	1%	2,184	2,180	-4	0%	0.0	0.0	0.0	1.1%	0	0	0.0	1.1%
2030	0	0	0	1%	2,907	2,906	-2	0%	0.0	0.0	0.0	0.9%	0	0	0.0	0.9%
2031	0	0	0	1%	2,971	2,969	-2	0%	0.0	0.0	0.0	1.0%	0	0	0.0	1.0%

Table 631 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ford) Total Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ford) Total Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	1.5	1.5	0.0	0.0%	132	132	0.0	0.0%
2025	1	1	0	0%	525	525	0	0%	1.4	1.4	0.0	0.0%	125	125	0.0	0.0%
2026	1	1	0	0%	514	514	0	0%	1.4	1.4	0.0	0.0%	121	121	0.0	0.0%
2027	2	1	-1	-40%	1,419	844	-575	-41%	1.3	1.3	0.0	0.3%	117	117	-0.3	-0.2%
2028	2	1	-1	-50%	1,687	844	-844	-50%	1.3	1.3	0.0	0.6%	114	114	-0.2	-0.2%
2029	2	1	-1	-50%	1,669	836	-833	-50%	1.3	1.3	0.0	0.5%	115	115	-0.3	-0.3%
2030	3	1	-1	-54%	1,908	872	-1,036	-54%	1.4	1.4	0.0	0.6%	119	119	-0.4	-0.3%
2031	3	1	-1	-54%	1,888	863	-1,025	-54%	1.4	1.4	0.0	0.6%	123	123	-0.4	-0.3%

Table 632 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (GM) Total Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (GM) Total Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	2.2	2.2	0.0	0.0%	169	169	0.0	0.0%
2025	1	1	0	0%	604	604	0	0%	2.1	2.1	0.0	0.0%	161	161	0.0	0.0%
2026	2	2	0	0%	1,039	1,039	0	0%	2.0	2.0	0.0	0.0%	155	155	0.0	0.0%
2027	5	2	-2	-52%	2,480	1,188	-1,292	-52%	1.9	1.9	0.0	0.3%	152	150	-2.3	-1.5%
2028	6	2	-4	-63%	3,299	1,210	-2,089	-63%	1.8	1.9	0.0	0.5%	150	146	-3.6	-2.4%
2029	7	2	-4	-66%	3,607	1,206	-2,401	-67%	1.8	1.9	0.0	0.6%	151	147	-4.1	-2.7%
2030	7	2	-5	-67%	3,663	1,186	-2,477	-68%	1.9	1.9	0.0	0.6%	156	152	-4.4	-2.8%
2031	7	2	-5	-68%	3,745	1,184	-2,561	-68%	2.0	2.0	0.0	0.6%	162	157	-4.7	-2.9%

Table 633 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Honda) Total Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Honda) Total Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	1.2	1.2	0.0	0.0%	102	102	0.0	0.0%
2025	0	0	0	0%	287	287	0	0%	1.1	1.1	0.0	0.0%	94	94	0.0	0.0%
2026	0	0	0	0%	377	377	0	0%	1.1	1.1	0.0	0.0%	89	89	0.0	0.0%
2027	1	0	0	-15%	496	421	-75	-15%	1.0	1.0	0.0	0.3%	85	85	0.1	0.1%
2028	1	0	-1	-66%	1,171	397	-774	-66%	1.0	1.0	0.0	0.4%	83	82	-1.1	-1.3%
2029	1	0	-1	-76%	1,399	330	-1,069	-76%	1.0	1.0	0.0	0.7%	83	82	-1.2	-1.4%
2030	1	0	-1	-79%	1,422	302	-1,120	-79%	1.0	1.0	0.0	0.7%	86	84	-1.3	-1.6%
2031	1	0	-1	-83%	1,395	242	-1,153	-83%	1.0	1.0	0.0	0.8%	88	86	-1.4	-1.6%

Table 634 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Hyundai) Total Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Hyundai) Total Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.8	0.8	0.0	0.0%	21	21	0.0	0.0%
2025	0	0	0	0%	254	254	0	0%	0.7	0.7	0.0	0.0%	20	20	0.0	0.0%
2026	1	1	0	0%	797	797	0	0%	0.7	0.7	0.0	0.0%	19	19	0.0	0.0%
2027	1	1	0	-38%	1,433	884	-550	-38%	0.7	0.7	0.0	0.3%	18	18	0.0	0.2%
2028	2	1	-1	-63%	2,481	902	-1,579	-64%	0.6	0.6	0.0	0.5%	18	18	-0.1	-0.4%
2029	2	1	-1	-70%	2,956	892	-2,065	-70%	0.6	0.6	0.0	0.7%	18	18	-0.3	-1.6%
2030	2	1	-1	-69%	2,905	888	-2,017	-69%	0.7	0.7	0.0	0.7%	19	19	-0.3	-1.6%
2031	2	1	-1	-69%	2,846	883	-1,963	-69%	0.7	0.7	0.0	0.7%	19	19	-0.3	-1.5%

Table 635 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ineos) Total Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ineos) Total Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2025	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2026	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2027	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.4%	0	0	0.0	0.4%
2028	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.6%	0	0	0.0	0.6%
2029	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.5%	0	0	0.0	0.5%
2030	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.5%	0	0	0.0	0.5%
2031	0	0	0	-41%	2,731	1,608	-1,123	-41%	0.0	0.0	0.0	0.5%	0	0	0.0	0.5%

Table 636 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (JLR) Total Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (JLR) Total Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.1	0.1	0.0	0.0%	1	1	0.0	0.0%
2025	0	0	0	0%	252	252	0	0%	0.1	0.1	0.0	0.0%	1	1	0.0	0.0%
2026	0	0	0	0%	1,089	1,089	0	0%	0.1	0.1	0.0	0.0%	1	1	0.0	0.0%
2027	0	0	0	-30%	1,997	1,386	-611	-31%	0.1	0.1	0.0	0.4%	1	1	0.0	-0.7%
2028	0	0	0	-30%	1,955	1,358	-597	-31%	0.1	0.1	0.0	0.6%	1	1	0.0	-0.5%
2029	0	0	0	-54%	2,020	926	-1,094	-54%	0.1	0.1	0.0	0.5%	1	1	0.0	-0.7%
2030	0	0	0	-54%	1,984	908	-1,076	-54%	0.1	0.1	0.0	0.5%	1	1	0.0	-0.6%
2031	0	0	0	-82%	1,723	303	-1,419	-82%	0.1	0.1	0.0	0.5%	1	1	0.0	-1.0%

Table 637 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (KIA) Total Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (KIA) Total Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.7	0.7	0.0	0.0%	37	37	0.0	0.0%
2025	1	1	0	0%	1,344	1,344	0	0%	0.6	0.6	0.0	0.0%	35	35	0.0	0.0%
2026	1	1	0	0%	2,025	2,025	0	0%	0.6	0.6	0.0	0.0%	34	34	0.0	0.0%
2027	1	1	0	-2%	2,048	2,011	-38	-2%	0.6	0.6	0.0	0.3%	33	33	0.1	0.3%
2028	1	1	0	-24%	2,614	1,979	-636	-24%	0.6	0.6	0.0	0.5%	32	32	0.0	0.0%
2029	2	1	-1	-34%	2,974	1,950	-1,023	-34%	0.6	0.6	0.0	0.7%	32	32	-0.1	-0.2%
2030	2	1	-1	-34%	2,927	1,923	-1,004	-34%	0.6	0.6	0.0	0.7%	33	33	0.0	-0.1%
2031	2	1	-1	-34%	2,897	1,892	-1,005	-35%	0.6	0.6	0.0	0.7%	34	34	-0.1	-0.2%

Table 638 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mazda) Total Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mazda) Total Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.4	0.4	0.0	0.0%	12	12	0.0	0.0%
2025	0	0	0	0%	16	16	0	0%	0.4	0.4	0.0	0.0%	12	12	0.0	0.0%
2026	0	0	0	0%	16	16	0	0%	0.4	0.4	0.0	0.0%	11	11	0.0	0.0%
2027	1	0	0	-88%	1,435	166	-1,269	-88%	0.4	0.4	0.0	0.3%	11	11	0.0	0.1%
2028	1	0	0	-88%	1,412	164	-1,247	-88%	0.4	0.4	0.0	0.6%	11	11	0.0	0.3%
2029	1	0	-1	-87%	1,687	213	-1,474	-87%	0.4	0.4	0.0	0.5%	11	11	-0.1	-1.1%
2030	1	0	-1	-87%	1,664	212	-1,452	-87%	0.4	0.4	0.0	0.6%	11	11	-0.1	-1.1%
2031	1	0	-1	-84%	1,930	300	-1,630	-84%	0.4	0.4	0.0	0.6%	12	12	-0.1	-1.1%

Table 639 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mercedes-Benz) Total Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mercedes-Benz) Total Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.3	0.3	0.0	0.0%	12	12	0.0	0.0%
2025	0	0	0	0%	93	93	0	0%	0.2	0.2	0.0	0.0%	11	11	0.0	0.0%
2026	0	0	0	0%	754	754	0	0%	0.2	0.2	0.0	0.0%	11	11	0.0	0.0%
2027	0	0	0	-36%	1,227	783	-444	-36%	0.2	0.2	0.0	0.3%	10	10	0.0	0.3%
2028	0	0	0	-35%	1,234	793	-441	-36%	0.2	0.2	0.0	0.5%	10	10	0.1	0.6%
2029	0	0	0	-42%	1,286	738	-549	-43%	0.2	0.2	0.0	0.7%	10	10	0.0	0.5%
2030	0	0	0	-57%	1,739	740	-999	-57%	0.2	0.2	0.0	0.7%	11	11	0.1	0.5%
2031	0	0	0	-58%	1,715	711	-1,003	-59%	0.2	0.2	0.0	0.7%	11	11	0.1	0.5%

Table 640 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mitsubishi) Total Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mitsubishi) Total Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.2	0.2	0.0	0.0%	2	2	0.0	0.0%
2025	0	0	0	0%	124	124	0	0%	0.1	0.1	0.0	0.0%	2	2	0.0	0.0%
2026	0	0	0	0%	451	451	0	0%	0.1	0.1	0.0	0.0%	2	2	0.0	0.0%
2027	0	0	0	-44%	921	511	-410	-45%	0.1	0.1	0.0	0.3%	2	2	0.0	0.2%
2028	0	0	0	-72%	2,007	567	-1,440	-72%	0.1	0.1	0.0	0.5%	2	2	0.0	0.4%
2029	0	0	0	-77%	2,021	453	-1,569	-78%	0.1	0.1	0.0	0.6%	2	2	0.0	0.3%
2030	0	0	0	-78%	1,987	439	-1,548	-78%	0.1	0.1	0.0	0.6%	2	2	0.0	0.3%
2031	0	0	0	-78%	1,940	427	-1,513	-78%	0.1	0.1	0.0	0.6%	2	2	0.0	0.3%

Table 641 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Nissan) Total Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Nissan) Total Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.8	0.8	0.0	0.0%	51	51	0.0	0.0%
2025	0	0	0	0%	490	490	0	0%	0.8	0.8	0.0	0.0%	47	47	0.0	0.0%
2026	1	1	0	0%	735	735	0	0%	0.7	0.7	0.0	0.0%	45	45	0.0	0.0%
2027	1	1	0	-44%	1,492	834	-659	-44%	0.7	0.7	0.0	0.3%	43	42	-0.2	-0.4%
2028	1	1	0	-44%	1,454	804	-650	-45%	0.7	0.7	0.0	0.4%	41	41	-0.1	-0.2%
2029	1	0	-1	-54%	1,621	733	-888	-55%	0.6	0.7	0.0	0.8%	41	41	-0.3	-0.6%
2030	1	1	-1	-58%	1,787	749	-1,038	-58%	0.7	0.7	0.0	0.7%	43	42	-0.4	-0.9%
2031	1	1	-1	-58%	1,760	738	-1,023	-58%	0.7	0.7	0.0	0.8%	44	43	-0.4	-0.9%

Table 642 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Stellantis) Total Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Stellantis) Total Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	1.0	1.0	0.0	0.0%	94	94	0.0	0.0%
2025	0	0	0	0%	207	207	0	0%	1.0	1.0	0.0	0.0%	90	90	0.0	0.0%
2026	0	0	0	0%	449	449	0	0%	0.9	0.9	0.0	0.0%	88	88	0.0	0.0%
2027	1	1	-1	-59%	1,544	636	-909	-59%	0.9	0.9	0.0	0.4%	86	85	-0.8	-0.9%
2028	2	1	-1	-66%	2,071	701	-1,370	-66%	0.9	0.9	0.0	0.6%	85	84	-1.3	-1.5%
2029	2	1	-1	-67%	2,555	844	-1,712	-67%	0.9	0.9	0.0	0.5%	86	84	-2.1	-2.4%
2030	2	1	-2	-67%	2,544	835	-1,709	-67%	0.9	0.9	0.0	0.6%	90	88	-2.1	-2.3%
2031	2	1	-2	-66%	2,511	842	-1,669	-66%	0.9	0.9	0.0	0.5%	93	91	-2.1	-2.2%

Table 643 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Subaru) Total Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Subaru) Total Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.7	0.7	0.0	0.0%	38	38	0.0	0.0%
2025	0	0	0	0%	736	736	0	0%	0.7	0.7	0.0	0.0%	36	36	0.0	0.0%
2026	1	1	0	0%	1,075	1,075	0	0%	0.7	0.7	0.0	0.0%	35	35	0.0	0.0%
2027	1	1	0	0%	1,064	1,062	-2	0%	0.6	0.6	0.0	0.3%	34	34	0.1	0.3%
2028	1	1	0	-1%	1,119	1,103	-16	-1%	0.6	0.6	0.0	0.6%	33	33	0.2	0.6%
2029	1	1	0	-15%	1,365	1,158	-207	-15%	0.6	0.6	0.0	0.5%	33	33	0.1	0.4%
2030	1	1	0	-14%	1,340	1,141	-199	-15%	0.6	0.6	0.0	0.6%	35	35	0.2	0.5%
2031	1	1	0	-28%	1,579	1,126	-453	-29%	0.7	0.7	0.0	0.6%	36	36	-0.1	-0.3%

Table 644 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Toyota) Total Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Toyota) Total Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	2.5	2.5	0.0	0.0%	171	171	0.0	0.0%
2025	1	1	0	0%	365	365	0	0%	2.3	2.3	0.0	0.0%	159	159	0.0	0.0%
2026	2	2	0	0%	764	764	0	0%	2.2	2.2	0.0	0.0%	154	154	0.0	0.0%
2027	2	2	-1	-30%	1,134	793	-342	-30%	2.1	2.1	0.0	0.3%	147	146	-0.7	-0.5%
2028	2	2	-1	-32%	1,172	796	-376	-32%	2.0	2.0	0.0	0.5%	143	142	-0.5	-0.3%
2029	3	2	-1	-36%	1,279	811	-468	-37%	2.0	2.0	0.0	0.6%	143	142	-0.6	-0.4%
2030	3	2	-1	-36%	1,334	843	-491	-37%	2.1	2.1	0.0	0.6%	147	147	-0.7	-0.4%
2031	3	2	-1	-38%	1,383	857	-526	-38%	2.1	2.1	0.0	0.7%	151	150	-0.8	-0.5%

Table 645 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Volvo) Total Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Volvo) Total Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.1	0.1	0.0	0.0%	3	3	0.0	0.0%
2025	0	0	0	0%	0	0	0	0%	0.1	0.1	0.0	0.0%	3	3	0.0	0.0%
2026	0	0	0	0%	1,688	1,688	0	0%	0.1	0.1	0.0	0.0%	3	3	0.0	0.0%
2027	0	0	0	-12%	1,853	1,627	-227	-12%	0.1	0.1	0.0	0.3%	2	2	0.0	0.3%
2028	0	0	0	-16%	1,933	1,608	-325	-17%	0.1	0.1	0.0	0.6%	2	2	0.0	0.3%
2029	0	0	0	-30%	2,438	1,689	-749	-31%	0.1	0.1	0.0	0.6%	2	2	0.0	0.6%
2030	0	0	0	-30%	2,395	1,655	-740	-31%	0.1	0.1	0.0	0.6%	2	2	0.0	0.6%
2031	0	0	0	-31%	2,326	1,600	-726	-31%	0.1	0.1	0.0	0.6%	2	2	0.0	0.6%

Table 646 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (VWA) Total Fleet Between Alt 0 - No Action and Alt 2

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (VWA) Total Fleet Between Alt 0 - No Action and Alt 2																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent	Alt 0 - No Action	Alt 2	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.7	0.7	0.0	0.0%	22	22	0.0	0.0%
2025	0	0	0	0%	691	691	0	0%	0.7	0.7	0.0	0.0%	21	21	0.0	0.0%
2026	1	1	0	0%	863	863	0	0%	0.7	0.7	0.0	0.0%	20	20	0.0	0.0%
2027	1	1	-1	-43%	1,920	1,086	-834	-43%	0.6	0.6	0.0	0.3%	20	19	-0.4	-2.1%
2028	1	1	-1	-55%	2,458	1,100	-1,358	-55%	0.6	0.6	0.0	0.5%	19	19	-0.3	-1.8%
2029	1	1	-1	-55%	2,420	1,088	-1,332	-55%	0.6	0.6	0.0	0.6%	19	19	-0.3	-1.8%
2030	1	1	-1	-51%	2,383	1,165	-1,218	-51%	0.6	0.6	0.0	0.6%	20	20	-0.3	-1.3%
2031	2	1	-1	-51%	2,372	1,156	-1,216	-51%	0.6	0.6	0.0	0.7%	20	20	-0.3	-1.3%

Table 647 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Total Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Total Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	13.7	13.7	0.0	0.0%	885	885	0.0	0.0%
2025	6	6	0	0%	484	484	0	0%	12.7	12.7	0.0	0.0%	833	833	0.0	0.0%
2026	10	10	0	0%	803	803	0	0%	12.2	12.2	0.0	0.0%	804	804	0.0	0.0%
2027	18	11	-7	-38%	1,525	946	-579	-38%	11.6	11.6	0.0	0.3%	776	772	-4.0	-0.5%
2028	22	11	-11	-50%	1,929	955	-974	-50%	11.3	11.3	0.1	0.5%	760	754	-6.6	-0.9%
2029	24	11	-13	-55%	2,143	954	-1,189	-55%	11.3	11.3	0.1	0.6%	764	755	-8.8	-1.2%
2030	26	11	-14	-56%	2,200	959	-1,241	-56%	11.6	11.7	0.1	0.6%	791	781	-9.4	-1.2%
2031	27	11	-15	-57%	2,238	949	-1,289	-58%	11.9	12.0	0.1	0.6%	814	804	-10.3	-1.3%

Table 648 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Passenger Car Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Passenger Car Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	4.3	4.3	0.0	0.0%	203	203	0.0	0.0%
2025	2	2	0	0%	533	533	0	0%	3.7	3.7	0.0	0.0%	179	179	0.0	0.0%
2026	3	3	0	0%	962	962	0	0%	3.5	3.5	0.0	0.0%	168	168	0.0	0.0%
2027	5	3	-2	-35%	1,574	1,026	-548	-35%	3.2	3.2	0.0	0.2%	155	154	-1.1	-0.7%
2028	6	3	-3	-47%	1,945	1,028	-917	-47%	3.0	3.0	0.0	0.2%	149	147	-2.1	-1.4%
2029	7	3	-4	-57%	2,361	1,005	-1,356	-57%	3.0	3.0	0.0	1.0%	147	145	-1.7	-1.1%
2030	7	9	2	25%	2,354	1,061	-1,293	-55%	3.0	8.3	5.3	176.2%	148	461	312.4	210.6%
2031	7	9	2	23%	2,383	1,049	-1,335	-56%	3.0	8.5	5.5	180.6%	150	473	322.9	215.7%

Table 649 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Light Truck Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Light Truck Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	9.4	9.4	0.0	0.0%	681	681	0.0	0.0%
2025	4	4	0	0%	463	463	0	0%	9.0	9.0	0.0	0.0%	654	654	0.0	0.0%
2026	6	6	0	0%	740	740	0	0%	8.7	8.7	0.0	0.0%	636	636	0.0	0.0%
2027	13	8	-5	-39%	1,506	916	-590	-39%	8.4	8.4	0.0	0.4%	621	618	-3.0	-0.5%
2028	16	8	-8	-51%	1,923	928	-995	-52%	8.2	8.3	0.1	0.6%	612	607	-4.6	-0.7%
2029	17	8	-9	-54%	2,065	936	-1,129	-55%	8.3	8.3	0.0	0.5%	617	610	-7.2	-1.2%
2030	18	2	-16	-87%	2,146	708	-1,438	-67%	8.6	3.4	-5.2	-60.8%	643	321	-321.8	-50.1%
2031	19	2	-17	-87%	2,189	707	-1,482	-68%	8.9	3.5	-5.4	-60.8%	665	332	-333.2	-50.1%

Table 650 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (BMW) Total Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (BMW) Total Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.4	0.4	0.0	0.0%	18	18	0.0	0.0%
2025	0	0	0	0%	977	977	0	0%	0.3	0.3	0.0	0.0%	17	17	0.0	0.0%
2026	0	0	0	0%	1,236	1,236	0	0%	0.3	0.3	0.0	0.0%	16	16	0.0	0.0%
2027	1	0	0	-26%	1,834	1,346	-488	-27%	0.3	0.3	0.0	0.3%	16	16	-0.1	-0.5%
2028	1	0	0	-29%	1,961	1,388	-573	-29%	0.3	0.3	0.0	0.5%	15	15	0.0	-0.2%
2029	1	0	0	-40%	2,281	1,366	-915	-40%	0.3	0.3	0.0	0.7%	15	15	0.0	-0.2%
2030	1	0	0	-41%	2,295	1,339	-955	-42%	0.3	0.3	0.0	0.7%	16	16	0.0	-0.2%
2031	1	0	0	-51%	2,691	1,311	-1,380	-51%	0.3	0.3	0.0	0.7%	16	16	0.0	-0.2%

Table 651 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ferrari) Total Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ferrari) Total Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2025	0	0	0	0%	14	14	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2026	0	0	0	0%	2,297	2,297	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2027	0	0	0	0%	2,229	2,228	-1	0%	0.0	0.0	0.0	0.2%	0	0	0.0	0.2%
2028	0	0	0	0%	2,253	2,251	-2	0%	0.0	0.0	0.0	0.2%	0	0	0.0	0.2%
2029	0	0	0	1%	2,184	2,180	-4	0%	0.0	0.0	0.0	1.1%	0	0	0.0	1.1%
2030	0	0	0	1%	2,907	2,906	-2	0%	0.0	0.0	0.0	0.9%	0	0	0.0	0.9%
2031	0	0	0	1%	2,971	2,969	-2	0%	0.0	0.0	0.0	1.0%	0	0	0.0	1.0%

Table 652 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ford) Total Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ford) Total Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	1.5	1.5	0.0	0.0%	132	132	0.0	0.0%
2025	1	1	0	0%	525	525	0	0%	1.4	1.4	0.0	0.0%	125	125	0.0	0.0%
2026	1	1	0	0%	514	514	0	0%	1.4	1.4	0.0	0.0%	121	121	0.0	0.0%
2027	2	1	-1	-33%	1,419	943	-476	-34%	1.3	1.3	0.0	0.3%	117	117	-0.2	-0.1%
2028	2	1	-1	-44%	1,687	941	-747	-44%	1.3	1.3	0.0	0.6%	114	114	-0.1	-0.1%
2029	2	1	-1	-44%	1,669	932	-738	-44%	1.3	1.3	0.0	0.5%	115	115	-0.2	-0.2%
2030	3	1	-1	-49%	1,908	966	-942	-49%	1.4	1.4	0.0	0.6%	119	119	-0.3	-0.2%
2031	3	1	-1	-49%	1,888	954	-933	-49%	1.4	1.4	0.0	0.6%	123	123	-0.3	-0.2%

Table 653 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (GM) Total Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (GM) Total Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	2.2	2.2	0.0	0.0%	169	169	0.0	0.0%
2025	1	1	0	0%	604	604	0	0%	2.1	2.1	0.0	0.0%	161	161	0.0	0.0%
2026	2	2	0	0%	1,039	1,039	0	0%	2.0	2.0	0.0	0.0%	155	155	0.0	0.0%
2027	5	2	-2	-52%	2,480	1,188	-1,292	-52%	1.9	1.9	0.0	0.3%	152	150	-2.3	-1.5%
2028	6	2	-4	-63%	3,299	1,210	-2,089	-63%	1.8	1.9	0.0	0.5%	150	146	-3.6	-2.4%
2029	7	2	-4	-66%	3,607	1,206	-2,401	-67%	1.8	1.9	0.0	0.6%	151	147	-4.1	-2.7%
2030	7	2	-5	-67%	3,663	1,186	-2,477	-68%	1.9	1.9	0.0	0.6%	156	152	-4.4	-2.8%
2031	7	2	-5	-68%	3,745	1,184	-2,561	-68%	2.0	2.0	0.0	0.6%	162	157	-4.7	-2.9%

Table 654 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Honda) Total Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Honda) Total Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	1.2	1.2	0.0	0.0%	102	102	0.0	0.0%
2025	0	0	0	0%	287	287	0	0%	1.1	1.1	0.0	0.0%	94	94	0.0	0.0%
2026	0	0	0	0%	377	377	0	0%	1.1	1.1	0.0	0.0%	89	89	0.0	0.0%
2027	1	0	0	-15%	496	421	-75	-15%	1.0	1.0	0.0	0.3%	85	85	0.1	0.1%
2028	1	0	-1	-66%	1,171	397	-774	-66%	1.0	1.0	0.0	0.4%	83	82	-1.1	-1.3%
2029	1	0	-1	-76%	1,399	330	-1,069	-76%	1.0	1.0	0.0	0.7%	83	82	-1.2	-1.4%
2030	1	0	-1	-79%	1,422	302	-1,120	-79%	1.0	1.0	0.0	0.7%	86	84	-1.4	-1.6%
2031	1	0	-1	-83%	1,395	242	-1,153	-83%	1.0	1.0	0.0	0.8%	88	86	-1.4	-1.6%

Table 655 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Hyundai) Total Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Hyundai) Total Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.8	0.8	0.0	0.0%	21	21	0.0	0.0%
2025	0	0	0	0%	254	254	0	0%	0.7	0.7	0.0	0.0%	20	20	0.0	0.0%
2026	1	1	0	0%	797	797	0	0%	0.7	0.7	0.0	0.0%	19	19	0.0	0.0%
2027	1	1	0	-38%	1,433	884	-550	-38%	0.7	0.7	0.0	0.3%	18	18	0.0	0.2%
2028	2	1	-1	-63%	2,481	902	-1,579	-64%	0.6	0.6	0.0	0.5%	18	18	-0.1	-0.5%
2029	2	1	-1	-70%	2,956	892	-2,065	-70%	0.6	0.6	0.0	0.7%	18	18	-0.3	-1.7%
2030	2	1	-1	-69%	2,905	888	-2,017	-69%	0.7	0.7	0.0	0.7%	19	19	-0.3	-1.6%
2031	2	1	-1	-69%	2,846	883	-1,963	-69%	0.7	0.7	0.0	0.7%	19	19	-0.3	-1.5%

Table 656 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ineos) Total Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ineos) Total Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2025	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2026	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2027	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.4%	0	0	0.0	0.4%
2028	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.6%	0	0	0.0	0.6%
2029	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.5%	0	0	0.0	0.5%
2030	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.5%	0	0	0.0	0.5%
2031	0	0	0	-24%	2,731	2,077	-654	-24%	0.0	0.0	0.0	0.5%	0	0	0.0	0.5%

Table 657 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (JLR) Total Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (JLR) Total Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.1	0.1	0.0	0.0%	1	1	0.0	0.0%
2025	0	0	0	0%	252	252	0	0%	0.1	0.1	0.0	0.0%	1	1	0.0	0.0%
2026	0	0	0	0%	1,089	1,089	0	0%	0.1	0.1	0.0	0.0%	1	1	0.0	0.0%
2027	0	0	0	-30%	1,997	1,386	-611	-31%	0.1	0.1	0.0	0.3%	1	1	0.0	-0.7%
2028	0	0	0	-30%	1,955	1,358	-597	-31%	0.1	0.1	0.0	0.6%	1	1	0.0	-0.5%
2029	0	0	0	-54%	2,020	926	-1,094	-54%	0.1	0.1	0.0	0.5%	1	1	0.0	-0.7%
2030	0	0	0	-54%	1,984	908	-1,076	-54%	0.1	0.1	0.0	0.5%	1	1	0.0	-0.6%
2031	0	0	0	-82%	1,723	303	-1,420	-82%	0.1	0.1	0.0	0.5%	1	1	0.0	-1.0%

Table 658 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (KIA) Total Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (KIA) Total Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.7	0.7	0.0	0.0%	37	37	0.0	0.0%
2025	1	1	0	0%	1,344	1,344	0	0%	0.6	0.6	0.0	0.0%	35	35	0.0	0.0%
2026	1	1	0	0%	2,025	2,025	0	0%	0.6	0.6	0.0	0.0%	34	34	0.0	0.0%
2027	1	1	0	-2%	2,048	2,011	-38	-2%	0.6	0.6	0.0	0.3%	33	33	0.1	0.3%
2028	1	1	0	-24%	2,614	1,979	-636	-24%	0.6	0.6	0.0	0.5%	32	32	0.0	0.0%
2029	2	1	-1	-34%	2,974	1,950	-1,023	-34%	0.6	0.6	0.0	0.7%	32	32	-0.1	-0.2%
2030	2	1	-1	-34%	2,927	1,923	-1,004	-34%	0.6	0.6	0.0	0.7%	33	33	-0.1	-0.2%
2031	2	1	-1	-34%	2,897	1,892	-1,005	-35%	0.6	0.6	0.0	0.7%	34	34	-0.1	-0.2%

Table 659 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mazda) Total Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mazda) Total Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.4	0.4	0.0	0.0%	12	12	0.0	0.0%
2025	0	0	0	0%	16	16	0	0%	0.4	0.4	0.0	0.0%	12	12	0.0	0.0%
2026	0	0	0	0%	16	16	0	0%	0.4	0.4	0.0	0.0%	11	11	0.0	0.0%
2027	1	0	0	-88%	1,435	166	-1,269	-88%	0.4	0.4	0.0	0.3%	11	11	0.0	0.0%
2028	1	0	0	-88%	1,412	164	-1,247	-88%	0.4	0.4	0.0	0.6%	11	11	0.0	0.3%
2029	1	0	-1	-87%	1,687	213	-1,474	-87%	0.4	0.4	0.0	0.5%	11	11	-0.1	-1.1%
2030	1	0	-1	-87%	1,664	212	-1,452	-87%	0.4	0.4	0.0	0.6%	11	11	-0.1	-1.1%
2031	1	0	-1	-84%	1,930	300	-1,630	-84%	0.4	0.4	0.0	0.6%	12	12	-0.1	-1.1%

Table 660 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mercedes-Benz) Total Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mercedes-Benz) Total Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.3	0.3	0.0	0.0%	12	12	0.0	0.0%
2025	0	0	0	0%	93	93	0	0%	0.2	0.2	0.0	0.0%	11	11	0.0	0.0%
2026	0	0	0	0%	754	754	0	0%	0.2	0.2	0.0	0.0%	11	11	0.0	0.0%
2027	0	0	0	-36%	1,227	783	-444	-36%	0.2	0.2	0.0	0.3%	10	10	0.0	0.3%
2028	0	0	0	-35%	1,234	793	-442	-36%	0.2	0.2	0.0	0.5%	10	10	0.1	0.6%
2029	0	0	0	-42%	1,286	739	-547	-43%	0.2	0.2	0.0	0.6%	10	10	0.0	0.5%
2030	0	0	0	-56%	1,739	759	-980	-56%	0.2	0.2	0.0	0.7%	11	11	0.1	0.5%
2031	0	0	0	-57%	1,715	733	-982	-57%	0.2	0.2	0.0	0.7%	11	11	0.1	0.5%

Table 661 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mitsubishi) Total Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mitsubishi) Total Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.2	0.2	0.0	0.0%	2	2	0.0	0.0%
2025	0	0	0	0%	124	124	0	0%	0.1	0.1	0.0	0.0%	2	2	0.0	0.0%
2026	0	0	0	0%	451	451	0	0%	0.1	0.1	0.0	0.0%	2	2	0.0	0.0%
2027	0	0	0	-44%	921	511	-410	-45%	0.1	0.1	0.0	0.3%	2	2	0.0	0.2%
2028	0	0	0	-72%	2,007	567	-1,440	-72%	0.1	0.1	0.0	0.5%	2	2	0.0	0.4%
2029	0	0	0	-77%	2,021	453	-1,569	-78%	0.1	0.1	0.0	0.6%	2	2	0.0	0.3%
2030	0	0	0	-78%	1,987	439	-1,548	-78%	0.1	0.1	0.0	0.6%	2	2	0.0	0.3%
2031	0	0	0	-78%	1,940	427	-1,513	-78%	0.1	0.1	0.0	0.6%	2	2	0.0	0.3%

Table 662 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Nissan) Total Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Nissan) Total Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.8	0.8	0.0	0.0%	51	51	0.0	0.0%
2025	0	0	0	0%	490	490	0	0%	0.8	0.8	0.0	0.0%	47	47	0.0	0.0%
2026	1	1	0	0%	735	735	0	0%	0.7	0.7	0.0	0.0%	45	45	0.0	0.0%
2027	1	1	0	-44%	1,492	834	-659	-44%	0.7	0.7	0.0	0.3%	43	42	-0.2	-0.4%
2028	1	1	0	-44%	1,454	804	-650	-45%	0.7	0.7	0.0	0.4%	41	41	-0.1	-0.2%
2029	1	0	-1	-54%	1,621	733	-888	-55%	0.6	0.7	0.0	0.8%	41	41	-0.3	-0.6%
2030	1	1	-1	-58%	1,787	749	-1,038	-58%	0.7	0.7	0.0	0.7%	43	42	-0.4	-0.9%
2031	1	1	-1	-58%	1,760	738	-1,023	-58%	0.7	0.7	0.0	0.8%	44	43	-0.4	-0.9%

Table 663 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Stellantis) Total Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Stellantis) Total Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	1.0	1.0	0.0	0.0%	94	94	0.0	0.0%
2025	0	0	0	0%	207	207	0	0%	1.0	1.0	0.0	0.0%	90	90	0.0	0.0%
2026	0	0	0	0%	449	449	0	0%	0.9	0.9	0.0	0.0%	88	88	0.0	0.0%
2027	1	1	-1	-53%	1,544	729	-815	-53%	0.9	0.9	0.0	0.4%	86	85	-0.7	-0.8%
2028	2	1	-1	-61%	2,071	793	-1,278	-62%	0.9	0.9	0.0	0.6%	85	84	-1.2	-1.4%
2029	2	1	-1	-63%	2,555	935	-1,620	-63%	0.9	0.9	0.0	0.5%	86	85	-1.9	-2.3%
2030	2	1	-1	-63%	2,544	928	-1,616	-64%	0.9	0.9	0.0	0.6%	90	88	-1.9	-2.2%
2031	2	1	-1	-63%	2,511	933	-1,578	-63%	0.9	0.9	0.0	0.5%	93	91	-2.0	-2.1%

Table 664 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Subaru) Total Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Subaru) Total Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.7	0.7	0.0	0.0%	38	38	0.0	0.0%
2025	0	0	0	0%	736	736	0	0%	0.7	0.7	0.0	0.0%	36	36	0.0	0.0%
2026	1	1	0	0%	1,075	1,075	0	0%	0.7	0.7	0.0	0.0%	35	35	0.0	0.0%
2027	1	1	0	0%	1,064	1,062	-2	0%	0.6	0.6	0.0	0.3%	34	34	0.1	0.3%
2028	1	1	0	-1%	1,119	1,103	-16	-1%	0.6	0.6	0.0	0.6%	33	33	0.2	0.6%
2029	1	1	0	-15%	1,365	1,158	-207	-15%	0.6	0.6	0.0	0.5%	33	33	0.1	0.4%
2030	1	1	0	-14%	1,340	1,141	-199	-15%	0.6	0.6	0.0	0.6%	35	35	0.2	0.5%
2031	1	1	0	-28%	1,579	1,126	-453	-29%	0.7	0.7	0.0	0.6%	36	36	-0.1	-0.3%

Table 665 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Toyota) Total Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Toyota) Total Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	2.5	2.5	0.0	0.0%	171	171	0.0	0.0%
2025	1	1	0	0%	365	365	0	0%	2.3	2.3	0.0	0.0%	159	159	0.0	0.0%
2026	2	2	0	0%	764	764	0	0%	2.2	2.2	0.0	0.0%	154	154	0.0	0.0%
2027	2	2	-1	-30%	1,134	793	-342	-30%	2.1	2.1	0.0	0.3%	147	146	-0.7	-0.5%
2028	2	2	-1	-32%	1,172	796	-376	-32%	2.0	2.0	0.0	0.5%	143	142	-0.5	-0.3%
2029	3	2	-1	-36%	1,279	811	-468	-37%	2.0	2.0	0.0	0.6%	143	142	-0.6	-0.4%
2030	3	2	-1	-36%	1,334	843	-491	-37%	2.1	2.1	0.0	0.6%	147	147	-0.7	-0.5%
2031	3	2	-1	-38%	1,383	857	-526	-38%	2.1	2.1	0.0	0.7%	151	150	-0.8	-0.5%

Table 666 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Volvo) Total Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Volvo) Total Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.1	0.1	0.0	0.0%	3	3	0.0	0.0%
2025	0	0	0	0%	0	0	0	0%	0.1	0.1	0.0	0.0%	3	3	0.0	0.0%
2026	0	0	0	0%	1,688	1,688	0	0%	0.1	0.1	0.0	0.0%	3	3	0.0	0.0%
2027	0	0	0	-12%	1,853	1,627	-227	-12%	0.1	0.1	0.0	0.3%	2	2	0.0	0.3%
2028	0	0	0	-15%	1,933	1,627	-307	-16%	0.1	0.1	0.0	0.6%	2	2	0.0	0.3%
2029	0	0	0	-30%	2,438	1,707	-731	-30%	0.1	0.1	0.0	0.5%	2	2	0.0	0.6%
2030	0	0	0	-30%	2,395	1,673	-722	-30%	0.1	0.1	0.0	0.6%	2	2	0.0	0.6%
2031	0	0	0	-30%	2,326	1,617	-709	-30%	0.1	0.1	0.0	0.6%	2	2	0.0	0.7%

Table 667 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (VWA) Total Fleet Between Alt 0 - No Action and Alt 3

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (VWA) Total Fleet Between Alt 0 - No Action and Alt 3																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent	Alt 0 - No Action	Alt 3	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.7	0.7	0.0	0.0%	22	22	0.0	0.0%
2025	0	0	0	0%	691	691	0	0%	0.7	0.7	0.0	0.0%	21	21	0.0	0.0%
2026	1	1	0	0%	863	863	0	0%	0.7	0.7	0.0	0.0%	20	20	0.0	0.0%
2027	1	1	0	-36%	1,920	1,231	-689	-36%	0.6	0.6	0.0	0.3%	20	19	-0.3	-1.4%
2028	1	1	-1	-49%	2,458	1,244	-1,215	-49%	0.6	0.6	0.0	0.5%	19	19	-0.2	-1.1%
2029	1	1	-1	-49%	2,420	1,231	-1,189	-49%	0.6	0.6	0.0	0.6%	19	19	-0.2	-1.1%
2030	1	1	-1	-45%	2,383	1,293	-1,090	-46%	0.6	0.6	0.0	0.6%	20	20	-0.1	-0.7%
2031	2	1	-1	-46%	2,372	1,283	-1,089	-46%	0.6	0.6	0.0	0.7%	20	20	-0.1	-0.7%

Table 668 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Total Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Total Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	13.7	13.7	0.0	0.0%	885	885	0.0	0.0%
2025	6	6	0	0%	484	484	0	0%	12.7	12.7	0.0	0.0%	833	833	0.0	0.0%
2026	10	10	0	0%	803	803	0	0%	12.2	12.2	0.0	0.0%	804	804	0.0	0.0%
2027	18	12	-6	-31%	1,525	1,046	-478	-31%	11.6	11.6	0.0	0.3%	776	773	-3.6	-0.5%
2028	22	12	-10	-44%	1,929	1,076	-853	-44%	11.3	11.3	0.1	0.5%	760	754	-6.1	-0.8%
2029	24	12	-12	-48%	2,143	1,101	-1,043	-49%	11.3	11.3	0.1	0.6%	764	756	-7.9	-1.0%
2030	26	13	-13	-49%	2,200	1,117	-1,083	-49%	11.6	11.7	0.1	0.6%	791	782	-8.5	-1.1%
2031	27	13	-13	-50%	2,238	1,104	-1,135	-51%	11.9	12.0	0.1	0.6%	814	805	-9.4	-1.2%

Table 669 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Passenger Car Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Passenger Car Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	4.3	4.3	0.0	0.0%	203	203	0.0	0.0%
2025	2	2	0	0%	533	533	0	0%	3.7	3.7	0.0	0.0%	179	179	0.0	0.0%
2026	3	3	0	0%	962	962	0	0%	3.5	3.5	0.0	0.0%	168	168	0.0	0.0%
2027	5	3	-2	-32%	1,574	1,075	-500	-32%	3.2	3.2	0.0	0.2%	155	154	-1.0	-0.6%
2028	6	3	-3	-43%	1,945	1,104	-841	-43%	3.0	3.0	0.0	0.3%	149	147	-2.0	-1.3%
2029	7	3	-4	-53%	2,361	1,099	-1,263	-53%	3.0	3.0	0.0	1.1%	147	145	-1.5	-1.1%
2030	7	10	3	47%	2,354	1,255	-1,099	-47%	3.0	8.3	5.3	176.1%	148	462	313.2	211.1%
2031	7	11	3	46%	2,383	1,240	-1,143	-48%	3.0	8.5	5.5	180.5%	150	473	323.7	216.2%

Table 670 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Light Truck Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Light Truck Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	9.4	9.4	0.0	0.0%	681	681	0.0	0.0%
2025	4	4	0	0%	463	463	0	0%	9.0	9.0	0.0	0.0%	654	654	0.0	0.0%
2026	6	6	0	0%	740	740	0	0%	8.7	8.7	0.0	0.0%	636	636	0.0	0.0%
2027	13	9	-4	-31%	1,506	1,036	-470	-31%	8.4	8.4	0.0	0.3%	621	619	-2.6	-0.4%
2028	16	9	-7	-44%	1,923	1,066	-857	-45%	8.2	8.3	0.0	0.6%	612	608	-4.1	-0.7%
2029	17	9	-8	-46%	2,065	1,101	-964	-47%	8.3	8.3	0.0	0.4%	617	611	-6.4	-1.0%
2030	18	3	-16	-86%	2,146	776	-1,370	-64%	8.6	3.4	-5.2	-60.8%	643	321	-321.7	-50.1%
2031	19	3	-17	-86%	2,189	771	-1,418	-65%	8.9	3.5	-5.4	-60.8%	665	332	-333.1	-50.1%

Table 671 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (BMW) Total Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (BMW) Total Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.4	0.4	0.0	0.0%	18	18	0.0	0.0%
2025	0	0	0	0%	977	977	0	0%	0.3	0.3	0.0	0.0%	17	17	0.0	0.0%
2026	0	0	0	0%	1,236	1,236	0	0%	0.3	0.3	0.0	0.0%	16	16	0.0	0.0%
2027	1	0	0	-22%	1,834	1,426	-407	-22%	0.3	0.3	0.0	0.3%	16	16	-0.1	-0.4%
2028	1	0	0	-24%	1,961	1,486	-475	-24%	0.3	0.3	0.0	0.4%	15	15	0.0	-0.1%
2029	1	0	0	-35%	2,281	1,468	-813	-36%	0.3	0.3	0.0	0.7%	15	15	0.0	-0.2%
2030	1	0	0	-36%	2,295	1,458	-837	-36%	0.3	0.3	0.0	0.6%	16	16	0.0	-0.1%
2031	1	0	0	-47%	2,691	1,427	-1,264	-47%	0.3	0.3	0.0	0.7%	16	16	0.0	-0.1%

Table 672 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ferrari) Total Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ferrari) Total Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2025	0	0	0	0%	14	14	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2026	0	0	0	0%	2,297	2,297	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2027	0	0	0	0%	2,229	2,229	0	0%	0.0	0.0	0.0	0.2%	0	0	0.0	0.2%
2028	0	0	0	0%	2,253	2,253	0	0%	0.0	0.0	0.0	0.2%	0	0	0.0	0.2%
2029	0	0	0	1%	2,184	2,183	-2	0%	0.0	0.0	0.0	1.1%	0	0	0.0	1.1%
2030	0	0	0	1%	2,907	2,908	0	0%	0.0	0.0	0.0	0.9%	0	0	0.0	0.9%
2031	0	0	0	1%	2,971	2,971	0	0%	0.0	0.0	0.0	1.0%	0	0	0.0	1.0%

Table 673 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ford) Total Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ford) Total Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	1.5	1.5	0.0	0.0%	132	132	0.0	0.0%
2025	1	1	0	0%	525	525	0	0%	1.4	1.4	0.0	0.0%	125	125	0.0	0.0%
2026	1	1	0	0%	514	514	0	0%	1.4	1.4	0.0	0.0%	121	121	0.0	0.0%
2027	2	1	0	-25%	1,419	1,059	-361	-25%	1.3	1.3	0.0	0.3%	117	117	-0.1	-0.1%
2028	2	1	-1	-35%	1,687	1,083	-605	-36%	1.3	1.3	0.0	0.5%	114	114	-0.1	0.0%
2029	2	1	-1	-36%	1,669	1,072	-597	-36%	1.3	1.3	0.0	0.4%	115	115	-0.2	-0.1%
2030	3	2	-1	-40%	1,908	1,131	-777	-41%	1.4	1.4	0.0	0.5%	119	119	-0.2	-0.2%
2031	3	2	-1	-41%	1,888	1,118	-770	-41%	1.4	1.4	0.0	0.5%	123	123	-0.2	-0.2%

Table 674 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (GM) Total Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (GM) Total Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	2.2	2.2	0.0	0.0%	169	169	0.0	0.0%
2025	1	1	0	0%	604	604	0	0%	2.1	2.1	0.0	0.0%	161	161	0.0	0.0%
2026	2	2	0	0%	1,039	1,039	0	0%	2.0	2.0	0.0	0.0%	155	155	0.0	0.0%
2027	5	2	-2	-52%	2,480	1,188	-1,292	-52%	1.9	1.9	0.0	0.3%	152	150	-2.4	-1.6%
2028	6	2	-4	-63%	3,299	1,210	-2,089	-63%	1.8	1.9	0.0	0.5%	150	146	-3.7	-2.5%
2029	7	2	-4	-66%	3,607	1,206	-2,400	-67%	1.8	1.9	0.0	0.6%	151	147	-4.2	-2.8%
2030	7	2	-5	-67%	3,663	1,187	-2,476	-68%	1.9	1.9	0.0	0.6%	156	152	-4.5	-2.9%
2031	7	2	-5	-68%	3,745	1,184	-2,561	-68%	2.0	2.0	0.0	0.6%	162	157	-4.9	-3.0%

Table 675 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Honda) Total Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Honda) Total Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	1.2	1.2	0.0	0.0%	102	102	0.0	0.0%
2025	0	0	0	0%	287	287	0	0%	1.1	1.1	0.0	0.0%	94	94	0.0	0.0%
2026	0	0	0	0%	377	377	0	0%	1.1	1.1	0.0	0.0%	89	89	0.0	0.0%
2027	1	0	0	-15%	496	421	-76	-15%	1.0	1.0	0.0	0.3%	85	85	0.1	0.1%
2028	1	0	-1	-66%	1,171	397	-774	-66%	1.0	1.0	0.0	0.4%	83	82	-1.1	-1.4%
2029	1	0	-1	-76%	1,399	329	-1,069	-76%	1.0	1.0	0.0	0.7%	83	82	-1.2	-1.5%
2030	1	0	-1	-79%	1,422	302	-1,120	-79%	1.0	1.0	0.0	0.7%	86	84	-1.4	-1.6%
2031	1	0	-1	-83%	1,395	242	-1,154	-83%	1.0	1.0	0.0	0.7%	88	86	-1.5	-1.7%

Table 676 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Hyundai) Total Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Hyundai) Total Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.8	0.8	0.0	0.0%	21	21	0.0	0.0%
2025	0	0	0	0%	254	254	0	0%	0.7	0.7	0.0	0.0%	20	20	0.0	0.0%
2026	1	1	0	0%	797	797	0	0%	0.7	0.7	0.0	0.0%	19	19	0.0	0.0%
2027	1	1	0	-37%	1,433	903	-530	-37%	0.7	0.7	0.0	0.3%	18	18	0.0	0.1%
2028	2	1	-1	-60%	2,481	979	-1,502	-61%	0.6	0.6	0.0	0.4%	18	18	-0.1	-0.5%
2029	2	1	-1	-62%	2,956	1,122	-1,835	-62%	0.6	0.6	0.0	0.6%	18	18	-0.2	-1.0%
2030	2	1	-1	-61%	2,905	1,139	-1,765	-61%	0.7	0.7	0.0	0.6%	19	19	-0.2	-1.0%
2031	2	1	-1	-60%	2,846	1,134	-1,712	-60%	0.7	0.7	0.0	0.7%	19	19	-0.2	-0.9%

Table 677 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ineos) Total Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ineos) Total Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2025	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2026	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2027	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.3%	0	0	0.0	0.3%
2028	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.6%	0	0	0.0	0.6%
2029	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.4%	0	0	0.0	0.4%
2030	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.5%	0	0	0.0	0.5%
2031	0	0	0	0%	2,731	2,731	0	0%	0.0	0.0	0.0	0.5%	0	0	0.0	0.5%

Table 678 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (JLR) Total Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (JLR) Total Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.1	0.1	0.0	0.0%	1	1	0.0	0.0%
2025	0	0	0	0%	252	252	0	0%	0.1	0.1	0.0	0.0%	1	1	0.0	0.0%
2026	0	0	0	0%	1,089	1,089	0	0%	0.1	0.1	0.0	0.0%	1	1	0.0	0.0%
2027	0	0	0	0%	1,997	1,997	0	0%	0.1	0.1	0.0	0.3%	1	1	0.0	0.3%
2028	0	0	0	1%	1,955	1,955	0	0%	0.1	0.1	0.0	0.5%	1	1	0.0	0.5%
2029	0	0	0	-15%	2,020	1,717	-303	-15%	0.1	0.1	0.0	0.4%	1	1	0.0	0.3%
2030	0	0	0	-15%	1,984	1,684	-300	-15%	0.1	0.1	0.0	0.4%	1	1	0.0	0.4%
2031	0	0	0	-40%	1,723	1,024	-699	-41%	0.1	0.1	0.0	0.4%	1	1	0.0	-0.1%

Table 679 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (KIA) Total Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (KIA) Total Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.7	0.7	0.0	0.0%	37	37	0.0	0.0%
2025	1	1	0	0%	1,344	1,344	0	0%	0.6	0.6	0.0	0.0%	35	35	0.0	0.0%
2026	1	1	0	0%	2,025	2,025	0	0%	0.6	0.6	0.0	0.0%	34	34	0.0	0.0%
2027	1	1	0	-2%	2,048	2,010	-38	-2%	0.6	0.6	0.0	0.3%	33	33	0.1	0.2%
2028	1	1	0	-24%	2,614	1,979	-636	-24%	0.6	0.6	0.0	0.4%	32	32	0.0	-0.1%
2029	2	1	-1	-33%	2,974	1,984	-989	-33%	0.6	0.6	0.0	0.6%	32	32	-0.1	-0.2%
2030	2	1	-1	-33%	2,927	1,956	-971	-33%	0.6	0.6	0.0	0.6%	33	33	-0.1	-0.2%
2031	2	1	-1	-33%	2,897	1,924	-973	-34%	0.6	0.6	0.0	0.7%	34	34	-0.1	-0.2%

Table 680 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mazda) Total Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mazda) Total Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.4	0.4	0.0	0.0%	12	12	0.0	0.0%
2025	0	0	0	0%	16	16	0	0%	0.4	0.4	0.0	0.0%	12	12	0.0	0.0%
2026	0	0	0	0%	16	16	0	0%	0.4	0.4	0.0	0.0%	11	11	0.0	0.0%
2027	1	0	0	-19%	1,435	1,161	-273	-19%	0.4	0.4	0.0	0.3%	11	11	0.0	0.2%
2028	1	0	0	-19%	1,412	1,144	-267	-19%	0.4	0.4	0.0	0.5%	11	11	0.1	0.5%
2029	1	1	0	-16%	1,687	1,405	-282	-17%	0.4	0.4	0.0	0.4%	11	11	0.0	0.2%
2030	1	1	0	-16%	1,664	1,390	-274	-16%	0.4	0.4	0.0	0.5%	11	11	0.0	0.3%
2031	1	1	0	-24%	1,930	1,451	-479	-25%	0.4	0.4	0.0	0.5%	12	12	0.0	0.2%

Table 681 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mercedes-Benz) Total Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mercedes-Benz) Total Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.3	0.3	0.0	0.0%	12	12	0.0	0.0%
2025	0	0	0	0%	93	93	0	0%	0.2	0.2	0.0	0.0%	11	11	0.0	0.0%
2026	0	0	0	0%	754	754	0	0%	0.2	0.2	0.0	0.0%	11	11	0.0	0.0%
2027	0	0	0	-5%	1,227	1,161	-66	-5%	0.2	0.2	0.0	0.3%	10	10	0.0	0.3%
2028	0	0	0	-5%	1,234	1,169	-66	-5%	0.2	0.2	0.0	0.5%	10	10	0.1	0.5%
2029	0	0	0	-5%	1,286	1,221	-65	-5%	0.2	0.2	0.0	0.6%	10	10	0.0	0.4%
2030	0	0	0	-12%	1,739	1,525	-215	-12%	0.2	0.2	0.0	0.6%	11	11	0.1	0.5%
2031	0	0	0	-13%	1,715	1,476	-239	-14%	0.2	0.2	0.0	0.6%	11	11	0.1	0.5%

Table 682 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mitsubishi) Total Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mitsubishi) Total Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.2	0.2	0.0	0.0%	2	2	0.0	0.0%
2025	0	0	0	0%	124	124	0	0%	0.1	0.1	0.0	0.0%	2	2	0.0	0.0%
2026	0	0	0	0%	451	451	0	0%	0.1	0.1	0.0	0.0%	2	2	0.0	0.0%
2027	0	0	0	-44%	921	511	-410	-44%	0.1	0.1	0.0	0.3%	2	2	0.0	0.1%
2028	0	0	0	-72%	2,007	568	-1,440	-72%	0.1	0.1	0.0	0.5%	2	2	0.0	0.3%
2029	0	0	0	-77%	2,021	453	-1,568	-78%	0.1	0.1	0.0	0.5%	2	2	0.0	0.2%
2030	0	0	0	-78%	1,987	439	-1,548	-78%	0.1	0.1	0.0	0.5%	2	2	0.0	0.2%
2031	0	0	0	-78%	1,940	427	-1,512	-78%	0.1	0.1	0.0	0.6%	2	2	0.0	0.2%

Table 683 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Nissan) Total Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Nissan) Total Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.8	0.8	0.0	0.0%	51	51	0.0	0.0%
2025	0	0	0	0%	490	490	0	0%	0.8	0.8	0.0	0.0%	47	47	0.0	0.0%
2026	1	1	0	0%	735	735	0	0%	0.7	0.7	0.0	0.0%	45	45	0.0	0.0%
2027	1	1	0	-42%	1,492	857	-635	-43%	0.7	0.7	0.0	0.3%	43	42	-0.2	-0.4%
2028	1	1	0	-43%	1,454	827	-626	-43%	0.7	0.7	0.0	0.4%	41	41	-0.1	-0.2%
2029	1	0	-1	-53%	1,621	757	-864	-53%	0.6	0.7	0.0	0.8%	41	41	-0.3	-0.6%
2030	1	1	-1	-56%	1,787	773	-1,014	-57%	0.7	0.7	0.0	0.7%	43	42	-0.4	-0.9%
2031	1	1	-1	-56%	1,760	761	-999	-57%	0.7	0.7	0.0	0.8%	44	43	-0.4	-0.9%

Table 684 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Stellantis) Total Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Stellantis) Total Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	1.0	1.0	0.0	0.0%	94	94	0.0	0.0%
2025	0	0	0	0%	207	207	0	0%	1.0	1.0	0.0	0.0%	90	90	0.0	0.0%
2026	0	0	0	0%	449	449	0	0%	0.9	0.9	0.0	0.0%	88	88	0.0	0.0%
2027	1	1	0	-35%	1,544	1,002	-543	-35%	0.9	0.9	0.0	0.3%	86	86	-0.4	-0.4%
2028	2	1	-1	-44%	2,071	1,157	-914	-44%	0.9	0.9	0.0	0.5%	85	84	-0.7	-0.8%
2029	2	1	-1	-47%	2,555	1,360	-1,195	-47%	0.9	0.9	0.0	0.4%	86	85	-1.4	-1.6%
2030	2	1	-1	-43%	2,544	1,433	-1,111	-44%	0.9	0.9	0.0	0.5%	90	89	-1.3	-1.4%
2031	2	1	-1	-44%	2,511	1,412	-1,099	-44%	0.9	0.9	0.0	0.4%	93	91	-1.3	-1.4%

Table 685 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Subaru) Total Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Subaru) Total Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.7	0.7	0.0	0.0%	38	38	0.0	0.0%
2025	0	0	0	0%	736	736	0	0%	0.7	0.7	0.0	0.0%	36	36	0.0	0.0%
2026	1	1	0	0%	1,075	1,075	0	0%	0.7	0.7	0.0	0.0%	35	35	0.0	0.0%
2027	1	1	0	0%	1,064	1,064	0	0%	0.6	0.6	0.0	0.3%	34	34	0.1	0.3%
2028	1	1	0	-1%	1,119	1,106	-14	-1%	0.6	0.6	0.0	0.5%	33	33	0.2	0.5%
2029	1	1	0	-15%	1,365	1,161	-204	-15%	0.6	0.6	0.0	0.5%	33	33	0.1	0.3%
2030	1	1	0	-14%	1,340	1,143	-197	-15%	0.6	0.6	0.0	0.5%	35	35	0.1	0.4%
2031	1	1	0	-28%	1,579	1,128	-451	-29%	0.7	0.7	0.0	0.5%	36	36	-0.1	-0.4%

Table 686 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Toyota) Total Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Toyota) Total Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	2.5	2.5	0.0	0.0%	171	171	0.0	0.0%
2025	1	1	0	0%	365	365	0	0%	2.3	2.3	0.0	0.0%	159	159	0.0	0.0%
2026	2	2	0	0%	764	764	0	0%	2.2	2.2	0.0	0.0%	154	154	0.0	0.0%
2027	2	2	-1	-30%	1,134	793	-342	-30%	2.1	2.1	0.0	0.3%	147	146	-0.8	-0.5%
2028	2	2	-1	-32%	1,172	796	-376	-32%	2.0	2.0	0.0	0.5%	143	142	-0.5	-0.4%
2029	3	2	-1	-36%	1,279	811	-468	-37%	2.0	2.0	0.0	0.6%	143	142	-0.6	-0.4%
2030	3	2	-1	-36%	1,334	844	-491	-37%	2.1	2.1	0.0	0.6%	147	146	-0.7	-0.5%
2031	3	2	-1	-38%	1,383	857	-526	-38%	2.1	2.1	0.0	0.6%	151	150	-0.8	-0.6%

Table 687 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Volvo) Total Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Volvo) Total Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.1	0.1	0.0	0.0%	3	3	0.0	0.0%
2025	0	0	0	0%	0	0	0	0%	0.1	0.1	0.0	0.0%	3	3	0.0	0.0%
2026	0	0	0	0%	1,688	1,688	0	0%	0.1	0.1	0.0	0.0%	3	3	0.0	0.0%
2027	0	0	0	-10%	1,853	1,655	-198	-11%	0.1	0.1	0.0	0.3%	2	2	0.0	0.3%
2028	0	0	0	-10%	1,933	1,736	-197	-10%	0.1	0.1	0.0	0.5%	2	2	0.0	0.4%
2029	0	0	0	-25%	2,438	1,822	-616	-25%	0.1	0.1	0.0	0.5%	2	2	0.0	0.7%
2030	0	0	0	-25%	2,395	1,784	-611	-26%	0.1	0.1	0.0	0.5%	2	2	0.0	0.7%
2031	0	0	0	-26%	2,326	1,723	-603	-26%	0.1	0.1	0.0	0.5%	2	2	0.0	0.7%

Table 688 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (VWA) Total Fleet Between Alt 0 - No Action and Alt 4

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (VWA) Total Fleet Between Alt 0 - No Action and Alt 4																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent	Alt 0 - No Action	Alt 4	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.7	0.7	0.0	0.0%	22	22	0.0	0.0%
2025	0	0	0	0%	691	691	0	0%	0.7	0.7	0.0	0.0%	21	21	0.0	0.0%
2026	1	1	0	0%	863	863	0	0%	0.7	0.7	0.0	0.0%	20	20	0.0	0.0%
2027	1	1	0	-19%	1,920	1,547	-373	-19%	0.6	0.6	0.0	0.3%	20	20	-0.1	-0.3%
2028	1	1	0	-31%	2,458	1,681	-777	-32%	0.6	0.6	0.0	0.5%	19	19	0.0	0.0%
2029	1	1	0	-31%	2,420	1,662	-758	-31%	0.6	0.6	0.0	0.6%	19	19	0.0	0.0%
2030	1	1	0	-31%	2,383	1,644	-739	-31%	0.6	0.6	0.0	0.6%	20	20	0.0	0.0%
2031	2	1	0	-31%	2,372	1,632	-740	-31%	0.6	0.6	0.0	0.6%	20	20	0.0	0.0%

Table 689 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Total Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Total Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	13.7	13.7	0.0	0.0%	885	885	0.0	0.0%
2025	6	6	0	0%	484	484	0	0%	12.7	12.7	0.0	0.0%	833	833	0.0	0.0%
2026	10	10	0	0%	803	803	0	0%	12.2	12.2	0.0	0.0%	804	804	0.0	0.0%
2027	18	15	-3	-17%	1,525	1,266	-259	-17%	11.6	11.6	0.0	0.2%	776	774	-2.3	-0.3%
2028	22	17	-5	-23%	1,929	1,481	-448	-23%	11.3	11.3	0.0	0.3%	760	757	-3.3	-0.4%
2029	24	18	-6	-23%	2,143	1,635	-508	-24%	11.3	11.3	0.0	0.3%	764	760	-4.1	-0.5%
2030	26	19	-6	-24%	2,200	1,670	-529	-24%	11.6	11.7	0.0	0.3%	791	787	-4.3	-0.5%
2031	27	20	-6	-24%	2,238	1,700	-538	-24%	11.9	12.0	0.0	0.3%	814	810	-4.9	-0.6%

Table 690 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Passenger Car Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Passenger Car Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	4.3	4.3	0.0	0.0%	203	203	0.0	0.0%
2025	2	2	0	0%	533	533	0	0%	3.7	3.7	0.0	0.0%	179	179	0.0	0.0%
2026	3	3	0	0%	962	962	0	0%	3.5	3.5	0.0	0.0%	168	168	0.0	0.0%
2027	5	4	-1	-19%	1,574	1,281	-293	-19%	3.2	3.2	0.0	0.2%	155	154	-0.9	-0.6%
2028	6	4	-1	-24%	1,945	1,476	-469	-24%	3.0	3.0	0.0	0.2%	149	147	-1.5	-1.0%
2029	7	5	-2	-28%	2,361	1,686	-676	-29%	3.0	3.0	0.0	0.7%	147	146	-1.1	-0.8%
2030	7	15	8	106%	2,354	1,763	-591	-25%	3.0	8.3	5.3	175.4%	148	463	315.0	212.4%
2031	7	15	8	112%	2,383	1,804	-580	-24%	3.0	8.5	5.5	179.6%	150	475	325.7	217.5%

Table 691 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Light Truck Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) Light Truck Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	9.4	9.4	0.0	0.0%	681	681	0.0	0.0%
2025	4	4	0	0%	463	463	0	0%	9.0	9.0	0.0	0.0%	654	654	0.0	0.0%
2026	6	6	0	0%	740	740	0	0%	8.7	8.7	0.0	0.0%	636	636	0.0	0.0%
2027	13	11	-2	-16%	1,506	1,260	-246	-16%	8.4	8.4	0.0	0.2%	621	620	-1.4	-0.2%
2028	16	12	-4	-23%	1,923	1,483	-441	-23%	8.2	8.3	0.0	0.3%	612	610	-1.7	-0.3%
2029	17	13	-4	-22%	2,065	1,617	-448	-22%	8.3	8.3	0.0	0.2%	617	614	-3.0	-0.5%
2030	18	5	-14	-74%	2,146	1,441	-704	-33%	8.6	3.4	-5.2	-60.9%	643	323	-319.4	-49.7%
2031	19	5	-14	-74%	2,189	1,447	-742	-34%	8.9	3.5	-5.4	-60.9%	665	334	-330.6	-49.7%

Table 692 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (BMW) Total Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (BMW) Total Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.4	0.4	0.0	0.0%	18	18	0.0	0.0%
2025	0	0	0	0%	977	977	0	0%	0.3	0.3	0.0	0.0%	17	17	0.0	0.0%
2026	0	0	0	0%	1,236	1,236	0	0%	0.3	0.3	0.0	0.0%	16	16	0.0	0.0%
2027	1	1	0	19%	1,834	2,174	340	19%	0.3	0.3	0.0	0.2%	16	16	0.1	0.7%
2028	1	1	0	18%	1,961	2,307	346	18%	0.3	0.3	0.0	0.3%	15	15	0.1	0.8%
2029	1	1	0	15%	2,281	2,619	338	15%	0.3	0.3	0.0	0.4%	15	15	0.1	0.8%
2030	1	1	0	15%	2,295	2,627	332	14%	0.3	0.3	0.0	0.4%	16	16	0.1	0.8%
2031	1	1	0	11%	2,691	2,975	284	11%	0.3	0.3	0.0	0.4%	16	17	0.1	0.8%

Table 693 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ferrari) Total Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ferrari) Total Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2025	0	0	0	0%	14	14	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2026	0	0	0	0%	2,297	2,297	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2027	0	0	0	0%	2,229	2,228	-1	0%	0.0	0.0	0.0	0.2%	0	0	0.0	0.2%
2028	0	0	0	0%	2,253	2,251	-1	0%	0.0	0.0	0.0	0.2%	0	0	0.0	0.2%
2029	0	0	0	1%	2,184	2,184	-1	0%	0.0	0.0	0.0	0.7%	0	0	0.0	0.7%
2030	0	0	0	1%	2,907	2,909	2	0%	0.0	0.0	0.0	0.6%	0	0	0.0	0.6%
2031	0	0	0	1%	2,971	2,972	1	0%	0.0	0.0	0.0	0.6%	0	0	0.0	0.6%

Table 694 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ford) Total Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ford) Total Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	1.5	1.5	0.0	0.0%	132	132	0.0	0.0%
2025	1	1	0	0%	525	525	0	0%	1.4	1.4	0.0	0.0%	125	125	0.0	0.0%
2026	1	1	0	0%	514	514	0	0%	1.4	1.4	0.0	0.0%	121	121	0.0	0.0%
2027	2	2	0	-17%	1,419	1,174	-246	-17%	1.3	1.3	0.0	0.2%	117	117	-0.1	-0.1%
2028	2	2	0	-22%	1,687	1,320	-367	-22%	1.3	1.3	0.0	0.3%	114	114	0.0	0.0%
2029	2	2	0	-22%	1,669	1,306	-363	-22%	1.3	1.3	0.0	0.2%	115	115	-0.1	-0.1%
2030	3	2	-1	-26%	1,908	1,400	-508	-27%	1.4	1.4	0.0	0.2%	119	119	-0.2	-0.1%
2031	3	2	-1	-26%	1,888	1,384	-503	-27%	1.4	1.4	0.0	0.3%	123	123	-0.2	-0.1%

Table 695 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (GM) Total Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (GM) Total Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	2.2	2.2	0.0	0.0%	169	169	0.0	0.0%
2025	1	1	0	0%	604	604	0	0%	2.1	2.1	0.0	0.0%	161	161	0.0	0.0%
2026	2	2	0	0%	1,039	1,039	0	0%	2.0	2.0	0.0	0.0%	155	155	0.0	0.0%
2027	5	3	-2	-35%	2,480	1,615	-865	-35%	1.9	1.9	0.0	0.2%	152	150	-1.7	-1.1%
2028	6	3	-3	-46%	3,299	1,775	-1,524	-46%	1.8	1.8	0.0	0.3%	150	147	-2.8	-1.9%
2029	7	4	-3	-46%	3,607	1,957	-1,650	-46%	1.8	1.8	0.0	0.3%	151	148	-3.0	-2.0%
2030	7	4	-3	-45%	3,663	2,014	-1,649	-45%	1.9	1.9	0.0	0.3%	156	153	-3.1	-2.0%
2031	7	4	-3	-45%	3,745	2,051	-1,694	-45%	2.0	2.0	0.0	0.3%	162	158	-3.3	-2.0%

Table 696 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Honda) Total Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Honda) Total Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	1.2	1.2	0.0	0.0%	102	102	0.0	0.0%
2025	0	0	0	0%	287	287	0	0%	1.1	1.1	0.0	0.0%	94	94	0.0	0.0%
2026	0	0	0	0%	377	377	0	0%	1.1	1.1	0.0	0.0%	89	89	0.0	0.0%
2027	1	0	0	-14%	496	427	-69	-14%	1.0	1.0	0.0	0.2%	85	85	0.0	0.0%
2028	1	1	0	-35%	1,171	764	-407	-35%	1.0	1.0	0.0	0.2%	83	83	-0.6	-0.7%
2029	1	1	-1	-38%	1,399	868	-531	-38%	1.0	1.0	0.0	0.4%	83	83	-0.6	-0.7%
2030	1	1	0	-35%	1,422	920	-502	-35%	1.0	1.0	0.0	0.4%	86	85	-0.5	-0.6%
2031	1	1	0	-35%	1,395	906	-489	-35%	1.0	1.0	0.0	0.4%	88	87	-0.5	-0.6%

Table 697 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Hyundai) Total Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Hyundai) Total Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.8	0.8	0.0	0.0%	21	21	0.0	0.0%
2025	0	0	0	0%	254	254	0	0%	0.7	0.7	0.0	0.0%	20	20	0.0	0.0%
2026	1	1	0	0%	797	797	0	0%	0.7	0.7	0.0	0.0%	19	19	0.0	0.0%
2027	1	1	0	-7%	1,433	1,325	-108	-8%	0.7	0.7	0.0	0.2%	18	18	0.0	0.1%
2028	2	1	0	-29%	2,481	1,763	-718	-29%	0.6	0.6	0.0	0.3%	18	18	-0.1	-0.4%
2029	2	1	-1	-27%	2,956	2,136	-820	-28%	0.6	0.6	0.0	0.4%	18	18	-0.1	-0.5%
2030	2	1	-1	-27%	2,905	2,114	-791	-27%	0.7	0.7	0.0	0.4%	19	19	-0.1	-0.5%
2031	2	1	-1	-26%	2,846	2,087	-759	-27%	0.7	0.7	0.0	0.4%	19	19	-0.1	-0.5%

Table 698 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ineos) Total Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ineos) Total Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2025	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2026	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.0%	0	0	0.0	0.0%
2027	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.1%	0	0	0.0	0.1%
2028	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.3%	0	0	0.0	0.3%
2029	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.2%	0	0	0.0	0.2%
2030	0	0	0	0%	0	0	0	0%	0.0	0.0	0.0	0.2%	0	0	0.0	0.2%
2031	0	0	0	0%	2,731	2,731	0	0%	0.0	0.0	0.0	0.2%	0	0	0.0	0.2%

Table 699 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (JLR) Total Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (JLR) Total Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.1	0.1	0.0	0.0%	1	1	0.0	0.0%
2025	0	0	0	0%	252	252	0	0%	0.1	0.1	0.0	0.0%	1	1	0.0	0.0%
2026	0	0	0	0%	1,089	1,089	0	0%	0.1	0.1	0.0	0.0%	1	1	0.0	0.0%
2027	0	0	0	0%	1,997	1,997	0	0%	0.1	0.1	0.0	0.2%	1	1	0.0	0.2%
2028	0	0	0	0%	1,955	1,955	0	0%	0.1	0.1	0.0	0.3%	1	1	0.0	0.3%
2029	0	0	0	0%	2,020	2,021	1	0%	0.1	0.1	0.0	0.2%	1	1	0.0	0.2%
2030	0	0	0	0%	1,984	1,985	1	0%	0.1	0.1	0.0	0.2%	1	1	0.0	0.2%
2031	0	0	0	-15%	1,723	1,461	-262	-15%	0.1	0.1	0.0	0.2%	1	1	0.0	-0.1%

Table 700 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (KIA) Total Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (KIA) Total Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.7	0.7	0.0	0.0%	37	37	0.0	0.0%
2025	1	1	0	0%	1,344	1,344	0	0%	0.6	0.6	0.0	0.0%	35	35	0.0	0.0%
2026	1	1	0	0%	2,025	2,025	0	0%	0.6	0.6	0.0	0.0%	34	34	0.0	0.0%
2027	1	1	0	0%	2,048	2,048	0	0%	0.6	0.6	0.0	0.2%	33	33	0.1	0.2%
2028	1	1	0	-3%	2,614	2,536	-79	-3%	0.6	0.6	0.0	0.3%	32	32	0.1	0.2%
2029	2	2	0	-10%	2,974	2,667	-307	-10%	0.6	0.6	0.0	0.4%	32	32	0.0	0.1%
2030	2	2	0	-10%	2,927	2,628	-298	-10%	0.6	0.6	0.0	0.4%	33	33	0.0	0.1%
2031	2	2	0	-10%	2,897	2,607	-290	-10%	0.6	0.6	0.0	0.4%	34	34	0.0	0.1%

Table 701 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mazda) Total Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mazda) Total Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.4	0.4	0.0	0.0%	12	12	0.0	0.0%
2025	0	0	0	0%	16	16	0	0%	0.4	0.4	0.0	0.0%	12	12	0.0	0.0%
2026	0	0	0	0%	16	16	0	0%	0.4	0.4	0.0	0.0%	11	11	0.0	0.0%
2027	1	1	0	0%	1,435	1,435	0	0%	0.4	0.4	0.0	0.2%	11	11	0.0	0.2%
2028	1	1	0	0%	1,412	1,411	0	0%	0.4	0.4	0.0	0.3%	11	11	0.0	0.3%
2029	1	1	0	0%	1,687	1,688	1	0%	0.4	0.4	0.0	0.2%	11	11	0.0	0.2%
2030	1	1	0	0%	1,664	1,665	1	0%	0.4	0.4	0.0	0.3%	11	11	0.0	0.2%
2031	1	1	0	25%	1,930	2,400	470	24%	0.4	0.4	0.0	0.3%	12	12	0.1	0.5%

Table 702 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mercedes-Benz) Total Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mercedes-Benz) Total Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.3	0.3	0.0	0.0%	12	12	0.0	0.0%
2025	0	0	0	0%	93	93	0	0%	0.2	0.2	0.0	0.0%	11	11	0.0	0.0%
2026	0	0	0	0%	754	754	0	0%	0.2	0.2	0.0	0.0%	11	11	0.0	0.0%
2027	0	0	0	0%	1,227	1,227	0	0%	0.2	0.2	0.0	0.2%	10	10	0.0	0.2%
2028	0	0	0	0%	1,234	1,235	0	0%	0.2	0.2	0.0	0.3%	10	10	0.0	0.3%
2029	0	0	0	0%	1,286	1,286	0	0%	0.2	0.2	0.0	0.3%	10	10	0.0	0.2%
2030	0	0	0	0%	1,739	1,739	0	0%	0.2	0.2	0.0	0.3%	11	11	0.0	0.3%
2031	0	0	0	0%	1,715	1,714	0	0%	0.2	0.2	0.0	0.3%	11	11	0.0	0.3%

Table 703 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mitsubishi) Total Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mitsubishi) Total Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.2	0.2	0.0	0.0%	2	2	0.0	0.0%
2025	0	0	0	0%	124	124	0	0%	0.1	0.1	0.0	0.0%	2	2	0.0	0.0%
2026	0	0	0	0%	451	451	0	0%	0.1	0.1	0.0	0.0%	2	2	0.0	0.0%
2027	0	0	0	-41%	921	538	-383	-42%	0.1	0.1	0.0	0.2%	2	2	0.0	0.0%
2028	0	0	0	-52%	2,007	951	-1,056	-53%	0.1	0.1	0.0	0.3%	2	2	0.0	0.1%
2029	0	0	0	-46%	2,021	1,083	-939	-46%	0.1	0.1	0.0	0.3%	2	2	0.0	0.3%
2030	0	0	0	-46%	1,987	1,066	-921	-46%	0.1	0.1	0.0	0.3%	2	2	0.0	0.3%
2031	0	0	0	-46%	1,940	1,050	-890	-46%	0.1	0.1	0.0	0.3%	2	2	0.0	0.3%

Table 704 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Nissan) Total Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Nissan) Total Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.8	0.8	0.0	0.0%	51	51	0.0	0.0%
2025	0	0	0	0%	490	490	0	0%	0.8	0.8	0.0	0.0%	47	47	0.0	0.0%
2026	1	1	0	0%	735	735	0	0%	0.7	0.7	0.0	0.0%	45	45	0.0	0.0%
2027	1	1	0	-19%	1,492	1,201	-291	-20%	0.7	0.7	0.0	0.2%	43	43	0.0	-0.1%
2028	1	1	0	-20%	1,454	1,166	-288	-20%	0.7	0.7	0.0	0.2%	41	41	0.0	0.0%
2029	1	1	0	-32%	1,621	1,090	-531	-33%	0.6	0.7	0.0	0.4%	41	41	-0.2	-0.5%
2030	1	1	0	-34%	1,787	1,171	-616	-34%	0.7	0.7	0.0	0.4%	43	42	-0.3	-0.7%
2031	1	1	0	-34%	1,760	1,153	-607	-35%	0.7	0.7	0.0	0.4%	44	43	-0.3	-0.6%

Table 705 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Stellantis) Total Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Stellantis) Total Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	1.0	1.0	0.0	0.0%	94	94	0.0	0.0%
2025	0	0	0	0%	207	207	0	0%	1.0	1.0	0.0	0.0%	90	90	0.0	0.0%
2026	0	0	0	0%	449	449	0	0%	0.9	0.9	0.0	0.0%	88	88	0.0	0.0%
2027	1	1	0	-2%	1,544	1,513	-32	-2%	0.9	0.9	0.0	0.2%	86	86	0.1	0.2%
2028	2	2	0	-1%	2,071	2,040	-31	-1%	0.9	0.9	0.0	0.3%	85	85	0.3	0.3%
2029	2	2	0	-12%	2,555	2,245	-311	-12%	0.9	0.9	0.0	0.2%	86	86	-0.3	-0.4%
2030	2	2	0	-12%	2,544	2,237	-307	-12%	0.9	0.9	0.0	0.2%	90	90	-0.3	-0.3%
2031	2	2	0	-12%	2,511	2,208	-303	-12%	0.9	0.9	0.0	0.2%	93	93	-0.3	-0.3%

Table 706 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Subaru) Total Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Subaru) Total Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.7	0.7	0.0	0.0%	38	38	0.0	0.0%
2025	0	0	0	0%	736	736	0	0%	0.7	0.7	0.0	0.0%	36	36	0.0	0.0%
2026	1	1	0	0%	1,075	1,075	0	0%	0.7	0.7	0.0	0.0%	35	35	0.0	0.0%
2027	1	1	0	0%	1,064	1,064	0	0%	0.6	0.6	0.0	0.2%	34	34	0.1	0.2%
2028	1	1	0	17%	1,119	1,303	184	16%	0.6	0.6	0.0	0.3%	33	33	0.3	0.9%
2029	1	1	0	36%	1,365	1,858	493	36%	0.6	0.6	0.0	0.2%	33	34	0.4	1.2%
2030	1	1	0	37%	1,340	1,829	488	36%	0.6	0.6	0.0	0.3%	35	35	0.4	1.2%
2031	1	1	0	16%	1,579	1,831	253	16%	0.7	0.7	0.0	0.3%	36	36	0.2	0.6%

Table 707 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Toyota) Total Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Toyota) Total Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	2.5	2.5	0.0	0.0%	171	171	0.0	0.0%
2025	1	1	0	0%	365	365	0	0%	2.3	2.3	0.0	0.0%	159	159	0.0	0.0%
2026	2	2	0	0%	764	764	0	0%	2.2	2.2	0.0	0.0%	154	154	0.0	0.0%
2027	2	2	-1	-30%	1,134	793	-342	-30%	2.1	2.1	0.0	0.2%	147	146	-0.9	-0.6%
2028	2	2	-1	-30%	1,172	818	-354	-30%	2.0	2.0	0.0	0.3%	143	142	-0.7	-0.5%
2029	3	2	-1	-25%	1,279	954	-325	-25%	2.0	2.0	0.0	0.3%	143	142	-0.5	-0.4%
2030	3	2	-1	-26%	1,334	986	-348	-26%	2.1	2.1	0.0	0.3%	147	147	-0.6	-0.4%
2031	3	2	-1	-28%	1,383	999	-385	-28%	2.1	2.1	0.0	0.3%	151	150	-0.8	-0.5%

Table 708 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Volvo) Total Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Volvo) Total Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.1	0.1	0.0	0.0%	3	3	0.0	0.0%
2025	0	0	0	0%	0	0	0	0%	0.1	0.1	0.0	0.0%	3	3	0.0	0.0%
2026	0	0	0	0%	1,688	1,688	0	0%	0.1	0.1	0.0	0.0%	3	3	0.0	0.0%
2027	0	0	0	2%	1,853	1,892	39	2%	0.1	0.1	0.0	0.2%	2	2	0.0	0.2%
2028	0	0	0	2%	1,933	1,972	39	2%	0.1	0.1	0.0	0.3%	2	2	0.0	0.2%
2029	0	0	0	2%	2,438	2,476	38	2%	0.1	0.1	0.0	0.3%	2	2	0.0	0.4%
2030	0	0	0	2%	2,395	2,433	38	2%	0.1	0.1	0.0	0.3%	2	2	0.0	0.4%
2031	0	0	0	2%	2,326	2,363	38	2%	0.1	0.1	0.0	0.3%	2	2	0.0	0.4%

Table 709 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (VWA) Total Fleet Between Alt 0 - No Action and Alt 5

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (VWA) Total Fleet Between Alt 0 - No Action and Alt 5																
	Technology Costs Increase ($Billions)				Avg. Vehicle Price Increase ($)				Annual Sales (million vehicles)				Labor (person years)			
	Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative		Standards		Change from Alternative	
Model Year	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent	Alt 0 - No Action	Alt 5	Absolute	Percent
2024	0	0	0	0%	0	0	0	0%	0.7	0.7	0.0	0.0%	22	22	0.0	0.0%
2025	0	0	0	0%	691	691	0	0%	0.7	0.7	0.0	0.0%	21	21	0.0	0.0%
2026	1	1	0	0%	863	863	0	0%	0.7	0.7	0.0	0.0%	20	20	0.0	0.0%
2027	1	1	0	-1%	1,920	1,893	-28	-1%	0.6	0.6	0.0	0.2%	20	20	0.0	0.2%
2028	1	1	0	-1%	2,458	2,431	-28	-1%	0.6	0.6	0.0	0.3%	19	19	0.1	0.3%
2029	1	1	0	-1%	2,420	2,394	-26	-1%	0.6	0.6	0.0	0.3%	19	19	0.1	0.3%
2030	1	1	0	-1%	2,383	2,356	-26	-1%	0.6	0.6	0.0	0.3%	20	20	0.1	0.3%
2031	2	1	0	-1%	2,372	2,345	-26	-1%	0.6	0.6	0.0	0.3%	20	20	0.1	0.3%

A15. Consumer Impacts

Table 710 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Total Fleet, Alt 1 at a 3% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Total Fleet, Alt 1 at a 3% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-608	-1,003	-1,218	-1,269	-1,318
Implicit Opportunity Cost	0	0	0	-354	-543	-702	-767	-819
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-52	-84	-105	-108	-113
Increase in Taxes/Fees	0	0	0	-34	-56	-70	-72	-75
Lost Consumer Surplus	0	0	0	-1	-2	-2	-3	-3
Total Consumer Cost	0	0	0	-1,049	-1,689	-2,096	-2,219	-2,327
Fuel Savings	-28	-29	-32	714	1,135	1,463	1,597	1,698
Mobility Benefit	-1	-1	-1	-83	-131	-171	-189	-203
Reallocated Benefit	-24	-27	-30	-32	-36	-41	-46	-52
Refueling Benefit	-2	-2	-2	43	69	88	95	100
Total Consumer Benefit	4	4	3	-880	-1,382	-1,775	-1,936	-2,058
Net Consumer Benefit	5	4	3	168	307	322	283	269
Payback	0.0	0.0	0.0	-1.7	-2.7	-2.3	-2.4	-2.6

Table 711 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Passenger Car Fleet, Alt 1 at a 3% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Passenger Car Fleet, Alt 1 at a 3% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-568	-937	-1,377	-1,333	-1,375
Implicit Opportunity Cost	0	0	0	-342	-573	-838	-612	-626
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	-1	-1	-1	-48	-79	-115	281	280
Increase in Taxes/Fees	0	0	0	-32	-53	-78	177	177
Lost Consumer Surplus	0	0	0	-1	-2	-2	-3	-3
Total Consumer Cost	-1	-1	-1	-990	-1,644	-2,411	-1,490	-1,546
Fuel Savings	-23	-23	-24	679	1,186	1,754	3,649	3,703
Mobility Benefit	-1	-1	-1	-67	-118	-176	-70	-74
Reallocated Benefit	-17	-19	-21	-23	-26	-30	-39	-44
Refueling Benefit	-1	-1	-2	45	79	115	235	236
Total Consumer Benefit	7	5	4	-814	-1,409	-2,075	-3,992	-4,057
Net Consumer Benefit	8	6	4	176	235	335	-2,502	-2,511
Payback	0.0	0.0	0.0	-1.0	-2.0	-3.0	-4.0	-4.0

Table 712 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Light Truck Fleet, Alt 1 at a 3% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Light Truck Fleet, Alt 1 at a 3% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-623	-1,027	-1,161	-1,438	-1,483
Implicit Opportunity Cost	0	0	0	-359	-533	-652	-485	-519
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-54	-88	-99	714	710
Increase in Taxes/Fees	0	0	0	-35	-58	-66	452	450
Lost Consumer Surplus	0	0	0	-1	-2	-2	-3	-3
Total Consumer Cost	0	0	0	-1,072	-1,708	-1,980	-759	-845
Fuel Savings	-30	-32	-35	724	1,109	1,367	5,964	6,064
Mobility Benefit	-1	-1	-1	-89	-135	-169	-371	-382
Reallocated Benefit	-28	-30	-33	-36	-40	-45	-64	-71
Refueling Benefit	-2	-2	-2	42	65	79	187	191
Total Consumer Benefit	3	3	3	-902	-1,365	-1,675	-6,596	-6,715
Net Consumer Benefit	3	3	3	170	343	305	-5,837	-5,870
Payback	0.0	0.0	0.0	-2.0	-3.0	-2.0	-3.0	-4.0

Table 713 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Total Fleet, Alt 1 at a 7% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Total Fleet, Alt 1 at a 7% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-608	-1,003	-1,218	-1,269	-1,318
Implicit Opportunity Cost	0	0	0	-277	-425	-548	-599	-639
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-44	-72	-90	-93	-97
Increase in Taxes/Fees	0	0	0	-34	-56	-70	-72	-75
Lost Consumer Surplus	0	0	0	-1	-2	-2	-3	-3
Total Consumer Cost	0	0	0	-964	-1,558	-1,928	-2,036	-2,132
Fuel Savings	-16	-18	-20	557	883	1,138	1,241	1,319
Mobility Benefit	0	-1	-1	-64	-101	-132	-146	-157
Reallocated Benefit	-14	-16	-18	-20	-23	-27	-32	-37
Refueling Benefit	-1	-1	-1	34	54	69	75	79
Total Consumer Benefit	3	3	2	-682	-1,072	-1,377	-1,502	-1,596
Net Consumer Benefit	3	3	2	282	486	551	534	536
Payback	0.0	0.0	0.0	-26.6	-27.4	-27.3	-26.7	-26.3

Table 714 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Passenger Car Fleet, Alt 1 at a 7% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Passenger Car Fleet, Alt 1 at a 7% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-568	-937	-1,377	-1,333	-1,375
Implicit Opportunity Cost	0	0	0	-267	-448	-655	-478	-489
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	-1	-1	-1	-41	-68	-100	238	237
Increase in Taxes/Fees	0	0	0	-32	-53	-78	177	177
Lost Consumer Surplus	0	0	0	-1	-2	-2	-3	-3
Total Consumer Cost	-1	-1	-1	-909	-1,508	-2,212	-1,399	-1,452
Fuel Savings	-14	-15	-15	536	931	1,376	2,804	2,847
Mobility Benefit	0	-1	-1	-53	-92	-138	-60	-64
Reallocated Benefit	-10	-11	-13	-15	-17	-20	-27	-31
Refueling Benefit	-1	-1	-1	36	62	91	182	183
Total Consumer Benefit	5	4	3	-638	-1,103	-1,625	-3,071	-3,124
Net Consumer Benefit	5	4	3	270	404	587	-1,672	-1,672
Payback	0.0	0.0	0.0	-89.0	-91.0	-92.0	-94.0	-94.0

Table 715 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Light Truck Fleet, Alt 1 at a 7% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Light Truck Fleet, Alt 1 at a 7% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-623	-1,027	-1,161	-1,438	-1,483
Implicit Opportunity Cost	0	0	0	-281	-416	-509	-379	-405
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-46	-75	-85	604	600
Increase in Taxes/Fees	0	0	0	-35	-58	-66	452	450
Lost Consumer Surplus	0	0	0	-1	-2	-2	-3	-3
Total Consumer Cost	0	0	0	-986	-1,579	-1,823	-763	-841
Fuel Savings	-17	-19	-21	562	860	1,058	4,471	4,551
Mobility Benefit	0	0	-1	-68	-104	-130	-289	-298
Reallocated Benefit	-16	-18	-20	-22	-26	-30	-43	-49
Refueling Benefit	-1	-1	-1	33	51	62	139	142
Total Consumer Benefit	2	2	2	-696	-1,055	-1,295	-4,952	-5,047
Net Consumer Benefit	2	2	2	289	523	529	-4,189	-4,206
Payback	0.0	0.0	0.0	-3.0	-4.0	-4.0	-5.0	-5.0

Table 716 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Total Fleet, Alt 2 at a 3% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Total Fleet, Alt 2 at a 3% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-605	-1,000	-1,215	-1,266	-1,315
Implicit Opportunity Cost	0	0	0	-351	-540	-698	-763	-815
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-51	-84	-104	-108	-113
Increase in Taxes/Fees	0	0	0	-34	-56	-69	-72	-75
Lost Consumer Surplus	0	0	0	-1	-2	-2	-3	-3
Total Consumer Cost	0	0	0	-1,042	-1,682	-2,089	-2,212	-2,320
Fuel Savings	-28	-29	-32	707	1,128	1,456	1,590	1,690
Mobility Benefit	-1	-1	-1	-83	-130	-170	-188	-202
Reallocated Benefit	-24	-27	-30	-32	-36	-41	-46	-52
Refueling Benefit	-2	-2	-2	43	69	88	95	100
Total Consumer Benefit	4	4	3	-872	-1,373	-1,766	-1,927	-2,049
Net Consumer Benefit	5	4	3	170	308	323	285	271
Payback	0.0	0.0	0.0	-1.7	-2.7	-2.3	-2.4	-2.6

Table 717 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Passenger Car Fleet, Alt 2 at a 3% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Passenger Car Fleet, Alt 2 at a 3% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-564	-933	-1,373	-1,329	-1,371
Implicit Opportunity Cost	0	0	0	-338	-570	-835	-607	-621
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	-1	-1	-1	-48	-78	-115	281	281
Increase in Taxes/Fees	0	0	0	-32	-53	-78	177	177
Lost Consumer Surplus	0	0	0	-1	-2	-2	-3	-3
Total Consumer Cost	-1	-1	-1	-982	-1,636	-2,403	-1,480	-1,536
Fuel Savings	-23	-23	-24	672	1,178	1,746	3,639	3,693
Mobility Benefit	-1	-1	-1	-67	-117	-175	-69	-73
Reallocated Benefit	-17	-19	-21	-23	-26	-30	-39	-44
Refueling Benefit	-1	-1	-2	44	78	115	234	235
Total Consumer Benefit	7	5	4	-806	-1,400	-2,066	-3,980	-4,044
Net Consumer Benefit	8	6	5	177	236	336	-2,499	-2,508
Payback	0.0	0.0	0.0	-1.0	-2.0	-3.0	-4.0	-4.0

Table 718 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Light Truck Fleet, Alt 2 at a 3% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Light Truck Fleet, Alt 2 at a 3% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-621	-1,025	-1,159	-1,438	-1,483
Implicit Opportunity Cost	0	0	0	-356	-530	-648	-485	-519
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-53	-87	-99	714	710
Increase in Taxes/Fees	0	0	0	-35	-58	-65	452	450
Lost Consumer Surplus	0	0	0	-1	-2	-2	-3	-3
Total Consumer Cost	0	0	0	-1,065	-1,701	-1,974	-759	-845
Fuel Savings	-30	-32	-35	717	1,102	1,360	5,964	6,064
Mobility Benefit	-1	-1	-1	-89	-134	-168	-371	-382
Reallocated Benefit	-28	-30	-33	-36	-40	-45	-64	-71
Refueling Benefit	-2	-2	-2	42	65	79	187	191
Total Consumer Benefit	3	3	3	-894	-1,356	-1,667	-6,596	-6,715
Net Consumer Benefit	3	3	3	172	345	307	-5,837	-5,870
Payback	0.0	0.0	0.0	-2.0	-3.0	-2.0	-3.0	-4.0

Table 719 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Total Fleet, Alt 2 at a 7% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Total Fleet, Alt 2 at a 7% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-605	-1,000	-1,215	-1,266	-1,315
Implicit Opportunity Cost	0	0	0	-274	-422	-545	-596	-637
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-44	-72	-90	-93	-97
Increase in Taxes/Fees	0	0	0	-34	-56	-69	-72	-75
Lost Consumer Surplus	0	0	0	-1	-2	-2	-3	-3
Total Consumer Cost	0	0	0	-958	-1,552	-1,922	-2,030	-2,126
Fuel Savings	-16	-18	-20	551	877	1,132	1,235	1,313
Mobility Benefit	0	-1	-1	-63	-100	-131	-146	-156
Reallocated Benefit	-14	-16	-18	-20	-23	-27	-32	-36
Refueling Benefit	-1	-1	-1	34	54	69	74	78
Total Consumer Benefit	3	3	2	-676	-1,066	-1,371	-1,495	-1,589
Net Consumer Benefit	3	3	2	282	486	551	535	536
Payback	0.0	0.0	0.0	-26.4	-27.4	-27.3	-26.7	-26.3

Table 720 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Passenger Car Fleet, Alt 2 at a 7% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Passenger Car Fleet, Alt 2 at a 7% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-564	-933	-1,373	-1,329	-1,371
Implicit Opportunity Cost	0	0	0	-264	-445	-652	-474	-485
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	-1	-1	-1	-41	-68	-99	238	238
Increase in Taxes/Fees	0	0	0	-32	-53	-78	177	177
Lost Consumer Surplus	0	0	0	-1	-2	-2	-3	-3
Total Consumer Cost	-1	-1	-1	-902	-1,500	-2,204	-1,391	-1,443
Fuel Savings	-14	-15	-15	530	925	1,370	2,796	2,839
Mobility Benefit	0	-1	-1	-52	-92	-137	-59	-63
Reallocated Benefit	-10	-11	-13	-15	-17	-20	-27	-31
Refueling Benefit	-1	-1	-1	35	62	91	182	183
Total Consumer Benefit	5	4	3	-632	-1,096	-1,618	-3,062	-3,115
Net Consumer Benefit	5	4	3	270	404	586	-1,671	-1,671
Payback	0.0	0.0	0.0	-88.0	-91.0	-92.0	-94.0	-94.0

Table 721 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Light Truck Fleet, Alt 2 at a 7% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Light Truck Fleet, Alt 2 at a 7% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-621	-1,025	-1,159	-1,438	-1,483
Implicit Opportunity Cost	0	0	0	-278	-414	-506	-379	-405
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-46	-75	-85	604	600
Increase in Taxes/Fees	0	0	0	-35	-58	-65	452	450
Lost Consumer Surplus	0	0	0	-1	-2	-2	-3	-3
Total Consumer Cost	0	0	0	-980	-1,573	-1,818	-763	-841
Fuel Savings	-17	-19	-21	557	854	1,053	4,471	4,551
Mobility Benefit	0	0	-1	-68	-103	-129	-289	-298
Reallocated Benefit	-16	-18	-20	-22	-25	-30	-43	-49
Refueling Benefit	-1	-1	-1	33	51	62	139	142
Total Consumer Benefit	2	2	2	-690	-1,049	-1,288	-4,952	-5,047
Net Consumer Benefit	2	2	2	290	524	530	-4,189	-4,206
Payback	0.0	0.0	0.0	-3.0	-4.0	-4.0	-5.0	-5.0

Table 722 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Total Fleet, Alt 3 at a 3% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Total Fleet, Alt 3 at a 3% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-579	-974	-1,189	-1,241	-1,289
Implicit Opportunity Cost	0	0	0	-320	-509	-667	-732	-783
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-49	-82	-102	-106	-110
Increase in Taxes/Fees	0	0	0	-32	-54	-68	-71	-74
Lost Consumer Surplus	0	0	0	-1	-2	-2	-2	-3
Total Consumer Cost	0	0	0	-980	-1,621	-2,029	-2,152	-2,258
Fuel Savings	-27	-29	-32	644	1,064	1,392	1,524	1,624
Mobility Benefit	-1	-1	-1	-75	-122	-163	-181	-194
Reallocated Benefit	-24	-27	-29	-32	-36	-40	-46	-51
Refueling Benefit	-2	-2	-2	39	65	84	91	96
Total Consumer Benefit	4	4	3	-797	-1,298	-1,689	-1,850	-1,970
Net Consumer Benefit	5	4	3	183	323	339	302	289
Payback	0.0	0.0	0.0	-1.7	-2.7	-2.3	-2.4	-2.6

Table 723 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Passenger Car Fleet, Alt 3 at a 3% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Passenger Car Fleet, Alt 3 at a 3% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-548	-917	-1,356	-1,293	-1,335
Implicit Opportunity Cost	0	0	0	-325	-556	-821	-563	-576
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	-1	-1	-1	-46	-77	-114	284	284
Increase in Taxes/Fees	0	0	0	-31	-52	-77	179	179
Lost Consumer Surplus	0	0	0	-1	-2	-2	-2	-3
Total Consumer Cost	-1	-1	-1	-951	-1,603	-2,371	-1,395	-1,450
Fuel Savings	-23	-23	-24	646	1,151	1,719	3,547	3,600
Mobility Benefit	-1	-1	-1	-63	-114	-172	-58	-62
Reallocated Benefit	-17	-19	-20	-23	-26	-29	-39	-43
Refueling Benefit	-1	-1	-2	43	77	113	229	230
Total Consumer Benefit	7	5	4	-775	-1,367	-2,033	-3,871	-3,934
Net Consumer Benefit	8	6	5	176	236	337	-2,475	-2,483
Payback	0.0	0.0	0.0	-1.0	-2.0	-3.0	-4.0	-4.0

Table 724 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Light Truck Fleet, Alt 3 at a 3% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Light Truck Fleet, Alt 3 at a 3% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-590	-995	-1,129	-1,438	-1,482
Implicit Opportunity Cost	0	0	0	-318	-492	-611	-485	-518
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-51	-85	-96	714	710
Increase in Taxes/Fees	0	0	0	-33	-56	-64	452	450
Lost Consumer Surplus	0	0	0	-1	-2	-2	-2	-3
Total Consumer Cost	0	0	0	-993	-1,630	-1,903	-759	-842
Fuel Savings	-29	-32	-35	640	1,025	1,282	5,965	6,062
Mobility Benefit	-1	-1	-1	-80	-126	-159	-371	-381
Reallocated Benefit	-27	-30	-33	-36	-40	-45	-64	-71
Refueling Benefit	-2	-2	-2	37	60	74	187	191
Total Consumer Benefit	3	3	3	-802	-1,265	-1,574	-6,596	-6,712
Net Consumer Benefit	3	3	3	190	365	328	-5,837	-5,870
Payback	0.0	0.0	0.0	-2.0	-3.0	-2.0	-3.0	-4.0

Table 725 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Total Fleet, Alt 3 at a 7% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Total Fleet, Alt 3 at a 7% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-579	-974	-1,189	-1,241	-1,289
Implicit Opportunity Cost	0	0	0	-250	-398	-521	-572	-612
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-42	-70	-88	-91	-95
Increase in Taxes/Fees	0	0	0	-32	-54	-68	-71	-74
Lost Consumer Surplus	0	0	0	-1	-2	-2	-2	-3
Total Consumer Cost	0	0	0	-904	-1,498	-1,869	-1,977	-2,072
Fuel Savings	-16	-18	-20	502	827	1,082	1,184	1,261
Mobility Benefit	0	-1	-1	-58	-94	-125	-140	-150
Reallocated Benefit	-14	-16	-18	-20	-23	-27	-31	-36
Refueling Benefit	-1	-1	-1	30	51	66	71	75
Total Consumer Benefit	3	3	2	-618	-1,007	-1,311	-1,435	-1,528
Net Consumer Benefit	3	3	2	286	491	558	542	544
Payback	0.0	0.0	0.0	-26.4	-27.4	-27.3	-26.7	-26.3

Table 726 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Passenger Car Fleet, Alt 3 at a 7% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Passenger Car Fleet, Alt 3 at a 7% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-548	-917	-1,356	-1,293	-1,335
Implicit Opportunity Cost	0	0	0	-254	-435	-641	-440	-450
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	-1	-1	-1	-40	-67	-98	240	240
Increase in Taxes/Fees	0	0	0	-31	-52	-77	179	179
Lost Consumer Surplus	0	0	0	-1	-2	-2	-2	-3
Total Consumer Cost	-1	-1	-1	-873	-1,471	-2,175	-1,315	-1,368
Fuel Savings	-14	-15	-15	510	904	1,348	2,724	2,767
Mobility Benefit	0	-1	-1	-50	-89	-134	-51	-54
Reallocated Benefit	-10	-11	-13	-15	-17	-20	-27	-31
Refueling Benefit	-1	-1	-1	34	61	89	177	178
Total Consumer Benefit	5	4	3	-608	-1,071	-1,592	-2,977	-3,029
Net Consumer Benefit	5	4	3	266	400	583	-1,662	-1,661
Payback	0.0	0.0	0.0	-88.0	-91.0	-92.0	-94.0	-94.0

Table 727 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Light Truck Fleet, Alt 3 at a 7% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Light Truck Fleet, Alt 3 at a 7% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-590	-995	-1,129	-1,438	-1,482
Implicit Opportunity Cost	0	0	0	-248	-385	-477	-379	-404
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-44	-73	-83	604	600
Increase in Taxes/Fees	0	0	0	-33	-56	-64	452	450
Lost Consumer Surplus	0	0	0	-1	-2	-2	-2	-3
Total Consumer Cost	0	0	0	-916	-1,510	-1,755	-763	-838
Fuel Savings	-17	-19	-21	497	794	992	4,471	4,550
Mobility Benefit	0	0	-1	-61	-96	-122	-289	-298
Reallocated Benefit	-15	-17	-20	-22	-25	-29	-43	-49
Refueling Benefit	-1	-1	-1	29	47	58	139	142
Total Consumer Benefit	2	2	2	-619	-978	-1,216	-4,952	-5,045
Net Consumer Benefit	2	2	2	297	532	539	-4,189	-4,206
Payback	0.0	0.0	0.0	-3.0	-4.0	-4.0	-5.0	-5.0

Table 728 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Total Fleet, Alt 4 at a 3% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Total Fleet, Alt 4 at a 3% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-478	-853	-1,043	-1,083	-1,135
Implicit Opportunity Cost	0	0	0	-238	-407	-540	-593	-646
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-41	-72	-90	-93	-98
Increase in Taxes/Fees	0	0	0	-27	-48	-60	-62	-65
Lost Consumer Surplus	0	0	0	0	-1	-2	-2	-2
Total Consumer Cost	0	0	0	-785	-1,381	-1,735	-1,833	-1,946
Fuel Savings	-25	-27	-29	478	851	1,127	1,235	1,342
Mobility Benefit	-1	-1	-1	-56	-97	-131	-146	-160
Reallocated Benefit	-22	-24	-27	-29	-32	-36	-41	-46
Refueling Benefit	-1	-2	-2	28	51	68	73	79
Total Consumer Benefit	4	3	3	-598	-1,043	-1,372	-1,503	-1,631
Net Consumer Benefit	4	4	3	187	338	363	330	315
Payback	0.0	0.0	0.0	-1.0	-2.7	-2.3	-2.4	-2.3

Table 729 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Passenger Car Fleet, Alt 4 at a 3% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Passenger Car Fleet, Alt 4 at a 3% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-500	-841	-1,263	-1,099	-1,143
Implicit Opportunity Cost	0	0	0	-300	-502	-752	-409	-418
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	-1	-1	-1	-42	-71	-106	300	300
Increase in Taxes/Fees	0	0	0	-28	-48	-71	190	190
Lost Consumer Surplus	0	0	0	0	-1	-2	-2	-2
Total Consumer Cost	-1	-1	-1	-870	-1,462	-2,194	-1,019	-1,074
Fuel Savings	-21	-21	-22	597	1,043	1,580	3,226	3,273
Mobility Benefit	-1	-1	-1	-58	-101	-155	-21	-24
Reallocated Benefit	-15	-17	-19	-21	-23	-26	-34	-38
Refueling Benefit	-1	-1	-1	39	70	104	208	209
Total Consumer Benefit	6	5	4	-715	-1,237	-1,866	-3,487	-3,544
Net Consumer Benefit	7	6	4	155	226	328	-2,468	-2,470
Payback	0.0	0.0	0.0	-1.0	-2.0	-3.0	-4.0	-4.0

Table 730 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Light Truck Fleet, Alt 4 at a 3% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Light Truck Fleet, Alt 4 at a 3% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-470	-857	-964	-1,370	-1,418
Implicit Opportunity Cost	0	0	0	-215	-373	-463	-384	-433
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-41	-73	-82	720	716
Increase in Taxes/Fees	0	0	0	-27	-48	-54	456	453
Lost Consumer Surplus	0	0	0	0	-1	-2	-2	-2
Total Consumer Cost	0	0	0	-753	-1,353	-1,565	-580	-685
Fuel Savings	-27	-29	-32	432	776	974	5,759	5,893
Mobility Benefit	0	-1	-1	-56	-96	-122	-341	-357
Reallocated Benefit	-25	-27	-30	-32	-35	-40	-57	-64
Refueling Benefit	-2	-2	-2	24	45	55	176	182
Total Consumer Benefit	3	3	2	-553	-967	-1,205	-6,343	-6,502
Net Consumer Benefit	3	3	3	200	386	361	-5,764	-5,817
Payback	0.0	0.0	0.0	-1.0	-3.0	-2.0	-3.0	-3.0

Table 731 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Total Fleet, Alt 4 at a 7% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Total Fleet, Alt 4 at a 7% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-478	-853	-1,043	-1,083	-1,135
Implicit Opportunity Cost	0	0	0	-186	-318	-422	-463	-505
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-35	-62	-77	-80	-84
Increase in Taxes/Fees	0	0	0	-27	-48	-60	-62	-65
Lost Consumer Surplus	0	0	0	0	-1	-2	-2	-2
Total Consumer Cost	0	0	0	-727	-1,282	-1,604	-1,690	-1,791
Fuel Savings	-15	-16	-18	373	662	876	960	1,042
Mobility Benefit	0	0	-1	-43	-75	-101	-112	-123
Reallocated Benefit	-12	-14	-16	-18	-20	-24	-28	-32
Refueling Benefit	-1	-1	-1	22	40	53	57	61
Total Consumer Benefit	3	2	2	-463	-809	-1,065	-1,166	-1,264
Net Consumer Benefit	3	3	2	264	473	540	524	526
Payback	0.0	0.0	0.0	-26.3	-27.2	-26.5	-26.0	-26.3

Table 732 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Passenger Car Fleet, Alt 4 at a 7% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Passenger Car Fleet, Alt 4 at a 7% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-500	-841	-1,263	-1,099	-1,143
Implicit Opportunity Cost	0	0	0	-234	-392	-588	-319	-327
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	-1	-1	0	-37	-61	-91	254	254
Increase in Taxes/Fees	0	0	0	-28	-48	-71	190	190
Lost Consumer Surplus	0	0	0	0	-1	-2	-2	-2
Total Consumer Cost	-1	-1	0	-799	-1,343	-2,015	-976	-1,028
Fuel Savings	-13	-13	-14	472	819	1,240	2,474	2,512
Mobility Benefit	0	-1	-1	-45	-79	-121	-22	-24
Reallocated Benefit	-9	-10	-11	-13	-15	-18	-24	-27
Refueling Benefit	-1	-1	-1	31	55	82	161	162
Total Consumer Benefit	4	3	3	-561	-968	-1,461	-2,679	-2,725
Net Consumer Benefit	5	4	3	238	374	554	-1,704	-1,697
Payback	0.0	0.0	0.0	-88.0	-90.0	-92.0	-93.0	-94.0

Table 733 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Light Truck Fleet, Alt 4 at a 7% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Light Truck Fleet, Alt 4 at a 7% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-470	-857	-964	-1,370	-1,418
Implicit Opportunity Cost	0	0	0	-168	-291	-362	-300	-338
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-35	-63	-71	609	605
Increase in Taxes/Fees	0	0	0	-27	-48	-54	456	453
Lost Consumer Surplus	0	0	0	0	-1	-2	-2	-2
Total Consumer Cost	0	0	0	-700	-1,261	-1,452	-607	-701
Fuel Savings	-15	-17	-19	335	601	753	4,313	4,419
Mobility Benefit	0	0	-1	-42	-73	-93	-266	-279
Reallocated Benefit	-14	-16	-18	-20	-22	-26	-39	-44
Refueling Benefit	-1	-1	-1	19	35	43	131	135
Total Consumer Benefit	2	2	2	-426	-747	-930	-4,757	-4,883
Net Consumer Benefit	2	2	2	274	514	522	-4,150	-4,182
Payback	0.0	0.0	0.0	-3.0	-4.0	-3.0	-5.0	-5.0

Table 734 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Total Fleet, Alt 5 at a 3% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Total Fleet, Alt 5 at a 3% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-259	-448	-508	-529	-538
Implicit Opportunity Cost	0	0	0	-91	-121	-164	-192	-207
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-22	-38	-44	-46	-47
Increase in Taxes/Fees	0	0	0	-15	-25	-29	-30	-31
Lost Consumer Surplus	0	0	0	0	-1	-1	-1	-1
Total Consumer Cost	0	0	0	-388	-633	-747	-798	-824
Fuel Savings	-14	-15	-16	177	251	332	391	422
Mobility Benefit	0	0	-1	-20	-27	-38	-46	-50
Reallocated Benefit	-12	-14	-15	-16	-17	-19	-22	-24
Refueling Benefit	-1	-1	-1	11	15	20	24	25
Total Consumer Benefit	2	2	2	-231	-322	-421	-491	-526
Net Consumer Benefit	2	2	2	156	311	326	308	297
Payback	0.0	0.0	0.0	-1.0	-1.7	-1.0	-1.4	-1.3

Table 735 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Passenger Car Fleet, Alt 5 at a 3% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Passenger Car Fleet, Alt 5 at a 3% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-293	-469	-676	-591	-580
Implicit Opportunity Cost	0	0	0	-176	-250	-365	-60	-36
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-25	-39	-57	343	348
Increase in Taxes/Fees	0	0	0	-17	-26	-38	219	222
Lost Consumer Surplus	0	0	0	0	-1	-1	-1	-1
Total Consumer Cost	0	0	0	-511	-785	-1,136	-89	-47
Fuel Savings	-12	-12	-12	354	523	774	2,500	2,482
Mobility Benefit	0	0	-1	-32	-48	-70	57	62
Reallocated Benefit	-9	-10	-11	-11	-13	-14	-18	-20
Refueling Benefit	-1	-1	-1	23	35	51	161	159
Total Consumer Benefit	3	3	2	-421	-618	-910	-2,621	-2,599
Net Consumer Benefit	4	3	2	90	167	226	-2,532	-2,552
Payback	0.0	0.0	0.0	-1.0	-1.0	-1.0	-3.0	-3.0

Table 736 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Light Truck Fleet, Alt 5 at a 3% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Light Truck Fleet, Alt 5 at a 3% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-246	-441	-448	-704	-742
Implicit Opportunity Cost	0	0	0	-59	-74	-91	145	144
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-21	-38	-38	777	774
Increase in Taxes/Fees	0	0	0	-14	-25	-25	494	491
Lost Consumer Surplus	0	0	0	0	-1	-1	-1	-1
Total Consumer Cost	0	0	0	-341	-578	-604	711	667
Fuel Savings	-15	-16	-18	110	148	180	4,620	4,651
Mobility Benefit	0	0	-1	-16	-20	-26	-188	-189
Reallocated Benefit	-14	-15	-17	-18	-19	-21	-31	-34
Refueling Benefit	-1	-1	-1	6	8	10	120	121
Total Consumer Benefit	2	1	1	-159	-210	-252	-4,969	-5,002
Net Consumer Benefit	2	2	1	181	368	352	-5,679	-5,669
Payback	0.0	0.0	0.0	-1.0	-2.0	-1.0	-2.0	-2.0

Table 737 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Total Fleet, Alt 5 at a 7% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Total Fleet, Alt 5 at a 7% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-259	-448	-508	-529	-538
Implicit Opportunity Cost	0	0	0	-71	-95	-128	-150	-162
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-19	-32	-38	-39	-40
Increase in Taxes/Fees	0	0	0	-15	-25	-29	-30	-31
Lost Consumer Surplus	0	0	0	0	-1	-1	-1	-1
Total Consumer Cost	0	0	0	-364	-601	-705	-750	-772
Fuel Savings	-8	-9	-10	140	196	260	305	329
Mobility Benefit	0	0	0	-16	-21	-29	-35	-39
Reallocated Benefit	-7	-8	-9	-10	-11	-13	-15	-17
Refueling Benefit	0	-1	-1	8	12	16	19	20
Total Consumer Benefit	1	1	1	-181	-252	-329	-382	-409
Net Consumer Benefit	2	1	1	183	349	375	368	363
Payback	0.0	0.0	0.0	-24.0	-25.6	-24.7	-25.0	-24.6

Table 738 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Passenger Car Fleet, Alt 5 at a 7% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Passenger Car Fleet, Alt 5 at a 7% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-293	-469	-676	-591	-580
Implicit Opportunity Cost	0	0	0	-138	-195	-285	-47	-28
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-21	-34	-49	291	295
Increase in Taxes/Fees	0	0	0	-17	-26	-38	219	222
Lost Consumer Surplus	0	0	0	0	-1	-1	-1	-1
Total Consumer Cost	0	0	0	-469	-725	-1,048	-127	-91
Fuel Savings	-7	-7	-8	280	412	608	1,908	1,895
Mobility Benefit	0	0	0	-25	-37	-55	39	43
Reallocated Benefit	-5	-6	-7	-7	-8	-9	-13	-14
Refueling Benefit	0	0	0	18	28	41	124	122
Total Consumer Benefit	2	2	1	-331	-485	-713	-2,004	-1,988
Net Consumer Benefit	3	2	2	139	241	335	-1,876	-1,897
Payback	0.0	0.0	0.0	-82.0	-87.0	-88.0	-92.0	-92.0

Table 739 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Light Truck Fleet, Alt 5 at a 7% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the Light Truck Fleet, Alt 5 at a 7% Discount Rate (dollars), per Vehicle Model Year								
Model Year	2024	2025	2026	2027	2028	2029	2030	2031
Price Increase	0	0	0	-246	-441	-448	-704	-742
Implicit Opportunity Cost	0	0	0	-46	-58	-71	113	112
Increase in Financing Cost	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	-18	-32	-33	658	655
Increase in Taxes/Fees	0	0	0	-14	-25	-25	494	491
Lost Consumer Surplus	0	0	0	0	-1	-1	-1	-1
Total Consumer Cost	0	0	0	-325	-556	-579	559	516
Fuel Savings	-9	-10	-11	87	115	140	3,440	3,467
Mobility Benefit	0	0	0	-12	-15	-20	-149	-151
Reallocated Benefit	-8	-9	-10	-11	-12	-14	-21	-23
Refueling Benefit	0	-1	-1	5	6	8	87	88
Total Consumer Benefit	1	1	1	-124	-164	-197	-3,706	-3,735
Net Consumer Benefit	1	1	1	200	392	382	-4,265	-4,252
Payback	0.0	0.0	0.0	-2.0	-3.0	-2.0	-4.0	-4.0

A16. Environmental Impacts

Table 740 - Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) from the MY 2031 Total Fleet in Calendar Year 2030, by Alternative (1,000 metric tons)

Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) from the MY 2031 Total Fleet in Calendar Year 2030, by Alternative (1,000 metric tons)					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fleetwide Change in Upstream Emissions					
CO Upstream	0.0	0.0	0.0	0.0	0.0
VOC Upstream	0.0	0.0	0.0	0.0	0.0
NOx Upstream	0.0	0.0	0.0	0.0	0.0
SO2 Upstream	0.0	0.0	0.0	0.0	0.0
PM Upstream	0.0	0.0	0.0	0.0	0.0
Fleetwide Change in Tailpipe Emissions					
CO Tailpipe	0.0	0.0	0.0	0.0	0.0
VOC Tailpipe	0.0	0.0	0.0	0.0	0.0
NOx Tailpipe	0.0	0.0	0.0	0.0	0.0
SO2 Tailpipe	0.0	0.0	0.0	0.0	0.0
PM Tailpipe	0.0	0.0	0.0	0.0	0.0
Fleetwide Change in Total Emissions					
CO Total	0.0	0.0	0.0	0.0	0.0
VOC Total	0.0	0.0	0.0	0.0	0.0
NOx Total	0.0	0.0	0.0	0.0	0.0
SO2 Total	0.0	0.0	0.0	0.0	0.0
PM Total	0.0	0.0	0.0	0.0	0.0

Table 741 - Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) from the MY 2031 Passenger Car Fleet in Calendar Year 2030, by Alternative (1,000 metric tons)

Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) from the MY 2031 Passenger Car Fleet in Calendar Year 2030, by Alternative (1,000 metric tons)					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fleetwide Change in Upstream Emissions					
CO Upstream	0.0	0.0	0.0	0.0	0.0
VOC Upstream	0.0	0.0	0.0	0.0	0.0
NOx Upstream	0.0	0.0	0.0	0.0	0.0
SO2 Upstream	0.0	0.0	0.0	0.0	0.0
PM Upstream	0.0	0.0	0.0	0.0	0.0
Fleetwide Change in Tailpipe Emissions					
CO Tailpipe	0.0	0.0	0.0	0.0	0.0
VOC Tailpipe	0.0	0.0	0.0	0.0	0.0
NOx Tailpipe	0.0	0.0	0.0	0.0	0.0
SO2 Tailpipe	0.0	0.0	0.0	0.0	0.0
PM Tailpipe	0.0	0.0	0.0	0.0	0.0
Fleetwide Change in Total Emissions					
CO Total	0.0	0.0	0.0	0.0	0.0
VOC Total	0.0	0.0	0.0	0.0	0.0
NOx Total	0.0	0.0	0.0	0.0	0.0
SO2 Total	0.0	0.0	0.0	0.0	0.0
PM Total	0.0	0.0	0.0	0.0	0.0

Table 742 - Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) from the MY 2031 Light Truck Fleet in Calendar Year 2030, by Alternative (1,000 metric tons)

Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) from the MY 2031 Light Truck Fleet in Calendar Year 2030, by Alternative (1,000 metric tons)					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fleetwide Change in Upstream Emissions					
CO Upstream	0.0	0.0	0.0	0.0	0.0
VOC Upstream	0.0	0.0	0.0	0.0	0.0
NOx Upstream	0.0	0.0	0.0	0.0	0.0
SO2 Upstream	0.0	0.0	0.0	0.0	0.0
PM Upstream	0.0	0.0	0.0	0.0	0.0
Fleetwide Change in Tailpipe Emissions					
CO Tailpipe	0.0	0.0	0.0	0.0	0.0
VOC Tailpipe	0.0	0.0	0.0	0.0	0.0
NOx Tailpipe	0.0	0.0	0.0	0.0	0.0
SO2 Tailpipe	0.0	0.0	0.0	0.0	0.0
PM Tailpipe	0.0	0.0	0.0	0.0	0.0
Fleetwide Change in Total Emissions					
CO Total	0.0	0.0	0.0	0.0	0.0
VOC Total	0.0	0.0	0.0	0.0	0.0
NOx Total	0.0	0.0	0.0	0.0	0.0
SO2 Total	0.0	0.0	0.0	0.0	0.0
PM Total	0.0	0.0	0.0	0.0	0.0

Table 743 - Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) from the MY 2031 Total Fleet in Calendar Year 2035, by Alternative (1,000 metric tons)

Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) from the MY 2031 Total Fleet in Calendar Year 2035, by Alternative (1,000 metric tons)					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fleetwide Change in Upstream Emissions					
CO Upstream	0.3	0.3	0.3	0.3	0.1
VOC Upstream	1.6	1.6	1.6	1.3	0.4
NOx Upstream	0.7	0.6	0.6	0.5	0.2
SO2 Upstream	0.1	0.1	0.1	0.1	0.0
PM Upstream	0.0	0.0	0.0	0.0	0.0
Fleetwide Change in Tailpipe Emissions					
CO Tailpipe	-1.3	-1.3	-1.2	-1.0	-0.2
VOC Tailpipe	-0.1	-0.1	-0.1	-0.1	0.0
NOx Tailpipe	0.0	0.0	0.0	0.0	0.0
SO2 Tailpipe	0.0	0.0	0.0	0.0	0.0
PM Tailpipe	0.0	0.0	0.0	0.0	0.0
Fleetwide Change in Total Emissions					
CO Total	-1.0	-1.0	-0.9	-0.7	-0.1
VOC Total	1.5	1.5	1.5	1.2	0.4
NOx Total	0.6	0.6	0.6	0.5	0.2
SO2 Total	0.2	0.2	0.1	0.1	0.0
PM Total	0.0	0.0	0.0	0.0	0.0

Table 744 - Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) from the MY 2031 Passenger Car Fleet in Calendar Year 2035, by Alternative (1,000 metric tons)

Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) from the MY 2031 Passenger Car Fleet in Calendar Year 2035, by Alternative (1,000 metric tons)					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fleetwide Change in Upstream Emissions					
CO Upstream	1.5	1.5	1.5	1.4	1.3
VOC Upstream	7.0	7.0	7.0	6.7	6.2
NOx Upstream	2.8	2.8	2.8	2.7	2.5
SO2 Upstream	0.5	0.5	0.5	0.5	0.5
PM Upstream	0.2	0.2	0.2	0.2	0.2
Fleetwide Change in Tailpipe Emissions					
CO Tailpipe	76.6	76.6	76.7	76.9	77.4
VOC Tailpipe	4.5	4.5	4.5	4.5	4.6
NOx Tailpipe	1.5	1.5	1.5	1.5	1.5
SO2 Tailpipe	0.1	0.1	0.1	0.1	0.1
PM Tailpipe	0.0	0.0	0.0	0.0	0.0
Fleetwide Change in Total Emissions					
CO Total	78.1	78.1	78.2	78.4	78.7
VOC Total	11.6	11.5	11.5	11.3	10.8
NOx Total	4.3	4.3	4.3	4.2	4.0
SO2 Total	0.7	0.7	0.6	0.6	0.6
PM Total	0.5	0.5	0.5	0.5	0.5

Table 745 - Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) from the MY 2031 Light Truck Fleet in Calendar Year 2035, by Alternative (1,000 metric tons)

Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) from the MY 2031 Light Truck Fleet in Calendar Year 2035, by Alternative (1,000 metric tons)					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fleetwide Change in Upstream Emissions					
CO Upstream	-1.1	-1.1	-1.1	-1.1	-1.2
VOC Upstream	-5.4	-5.4	-5.4	-5.5	-5.8
NOx Upstream	-2.2	-2.2	-2.2	-2.2	-2.3
SO2 Upstream	-0.4	-0.4	-0.4	-0.4	-0.4
PM Upstream	-0.1	-0.1	-0.1	-0.1	-0.2
Fleetwide Change in Tailpipe Emissions					
CO Tailpipe	-77.9	-77.9	-77.9	-77.9	-77.6
VOC Tailpipe	-4.6	-4.6	-4.6	-4.6	-4.6
NOx Tailpipe	-1.5	-1.5	-1.5	-1.5	-1.5
SO2 Tailpipe	-0.1	-0.1	-0.1	-0.1	-0.1
PM Tailpipe	0.0	0.0	0.0	0.0	0.0
Fleetwide Change in Total Emissions					
CO Total	-79.1	-79.1	-79.1	-79.1	-78.8
VOC Total	-10.0	-10.0	-10.0	-10.1	-10.3
NOx Total	-3.7	-3.7	-3.7	-3.7	-3.8
SO2 Total	-0.5	-0.5	-0.5	-0.5	-0.5
PM Total	-0.5	-0.5	-0.5	-0.5	-0.5

Table 746 - Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) from the MY 2031 Total Fleet in Calendar Year 2040, by Alternative (1,000 metric tons)

Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) from the MY 2031 Total Fleet in Calendar Year 2040, by Alternative (1,000 metric tons)					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fleetwide Change in Upstream Emissions					
CO Upstream	0.3	0.3	0.2	0.2	0.1
VOC Upstream	1.2	1.2	1.2	1.0	0.3
NOx Upstream	0.5	0.5	0.5	0.4	0.1
SO2 Upstream	0.1	0.1	0.1	0.1	0.0
PM Upstream	0.0	0.0	0.0	0.0	0.0
Fleetwide Change in Tailpipe Emissions					
CO Tailpipe	-1.3	-1.3	-1.3	-1.0	-0.3
VOC Tailpipe	-0.1	-0.1	-0.1	-0.1	0.0
NOx Tailpipe	0.0	0.0	0.0	0.0	0.0
SO2 Tailpipe	0.0	0.0	0.0	0.0	0.0
PM Tailpipe	0.0	0.0	0.0	0.0	0.0
Fleetwide Change in Total Emissions					
CO Total	-1.1	-1.1	-1.0	-0.8	-0.2
VOC Total	1.1	1.1	1.1	0.9	0.3
NOx Total	0.5	0.5	0.4	0.4	0.1
SO2 Total	0.1	0.1	0.1	0.1	0.0
PM Total	0.0	0.0	0.0	0.0	0.0

Table 747 - Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) from the MY 2031 Passenger Car Fleet in Calendar Year 2040, by Alternative (1,000 metric tons)

Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) from the MY 2031 Passenger Car Fleet in Calendar Year 2040, by Alternative (1,000 metric tons)					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fleetwide Change in Upstream Emissions					
CO Upstream	1.1	1.1	1.1	1.1	1.0
VOC Upstream	5.3	5.3	5.3	5.1	4.7
NOx Upstream	2.1	2.1	2.1	2.0	1.9
SO2 Upstream	0.4	0.4	0.4	0.4	0.4
PM Upstream	0.1	0.1	0.1	0.1	0.1
Fleetwide Change in Tailpipe Emissions					
CO Tailpipe	73.6	73.6	73.7	73.9	74.3
VOC Tailpipe	4.3	4.3	4.3	4.3	4.4
NOx Tailpipe	1.3	1.3	1.3	1.3	1.3
SO2 Tailpipe	0.1	0.1	0.1	0.1	0.1
PM Tailpipe	0.0	0.0	0.0	0.0	0.0
Fleetwide Change in Total Emissions					
CO Total	74.7	74.7	74.8	75.0	75.3
VOC Total	9.7	9.7	9.6	9.5	9.1
NOx Total	3.5	3.5	3.4	3.4	3.2
SO2 Total	0.5	0.5	0.5	0.5	0.4
PM Total	0.4	0.4	0.4	0.4	0.4

Table 748 - Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) from the MY 2031 Light Truck Fleet in Calendar Year 2040, by Alternative (1,000 metric tons)

Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) from the MY 2031 Light Truck Fleet in Calendar Year 2040, by Alternative (1,000 metric tons)					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fleetwide Change in Upstream Emissions					
CO Upstream	-0.9	-0.9	-0.9	-0.9	-0.9
VOC Upstream	-4.1	-4.1	-4.1	-4.2	-4.4
NOx Upstream	-1.6	-1.6	-1.6	-1.7	-1.8
SO2 Upstream	-0.3	-0.3	-0.3	-0.3	-0.3
PM Upstream	-0.1	-0.1	-0.1	-0.1	-0.1
Fleetwide Change in Tailpipe Emissions					
CO Tailpipe	-74.9	-74.9	-74.9	-74.9	-74.6
VOC Tailpipe	-4.4	-4.4	-4.4	-4.4	-4.4
NOx Tailpipe	-1.4	-1.4	-1.4	-1.4	-1.3
SO2 Tailpipe	-0.1	-0.1	-0.1	-0.1	-0.1
PM Tailpipe	0.0	0.0	0.0	0.0	0.0
Fleetwide Change in Total Emissions					
CO Total	-75.8	-75.8	-75.8	-75.8	-75.5
VOC Total	-8.5	-8.5	-8.5	-8.6	-8.8
NOx Total	-3.0	-3.0	-3.0	-3.0	-3.1
SO2 Total	-0.4	-0.4	-0.4	-0.4	-0.4
PM Total	-0.4	-0.4	-0.4	-0.4	-0.4

Table 749 - Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) Over Lifetimes of Vehicles Through 2031 for the Total Fleet, by Alternative (1,000 metric tons)

Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) Over Lifetimes of Vehicles Through 2031 for the Total Fleet, by Alternative (1,000 metric tons)					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fleetwide Change in Upstream Emissions					
CO Upstream	18.5	18.4	17.5	14.0	4.3
VOC Upstream	87.7	87.2	82.7	66.2	20.6
NOx Upstream	35.2	35.0	33.2	26.6	8.2
SO2 Upstream	6.9	6.9	6.5	5.2	1.6
PM Upstream	2.3	2.3	2.2	1.8	0.5
Fleetwide Change in Tailpipe Emissions					
CO Tailpipe	-383.4	-382.6	-374.8	-328.6	-160.3
VOC Tailpipe	-38.6	-38.5	-37.8	-33.4	-16.6
NOx Tailpipe	-7.4	-7.3	-7.2	-6.3	-3.2
SO2 Tailpipe	1.4	1.4	1.3	1.0	0.3
PM Tailpipe	-0.5	-0.5	-0.5	-0.4	-0.2
Fleetwide Change in Total Emissions					
CO Total	-364.9	-364.1	-357.3	-314.6	-155.9
VOC Total	49.1	48.7	44.9	32.8	4.0
NOx Total	27.9	27.7	26.0	20.3	5.1
S02 Total	8.3	8.3	7.8	6.3	1.9
PM Total	1.3	1.3	1.2	0.9	0.2

Table 750 - Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) Over Lifetimes of Vehicles Through 2031 for the Light Truck Fleet, by Alternative (1,000 metric tons)

Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) Over Lifetimes of Vehicles Through 2031 for the Light Truck Fleet, by Alternative (1,000 metric tons)					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fleetwide Change in Upstream Emissions					
CO Upstream	-27.5	-27.6	-28.1	-30.1	-35.5
VOC Upstream	-131.4	-131.6	-134.0	-143.4	-169.0
NOx Upstream	-52.4	-52.5	-53.4	-57.2	-67.5
SO2 Upstream	-10.3	-10.3	-10.5	-11.2	-13.2
PM Upstream	-3.5	-3.5	-3.6	-3.8	-4.5
Fleetwide Change in Tailpipe Emissions					
CO Tailpipe	-3,136.3	-3,135.9	-3,132.4	-3,114.1	-3,033.3
VOC Tailpipe	-271.3	-271.3	-271.0	-269.1	-260.7
NOx Tailpipe	-51.4	-51.4	-51.3	-50.9	-49.2
SO2 Tailpipe	-2.0	-2.0	-2.1	-2.2	-2.6
PM Tailpipe	-2.4	-2.4	-2.4	-2.3	-2.2
Fleetwide Change in Total Emissions					
CO Total	-3,163.8	-3,163.4	-3,160.5	-3,144.1	-3,068.8
VOC Total	-402.7	-402.9	-404.9	-412.5	-429.6
NOx Total	-103.8	-103.8	-104.7	-108.1	-116.8
S02 Total	-12.3	-12.3	-12.5	-13.4	-15.9
PM Total	-15.4	-15.4	-15.5	-15.6	-16.1

Table 751 - Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) Over Lifetimes of Vehicles Through 2031 for the Passenger Car Fleet, by Alternative (1,000 metric tons)

Incremental Change in Criteria Emissions Relative to Alternative 0 (Baseline) Over Lifetimes of Vehicles Through 2031 for the Passenger Car Fleet, by Alternative (1,000 metric tons)					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fleetwide Change in Upstream Emissions					
CO Upstream	46.1	46.0	45.6	44.1	39.8
VOC Upstream	219.1	218.8	216.7	209.6	189.5
NOx Upstream	87.6	87.5	86.6	83.8	75.8
SO2 Upstream	17.2	17.2	17.0	16.5	14.9
PM Upstream	5.8	5.8	5.8	5.6	5.1
Fleetwide Change in Tailpipe Emissions					
CO Tailpipe	2,752.9	2,753.3	2,757.6	2,785.5	2,873.0
VOC Tailpipe	232.7	232.8	233.1	235.7	244.1
NOx Tailpipe	44.0	44.0	44.1	44.6	46.1
SO2 Tailpipe	3.4	3.4	3.4	3.3	2.9
PM Tailpipe	1.9	1.9	1.9	1.9	2.0
Fleetwide Change in Total Emissions					
CO Total	2,798.9	2,799.3	2,803.2	2,829.5	2,912.9
VOC Total	451.8	451.6	449.9	445.3	433.6
NOx Total	131.6	131.5	130.7	128.4	121.8
S02 Total	20.6	20.6	20.4	19.7	17.8
PM Total	16.7	16.7	16.6	16.5	16.2

Table 752 - Total Criteria Emissions from the MY 2031 Total Fleet in Calendar Year 2035, by Alternative (1,000 metric tons)

Total Criteria Emissions from the MY 2031 Total Fleet in Calendar Year 2035, by Alternative (1,000 metric tons)					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fleetwide Change in Upstream Emissions					
CO Upstream	3.2	3.2	3.2	3.2	3.0
VOC Upstream	15.3	15.3	15.3	15.0	14.1
NOx Upstream	6.1	6.1	6.1	6.0	5.7
SO2 Upstream	1.2	1.2	1.2	1.2	1.1
PM Upstream	0.4	0.4	0.4	0.4	0.4
Fleetwide Change in Tailpipe Emissions					
CO Tailpipe	168.4	168.4	168.5	168.7	169.5
VOC Tailpipe	9.9	9.9	9.9	9.9	10.0
NOx Tailpipe	3.3	3.3	3.3	3.3	3.3
SO2 Tailpipe	0.2	0.2	0.2	0.2	0.2
PM Tailpipe	0.0	0.0	0.0	0.0	0.0
Fleetwide Change in Total Emissions					
CO Total	171.6	171.6	171.7	171.9	172.5
VOC Total	25.2	25.2	25.1	24.9	24.1
NOx Total	9.4	9.4	9.4	9.3	8.9
SO2 Total	1.4	1.4	1.4	1.4	1.3
PM Total	1.1	1.1	1.1	1.1	1.1

Table 753 - Total Criteria Emissions from the MY 2031 Passenger Car Fleet in Calendar Year 2035, by Alternative (1,000 metric tons)

Total Criteria Emissions from the MY 2031 Passenger Car Fleet in Calendar Year 2035, by Alternative (1,000 metric tons)					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fleetwide Change in Upstream Emissions					
CO Upstream	2.0	2.0	2.0	2.0	1.9
VOC Upstream	9.6	9.6	9.6	9.3	8.8
NOx Upstream	3.8	3.8	3.8	3.7	3.5
SO2 Upstream	0.7	0.7	0.7	0.7	0.7
PM Upstream	0.3	0.3	0.3	0.2	0.2
Fleetwide Change in Tailpipe Emissions					
CO Tailpipe	118.6	118.6	118.6	118.9	119.4
VOC Tailpipe	7.0	7.0	7.0	7.0	7.0
NOx Tailpipe	2.3	2.3	2.3	2.3	2.3
SO2 Tailpipe	0.1	0.1	0.1	0.1	0.1
PM Tailpipe	0.0	0.0	0.0	0.0	0.0
Fleetwide Change in Total Emissions					
CO Total	120.6	120.6	120.7	120.9	121.2
VOC Total	16.6	16.6	16.5	16.3	15.8
NOx Total	6.1	6.1	6.1	6.0	5.8
SO2 Total	0.9	0.9	0.9	0.9	0.8
PM Total	0.7	0.7	0.7	0.7	0.7

Table 754 - Total Criteria Emissions from the MY 2031 Light Truck Fleet in Calendar Year 2035, by Alternative (1,000 metric tons)

Total Criteria Emissions from the MY 2031 Light Truck Fleet in Calendar Year 2035, by Alternative (1,000 metric tons)					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fleetwide Change in Upstream Emissions					
CO Upstream	1.2	1.2	1.2	1.2	1.1
VOC Upstream	5.7	5.7	5.7	5.7	5.3
NOx Upstream	2.3	2.3	2.3	2.3	2.1
SO2 Upstream	0.4	0.4	0.4	0.4	0.4
PM Upstream	0.2	0.2	0.2	0.2	0.1
Fleetwide Change in Tailpipe Emissions					
CO Tailpipe	49.8	49.8	49.8	49.8	50.1
VOC Tailpipe	2.9	2.9	2.9	2.9	2.9
NOx Tailpipe	1.0	1.0	1.0	1.0	1.0
SO2 Tailpipe	0.1	0.1	0.1	0.1	0.1
PM Tailpipe	0.0	0.0	0.0	0.0	0.0
Fleetwide Change in Total Emissions					
CO Total	51.0	51.0	51.0	51.0	51.3
VOC Total	8.6	8.6	8.6	8.6	8.3
NOx Total	3.3	3.3	3.3	3.2	3.1
SO2 Total	0.5	0.5	0.5	0.5	0.5
PM Total	0.4	0.4	0.4	0.4	0.4

Table 755 - Total Criteria Emissions from the MY 2031 Total Fleet in Calendar Year 2040, by Alternative (1,000 metric tons)

Total Criteria Emissions from the MY 2031 Total Fleet in Calendar Year 2040, by Alternative (1,000 metric tons)					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fleetwide Change in Upstream Emissions					
CO Upstream	2.4	2.4	2.4	2.4	2.2
VOC Upstream	11.5	11.5	11.4	11.2	10.6
NOx Upstream	4.6	4.6	4.6	4.5	4.2
SO2 Upstream	0.9	0.9	0.9	0.9	0.8
PM Upstream	0.3	0.3	0.3	0.3	0.3
Fleetwide Change in Tailpipe Emissions					
CO Tailpipe	160.0	160.0	160.1	160.3	161.1
VOC Tailpipe	9.3	9.3	9.3	9.3	9.3
NOx Tailpipe	2.8	2.8	2.8	2.8	2.8
SO2 Tailpipe	0.2	0.2	0.2	0.2	0.2
PM Tailpipe	0.0	0.0	0.0	0.0	0.0
Fleetwide Change in Total Emissions					
CO Total	162.4	162.4	162.5	162.7	163.3
VOC Total	20.7	20.7	20.7	20.5	19.9
NOx Total	7.4	7.4	7.4	7.3	7.1
SO2 Total	1.1	1.1	1.1	1.0	1.0
PM Total	0.8	0.8	0.8	0.8	0.8

Table 756 - Total Criteria Emissions from the MY 2031 Passenger Car Fleet in Calendar Year 2040, by Alternative (1,000 metric tons)

Total Criteria Emissions from the MY 2031 Passenger Car Fleet in Calendar Year 2040, by Alternative (1,000 metric tons)					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fleetwide Change in Upstream Emissions					
CO Upstream	1.5	1.5	1.5	1.5	1.4
VOC Upstream	7.3	7.3	7.2	7.1	6.7
NOx Upstream	2.9	2.9	2.9	2.8	2.6
SO2 Upstream	0.6	0.6	0.6	0.5	0.5
PM Upstream	0.2	0.2	0.2	0.2	0.2
Fleetwide Change in Tailpipe Emissions					
CO Tailpipe	113.6	113.6	113.7	113.9	114.3
VOC Tailpipe	6.6	6.6	6.6	6.6	6.6
NOx Tailpipe	2.0	2.0	2.0	2.0	2.0
SO2 Tailpipe	0.1	0.1	0.1	0.1	0.1
PM Tailpipe	0.0	0.0	0.0	0.0	0.0
Fleetwide Change in Total Emissions					
CO Total	115.1	115.1	115.2	115.4	115.7
VOC Total	13.8	13.8	13.8	13.6	13.3
NOx Total	4.9	4.9	4.9	4.8	4.7
SO2 Total	0.7	0.7	0.7	0.7	0.6
PM Total	0.6	0.6	0.6	0.6	0.5

Table 757 - Total Criteria Emissions from the MY 2031 Light Truck Fleet in Calendar Year 2040, by Alternative (1,000 metric tons)

Total Criteria Emissions from the MY 2031 Light Truck Fleet in Calendar Year 2040, by Alternative (1,000 metric tons)					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fleetwide Change in Upstream Emissions					
CO Upstream	0.9	0.9	0.9	0.9	0.8
VOC Upstream	4.2	4.2	4.2	4.2	3.9
NOx Upstream	1.7	1.7	1.7	1.7	1.6
SO2 Upstream	0.3	0.3	0.3	0.3	0.3
PM Upstream	0.1	0.1	0.1	0.1	0.1
Fleetwide Change in Tailpipe Emissions					
CO Tailpipe	46.4	46.4	46.4	46.4	46.7
VOC Tailpipe	2.7	2.7	2.7	2.7	2.7
NOx Tailpipe	0.8	0.8	0.8	0.8	0.8
SO2 Tailpipe	0.1	0.1	0.1	0.1	0.1
PM Tailpipe	0.0	0.0	0.0	0.0	0.0
Fleetwide Change in Total Emissions					
CO Total	47.3	47.3	47.3	47.3	47.6
VOC Total	6.9	6.9	6.9	6.9	6.7
NOx Total	2.5	2.5	2.5	2.5	2.4
SO2 Total	0.4	0.4	0.4	0.4	0.4
PM Total	0.3	0.3	0.3	0.3	0.3

A17. Fleet Characteristics

Table 758 - Changes in Fleet Characteristics for Model Years 2024-2031 for Alt 1

Changes in Fleet Characteristics for Model Years 2024-2031 for Alt 1										
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total	Avg.
Changes in Fleet Size, Usage and Fuel Consumption										
Changes in Fleet Size (m)	0.0	0.0	0.0	0.6	1.0	1.2	1.3	1.3	5.4	0.7
Light Truck Share (%)	70%	72%	73%	74%	75%	75%	31%	32%	N/A	63%
Pass. Car Share (%)	30%	28%	27%	26%	25%	25%	69%	68%	N/A	37%
VMT from Rebound (b)	-0.1	-0.1	-0.2	-12.2	-18.5	-24.0	-27.0	-29.4	-111.5	-13.9
Fuel Volume - Total (b gallons)	-0.2	-0.2	-0.2	3.9	6.1	7.7	8.6	9.3	35.0	4.4
Fuel Volume - Lt. Truck (b gallons)	-0.1	-0.2	-0.2	3.0	4.5	5.3	-29.7	-30.1	-47.5	-5.9
Fuel Volume - Pass. Car (b gallons)	-0.1	0.0	0.0	1.0	1.6	2.4	38.3	39.4	82.5	10.3
Changes in Fatalities by Source										
Fatalities from Rebound Miles	-1	-1	-1	-55	-84	-109	-122	-133	-506	-63
Fatalities from Curb Weight Change	0	0	0	-4	-3	-1	-2	-1	-10	-1
Total Changes in Fatalities	-27	-28	-29	-53	-59	-77	-91	-101	-465	-58
Changes in Non-Fatal Safety Impacts										
Injuries from Rebound Miles (thousands)	-0.1	-0.1	-0.1	-8.7	-13.2	-17.0	-19.1	-20.8	-79	-10
Injuries from Curb Weight (thousands)	0.0	0.0	0.0	-0.6	-0.5	-0.2	-0.3	-0.1	-1.6	-0.2
Total Change in Injuries (thousands)	-4.0	-4.1	-4.4	-8.2	-9.1	-11.9	-14.1	-15.7	-71.5	-8.9
Property Damage from Rebound Miles (thousands)	-0.2	-0.3	-0.3	-26.7	-40.7	-52.7	-59.1	-64.3	-244.3	-30.5
Property Damage from Curb Weight (thousands)	0.0	0.0	0.0	-1.8	-1.6	-0.6	-1.0	-0.5	-5.5	-0.7
Total Property Damaged Vehicles (thousands)	-9.6	-10.0	-10.9	-22.9	-26.3	-34.8	-41.9	-47.1	-203.4	-25.4

Table 759 - Changes in Fleet Characteristics for Model Years 2024-2031 for Alt 2

Changes in Fleet Characteristics for Model Years 2024-2031 for Alt 2										
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total	Avg.
Changes in Fleet Size, Usage and Fuel Consumption										
Changes in Fleet Size (m)	0.0	0.0	0.0	0.6	1.0	1.2	1.3	1.3	5.4	0.7
Light Truck Share (%)	70%	72%	73%	74%	75%	75%	31%	32%	N/A	63%
Pass. Car Share (%)	30%	28%	27%	26%	25%	25%	69%	68%	N/A	37%
VMT from Rebound (b)	-0.1	-0.1	-0.2	-12.1	-18.4	-23.9	-26.8	-29.3	-110.9	-13.9
Fuel Volume - Total (b gallons)	-0.2	-0.2	-0.2	3.9	6.0	7.7	8.6	9.3	34.9	4.4
Fuel Volume - Lt. Truck (b gallons)	-0.1	-0.2	-0.2	2.9	4.4	5.3	-29.6	-30.1	-47.5	-5.9
Fuel Volume - Pass. Car (b gallons)	-0.1	0.0	0.0	1.0	1.6	2.4	38.2	39.3	82.4	10.3
Changes in Fatalities by Source										
Fatalities from Rebound Miles	-1	-1	-1	-55	-84	-108	-122	-132	-503	-63
Fatalities from Curb Weight Change	0	0	0	-4	-3	-1	-2	-1	-10	-1
Total Changes in Fatalities	-27	-28	-29	-53	-59	-76	-90	-100	-462	-58
Changes in Non-Fatal Safety Impacts										
Injuries from Rebound Miles (thousands)	-0.1	-0.1	-0.1	-8.6	-13.1	-17.0	-19.0	-20.7	-79	-10
Injuries from Curb Weight (thousands)	0.0	0.0	0.0	-0.6	-0.5	-0.2	-0.3	-0.1	-1.6	-0.2
Total Change in Injuries (thousands)	-4.0	-4.1	-4.4	-8.1	-9.1	-11.8	-14.0	-15.6	-71.1	-8.9
Property Damage from Rebound Miles (thousands)	-0.2	-0.3	-0.3	-26.5	-40.4	-52.5	-58.9	-64.0	-243.1	-30.4
Property Damage from Curb Weight (thousands)	0.0	0.0	0.0	-1.8	-1.6	-0.6	-1.0	-0.5	-5.4	-0.7
Total Property Damaged Vehicles (thousands)	-9.6	-10.0	-10.9	-22.7	-26.0	-34.6	-41.7	-46.8	-202.2	-25.3

Table 760 - Changes in Fleet Characteristics for Model Years 2024-2031 for Alt 3

Changes in Fleet Characteristics for Model Years 2024-2031 for Alt 3										
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total	Avg.
Changes in Fleet Size, Usage and Fuel Consumption										
Changes in Fleet Size (m)	0.0	0.0	0.0	0.6	1.0	1.2	1.3	1.3	5.3	0.7
Light Truck Share (%)	70%	72%	73%	74%	75%	75%	31%	32%	N/A	63%
Pass. Car Share (%)	30%	28%	27%	26%	25%	25%	69%	68%	N/A	37%
VMT from Rebound (b)	-0.1	-0.1	-0.2	-11.1	-17.4	-22.9	-25.8	-28.2	-105.7	-13.2
Fuel Volume - Total (b gallons)	-0.2	-0.2	-0.2	3.6	5.7	7.4	8.2	8.9	33.2	4.1
Fuel Volume - Lt. Truck (b gallons)	-0.1	-0.1	-0.2	2.6	4.1	5.0	-29.7	-30.1	-48.4	-6.1
Fuel Volume - Pass. Car (b gallons)	-0.1	0.0	0.0	0.9	1.6	2.4	37.9	39.0	81.6	10.2
Changes in Fatalities by Source										
Fatalities from Rebound Miles	-1	-1	-1	-50	-79	-104	-117	-127	-480	-60
Fatalities from Curb Weight Change	0	0	0	-4	-4	-1	-2	-1	-13	-2
Total Changes in Fatalities	-27	-27	-29	-49	-55	-73	-87	-96	-444	-55
Changes in Non-Fatal Safety Impacts										
Injuries from Rebound Miles (thousands)	-0.1	-0.1	-0.1	-7.9	-12.4	-16.3	-18.3	-19.9	-75	-9
Injuries from Curb Weight (thousands)	0.0	0.0	0.0	-0.7	-0.6	-0.2	-0.4	-0.2	-2.1	-0.3
Total Change in Injuries (thousands)	-4.0	-4.1	-4.3	-7.6	-8.5	-11.2	-13.4	-15.0	-68.2	-8.5
Property Damage from Rebound Miles (thousands)	-0.2	-0.3	-0.3	-24.2	-38.2	-50.3	-56.5	-61.6	-231.7	-29.0
Property Damage from Curb Weight (thousands)	0.0	0.0	0.0	-2.1	-1.8	-0.8	-1.3	-0.8	-6.8	-0.9
Total Property Damaged Vehicles (thousands)	-9.5	-10.0	-10.8	-21.0	-24.3	-32.8	-39.8	-44.8	-193.0	-24.1

Table 761 - Changes in Fleet Characteristics for Model Years 2024-2031 for Alt 4

Changes in Fleet Characteristics for Model Years 2024-2031 for Alt 4										
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total	Avg.
Changes in Fleet Size, Usage and Fuel Consumption										
Changes in Fleet Size (m)	0.0	0.0	0.0	0.5	0.9	1.1	1.1	1.2	4.8	0.6
Light Truck Share (%)	70%	72%	73%	74%	75%	75%	31%	32%	N/A	63%
Pass. Car Share (%)	30%	28%	27%	26%	25%	25%	69%	68%	N/A	37%
VMT from Rebound (b)	-0.1	-0.1	-0.2	-8.4	-14.0	-18.6	-21.0	-23.3	-85.6	-10.7
Fuel Volume - Total (b gallons)	-0.2	-0.2	-0.2	2.7	4.6	6.0	6.7	7.4	26.9	3.4
Fuel Volume - Lt. Truck (b gallons)	-0.1	-0.1	-0.1	1.8	3.2	3.8	-30.0	-30.4	-52.0	-6.5
Fuel Volume - Pass. Car (b gallons)	0.0	0.0	0.0	0.9	1.4	2.2	36.7	37.8	78.9	9.9
Changes in Fatalities by Source										
Fatalities from Rebound Miles	0	-1	-1	-38	-64	-85	-95	-106	-390	-49
Fatalities from Curb Weight Change	0	0	0	-5	-4	-2	-3	-3	-18	-2
Total Changes in Fatalities	-24	-25	-26	-40	-43	-57	-69	-79	-365	-46
Changes in Non-Fatal Safety Impacts										
Injuries from Rebound Miles (thousands)	-0.1	-0.1	-0.1	-6.0	-10.0	-13.2	-14.9	-16.5	-61	-8
Injuries from Curb Weight (thousands)	0.0	0.0	0.0	-0.8	-0.7	-0.4	-0.5	-0.5	-2.8	-0.4
Total Change in Injuries (thousands)	-3.6	-3.7	-3.9	-6.2	-6.6	-8.9	-10.7	-12.3	-56.0	-7.0
Property Damage from Rebound Miles (thousands)	-0.2	-0.2	-0.3	-18.3	-30.7	-40.9	-45.9	-51.0	-187.5	-23.4
Property Damage from Curb Weight (thousands)	0.0	0.0	0.0	-2.5	-2.1	-1.2	-1.7	-1.5	-9.0	-1.1
Total Property Damaged Vehicles (thousands)	-8.6	-9.0	-9.8	-16.8	-18.6	-25.6	-31.5	-36.6	-156.5	-19.6

Table 762 - Changes in Fleet Characteristics for Model Years 2024-2031 for Alt 5

Changes in Fleet Characteristics for Model Years 2024-2031 for Alt 5										
Model Year	2024	2025	2026	2027	2028	2029	2030	2031	Total	Avg.
Changes in Fleet Size, Usage and Fuel Consumption										
Changes in Fleet Size (m)	0.0	0.0	0.0	0.3	0.6	0.6	0.6	0.7	2.8	0.3
Light Truck Share (%)	70%	72%	73%	74%	75%	75%	31%	32%	N/A	63%
Pass. Car Share (%)	30%	28%	27%	26%	25%	25%	69%	68%	N/A	37%
VMT from Rebound (b)	-0.1	-0.1	-0.1	-3.3	-4.3	-5.8	-6.9	-7.6	-28.0	-3.5
Fuel Volume - Total (b gallons)	-0.1	-0.1	-0.1	1.0	1.5	1.9	2.2	2.4	8.7	1.1
Fuel Volume - Lt. Truck (b gallons)	-0.1	-0.1	-0.1	0.5	0.8	0.8	-31.7	-32.3	-62.2	-7.8
Fuel Volume - Pass. Car (b gallons)	0.0	0.0	0.0	0.5	0.7	1.1	34.0	34.7	71.0	8.9
Changes in Fatalities by Source										
Fatalities from Rebound Miles	0	0	0	-15	-20	-27	-32	-35	-130	-16
Fatalities from Curb Weight Change	0	0	0	-4	-6	-4	-5	-7	-25	-3
Total Changes in Fatalities	-14	-14	-15	-17	-9	-14	-20	-26	-129	-16
Changes in Non-Fatal Safety Impacts										
Injuries from Rebound Miles (thousands)	0.0	-0.1	-0.1	-2.4	-3.1	-4.2	-5.0	-5.5	-20	-3
Injuries from Curb Weight (thousands)	0.0	0.0	0.0	-0.7	-0.9	-0.6	-0.8	-1.0	-4.0	-0.5
Total Change in Injuries (thousands)	-2.0	-2.1	-2.2	-2.6	-1.4	-2.1	-3.1	-4.0	-19.5	-2.4
Property Damage from Rebound Miles (thousands)	-0.1	-0.1	-0.2	-7.4	-9.5	-12.8	-15.3	-16.9	-62.4	-7.8
Property Damage from Curb Weight (thousands)	0.0	0.0	0.0	-2.0	-2.8	-2.0	-2.5	-3.2	-12.5	-1.6
Total Property Damaged Vehicles (thousands)	-4.9	-5.1	-5.5	-6.7	-3.2	-5.5	-8.7	-11.5	-51.2	-6.4

A18. Liquid Fuel Consumptions

Table 763 - Change in Liquid Fuel Consumed (b Gallons), Total Fleet, Undiscounted Over the Lifetime of the Model Year

Change in Liquid Fuel Consumed (b Gallons), Total Fleet, Undiscounted Over the Lifetime of the Model Year									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	1243.8	-0.2	-0.2	3.9	6.1	7.7	8.6	9.3	1279.1
Alt 2	1243.8	-0.2	-0.2	3.9	6.0	7.7	8.6	9.3	1278.9
Alt 3	1243.9	-0.2	-0.2	3.6	5.7	7.4	8.2	8.9	1277.3
Alt 4	1244.1	-0.2	-0.2	2.7	4.6	6.0	6.7	7.4	1271.1
Alt 5	1245.0	-0.1	-0.1	1.0	1.5	1.9	2.2	2.4	1253.9

Table 764 - Change in Liquid Fuel Consumed (b Gallons), Passenger Car Fleet, Undiscounted Over the Lifetime of the Model Year

Change in Liquid Fuel Consumed (b Gallons), Passenger Car Fleet, Undiscounted Over the Lifetime of the Model Year									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	439.1	0.0	0.0	1.0	1.6	2.4	38.3	39.4	521.7
Alt 2	439.1	0.0	0.0	1.0	1.6	2.4	38.2	39.3	521.5
Alt 3	439.1	0.0	0.0	0.9	1.6	2.4	37.9	39.0	520.8
Alt 4	439.2	0.0	0.0	0.9	1.4	2.2	36.7	37.8	518.1
Alt 5	439.7	0.0	0.0	0.5	0.7	1.1	34.0	34.7	510.7

Table 765 - Change in Liquid Fuel Consumed (b Gallons), Light Truck Fleet, Undiscounted Over the Lifetime of the Model Year

Change in Liquid Fuel Consumed (b Gallons), Light Truck Fleet, Undiscounted Over the Lifetime of the Model Year									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Alt 1	804.7	-0.2	-0.2	3.0	4.5	5.3	-29.7	-30.1	757.4
Alt 2	804.7	-0.2	-0.2	2.9	4.4	5.3	-29.6	-30.1	757.4
Alt 3	804.7	-0.1	-0.2	2.6	4.1	5.0	-29.7	-30.1	756.5
Alt 4	804.9	-0.1	-0.1	1.8	3.2	3.8	-30.0	-30.4	753.0
Alt 5	805.3	-0.1	-0.1	0.5	0.8	0.8	-31.7	-32.3	743.2

Table 766 - Estimated Average Per Vehicle Fuel Costs ($) for MY 2031 Total Fleet, by Alternative

Estimated Average Per Vehicle Fuel Costs ($) for MY 2031 Total Fleet, by Alternative				
	Lifetime Fuel Expenditures		Lifetime Increase	
	7% Discount Rate	3% Discount Rate	7% Discount Rate	3% Discount Rate
Alt 0 - No Action	11,878	15,333	0	0
Alt 1	13,197	17,030	1,319	1,698
Alt 2	13,191	17,023	1,313	1,690
Alt 3	13,139	16,956	1,261	1,624
Alt 4	12,920	16,675	1,042	1,342
Alt 5	12,207	15,755	329	422

Table 767 - Estimated Average Per Vehicle Fuel Costs ($) for MY 2031 Passenger Car Fleet, by Alternative

Estimated Average Per Vehicle Fuel Costs ($) for MY 2031 Passenger Car Fleet, by Alternative				
	Lifetime Fuel Expenditures		Lifetime Increase	
	7% Discount Rate	3% Discount Rate	7% Discount Rate	3% Discount Rate
Alt 0 - No Action	8,563	10,923	0	0
Alt 1	11,410	14,626	2,847	3,703
Alt 2	11,402	14,616	2,839	3,693
Alt 3	11,329	14,523	2,767	3,600
Alt 4	11,075	14,197	2,512	3,273
Alt 5	10,458	13,406	1,895	2,482

Table 768 - Estimated Average Per Vehicle Fuel Costs ($) for MY 2031 Light Truck Fleet, by Alternative

Estimated Average Per Vehicle Fuel Costs ($) for MY 2031 Light Truck Fleet, by Alternative				
	Lifetime Fuel Expenditures		Lifetime Increase	
	7% Discount Rate	3% Discount Rate	7% Discount Rate	3% Discount Rate
Alt 0 - No Action	13,010	16,838	0	0
Alt 1	17,561	22,902	4,551	6,064
Alt 2	17,561	22,902	4,551	6,064
Alt 3	17,559	22,900	4,550	6,062
Alt 4	17,428	22,731	4,419	5,893
Alt 5	16,477	21,489	3,467	4,651

A19. Regulatory Costs Per Vehicle, by Vehicle Type

Table 769 - Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Total)

Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Total)			
	Passenger Cars	Light Trucks	Total Fleet
Alt 0 - No Action	2,383	2,189	2,238
Alt 1	1,009	706	921
Alt 2	1,013	706	924
Alt 3	1,049	707	949
Alt 4	1,240	771	1,104
Alt 5	1,804	1,447	1,700

Table 770 - Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (BMW)

Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (BMW)			
	Passenger Cars	Light Trucks	Total Fleet
Alt 0 - No Action	3,332	2,295	2,691
Alt 1	1,607	462	1,311
Alt 2	1,607	462	1,311
Alt 3	1,607	462	1,311
Alt 4	1,690	668	1,427
Alt 5	3,031	2,814	2,975

Table 771 - Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Ferrari)

Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Ferrari)			
	Passenger Cars	Light Trucks	Total Fleet
Alt 0 - No Action	2,971	0	2,971
Alt 1	2,969	0	2,969
Alt 2	2,969	0	2,969
Alt 3	2,969	0	2,969
Alt 4	2,971	0	2,971
Alt 5	2,972	0	2,972

Table 772 - Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Ford)

Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Ford)			
	Passenger Cars	Light Trucks	Total Fleet
Alt 0 - No Action	1,004	1,955	1,888
Alt 1	1,099	704	855
Alt 2	1,120	704	863
Alt 3	1,361	704	954
Alt 4	1,790	704	1,118
Alt 5	2,108	939	1,384

Table 773 - Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (GM)

Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (GM)			
	Passenger Cars	Light Trucks	Total Fleet
Alt 0 - No Action	3,216	3,916	3,745
Alt 1	1,948	404	1,184
Alt 2	1,948	404	1,184
Alt 3	1,948	404	1,184
Alt 4	1,948	404	1,184
Alt 5	2,574	1,517	2,051

Table 774 - Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Honda)

Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Honda)			
	Passenger Cars	Light Trucks	Total Fleet
Alt 0 - No Action	1,661	1,144	1,395
Alt 1	209	1,276	242
Alt 2	209	1,276	242
Alt 3	209	1,276	242
Alt 4	209	1,276	242
Alt 5	894	1,276	906

Table 775 - Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Hyundai)

Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Hyundai)			
	Passenger Cars	Light Trucks	Total Fleet
Alt 0 - No Action	3,247	2,617	2,846
Alt 1	886	836	883
Alt 2	886	836	883
Alt 3	886	836	883
Alt 4	1,153	836	1,134
Alt 5	2,131	1,389	2,087

Table 776 - Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Ineos)

Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Ineos)			
	Passenger Cars	Light Trucks	Total Fleet
Alt 0 - No Action	0	2,731	2,731
Alt 1	0	1,608	1,608
Alt 2	0	1,608	1,608
Alt 3	0	2,077	2,077
Alt 4	0	2,731	2,731
Alt 5	0	2,731	2,731

Table 777 - Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (JLR)

Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (JLR)			
	Passenger Cars	Light Trucks	Total Fleet
Alt 0 - No Action	4,428	1,629	1,723
Alt 1	3,488	-770	303
Alt 2	3,488	-770	303
Alt 3	3,488	-770	303
Alt 4	5,533	-497	1,024
Alt 5	5,533	87	1,461

Table 778 - Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (KIA)

Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (KIA)			
	Passenger Cars	Light Trucks	Total Fleet
Alt 0 - No Action	3,185	2,733	2,897
Alt 1	1,892	0	1,892
Alt 2	1,892	0	1,892
Alt 3	1,892	0	1,892
Alt 4	1,924	0	1,924
Alt 5	2,607	0	2,607

Table 779 - Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Mazda)

Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Mazda)			
	Passenger Cars	Light Trucks	Total Fleet
Alt 0 - No Action	3,484	1,803	1,930
Alt 1	300	0	300
Alt 2	300	0	300
Alt 3	300	0	300
Alt 4	1,451	0	1,451
Alt 5	2,400	0	2,400

Table 780 - Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Mercedes-Benz)

Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Mercedes-Benz)			
	Passenger Cars	Light Trucks	Total Fleet
Alt 0 - No Action	1,497	1,807	1,715
Alt 1	260	1,212	711
Alt 2	260	1,212	711
Alt 3	300	1,212	733
Alt 4	1,713	1,212	1,476
Alt 5	2,168	1,212	1,714

Table 781 - Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Mitsubishi)

Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Mitsubishi)			
	Passenger Cars	Light Trucks	Total Fleet
Alt 0 - No Action	1,251	2,129	1,940
Alt 1	427	0	427
Alt 2	427	0	427
Alt 3	427	0	427
Alt 4	427	0	427
Alt 5	1,050	0	1,050

Table 782 - Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Nissan)

Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Nissan)			
	Passenger Cars	Light Trucks	Total Fleet
Alt 0 - No Action	1,610	1,926	1,760
Alt 1	574	1,600	738
Alt 2	574	1,600	738
Alt 3	574	1,600	738
Alt 4	602	1,600	761
Alt 5	999	1,965	1,153

Table 783 - Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Stellantis)

Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Stellantis)			
	Passenger Cars	Light Trucks	Total Fleet
Alt 0 - No Action	1,034	2,549	2,511
Alt 1	492	1,013	842
Alt 2	492	1,013	842
Alt 3	771	1,013	933
Alt 4	1,648	1,297	1,412
Alt 5	2,580	2,026	2,208

Table 784 - Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Subaru)

Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Subaru)			
	Passenger Cars	Light Trucks	Total Fleet
Alt 0 - No Action	2,586	1,460	1,579
Alt 1	1,126	0	1,126
Alt 2	1,126	0	1,126
Alt 3	1,126	0	1,126
Alt 4	1,128	0	1,128
Alt 5	1,831	0	1,831

Table 785 - Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Toyota)

Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Toyota)			
	Passenger Cars	Light Trucks	Total Fleet
Alt 0 - No Action	2,128	1,068	1,383
Alt 1	883	777	857
Alt 2	883	777	857
Alt 3	883	777	857
Alt 4	883	777	857
Alt 5	884	1,343	999

Table 786 - Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Volvo)

Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (Volvo)			
	Passenger Cars	Light Trucks	Total Fleet
Alt 0 - No Action	2,039	2,375	2,326
Alt 1	1,595	0	1,595
Alt 2	1,600	0	1,600
Alt 3	1,617	0	1,617
Alt 4	1,723	0	1,723
Alt 5	2,363	0	2,363

Table 787 - Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (VWA)

Estimated Average Per Vehicle Regulatory Costs ($) for MY 2031, by Alternative for Manufacturer (VWA)			
	Passenger Cars	Light Trucks	Total Fleet
Alt 0 - No Action	3,036	2,134	2,372
Alt 1	1,147	685	1,121
Alt 2	1,184	685	1,156
Alt 3	1,318	685	1,283
Alt 4	1,688	685	1,632
Alt 5	2,382	1,728	2,345

A20. Change in Safety Parameters

Table 788 - Vehicle-Mass-Related Fatality Impacts over the Lifetime of MY 1985-2031 for Total Fleet, Compared to Alternative 0 (Baseline) - Fatalities Undiscounted, Dollars Discounted at 3% and 7%

Vehicle-Mass-Related Fatality Impacts over the Lifetime of MY 1985-2031 for Total Fleet, Compared to Alternative 0 (Baseline) - Fatalities Undiscounted, Dollars Discounted at 3% and 7%					
Category	Regulatory Alternative				
	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fatalities	-767	-764	-743	-637	-283
Fatality Costs ($ Billion, 3% Discount Rate)	-7.3	-7.3	-7.1	-6.1	-2.7
Fatality Costs ($ Billion, 7% Discount Rate)	-4.6	-4.6	-4.5	-3.8	-1.7
Non-Fatal Crash Costs ($ Billion, 3% Discount Rate)	-25.8	-25.7	-25.0	-21.3	-9.3
Non-Fatal Crash Costs ($ Billion, 7% Discount Rate)	-16.3	-16.2	-15.8	-13.4	-5.9
Total Crash Costs ($ Billion, 3% Discount Rate)	-33.1	-33.0	-32.0	-27.3	-12.0
Total Crash Costs ($ Billion, 7% Discount Rate)	-20.9	-20.8	-20.2	-17.2	-7.6

Table 789 - Vehicle-Mass-Related Fatality Impacts over the Lifetime of MY 1985-2031 for Passenger Car Fleet, Compared to Alternative 0 (Baseline) - Fatalities Undiscounted, Dollars Discounted at 3% and 7%

Vehicle-Mass-Related Fatality Impacts over the Lifetime of MY 1985-2031 for Passenger Car Fleet, Compared to Alternative 0 (Baseline) - Fatalities Undiscounted, Dollars Discounted at 3% and 7%					
Category	Regulatory Alternative				
	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fatalities	10,373	10,374	10,386	10,452	10,623
Fatality Costs ($ Billion, 3% Discount Rate)	93.2	93.3	93.4	94.0	95.7
Fatality Costs ($ Billion, 7% Discount Rate)	54.6	54.6	54.6	55.1	56.1
Non-Fatal Crash Costs ($ Billion, 3% Discount Rate)	353.8	353.9	354.3	356.6	362.6
Non-Fatal Crash Costs ($ Billion, 7% Discount Rate)	209.3	209.4	209.6	211.1	215.0
Total Crash Costs ($ Billion, 3% Discount Rate)	447.1	447.1	447.7	450.6	458.2
Total Crash Costs ($ Billion, 7% Discount Rate)	263.9	263.9	264.3	266.2	271.1

Table 790 - Vehicle-Mass-Related Fatality Impacts over the Lifetime of MY 1985-2031 for Light Truck Fleet, Compared to Alternative 0 (Baseline) - Fatalities Undiscounted, Dollars Discounted at 3% and 7%

Vehicle-Mass-Related Fatality Impacts over the Lifetime of MY 1985-2031 for Light Truck Fleet, Compared to Alternative 0 (Baseline) - Fatalities Undiscounted, Dollars Discounted at 3% and 7%					
Category	Regulatory Alternative				
	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fatalities	-11,140	-11,138	-11,129	-11,089	-10,907
Fatality Costs ($ Billion, 3% Discount Rate)	-100.5	-100.5	-100.4	-100.1	-98.4
Fatality Costs ($ Billion, 7% Discount Rate)	-59.2	-59.2	-59.1	-58.9	-57.9
Non-Fatal Crash Costs ($ Billion, 3% Discount Rate)	-379.7	-379.6	-379.3	-377.9	-371.9
Non-Fatal Crash Costs ($ Billion, 7% Discount Rate)	-225.6	-225.6	-225.4	-224.5	-220.9
Total Crash Costs ($ Billion, 3% Discount Rate)	-480.2	-480.1	-479.7	-478.0	-470.3
Total Crash Costs ($ Billion, 7% Discount Rate)	-284.8	-284.8	-284.5	-283.4	-278.7

Table 791 - Vehicle-Mass-Related Fatality Impacts for CY 2039-2048 for Total Fleet, Compared to Alternative 0 (Baseline) - Fatalities Undiscounted, Dollars Discounted at 3% and 7%

Vehicle-Mass-Related Fatality Impacts for CY 2039-2048 for Total Fleet, Compared to Alternative 0 (Baseline) - Fatalities Undiscounted, Dollars Discounted at 3% and 7%					
Category	Regulatory Alternative				
	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fatalities	-1,130	-1,125	-1,083	-912	-372
Fatality Costs ($ Billion, 3% Discount Rate)	-8.9	-8.9	-8.6	-7.2	-2.9
Fatality Costs ($ Billion, 7% Discount Rate)	-4.3	-4.3	-4.1	-3.5	-1.4
Non-Fatal Crash Costs ($ Billion, 3% Discount Rate)	-33.9	-33.7	-32.4	-27.3	-11.1
Non-Fatal Crash Costs ($ Billion, 7% Discount Rate)	-16.3	-16.2	-15.6	-13.1	-5.3
Total Crash Costs ($ Billion, 3% Discount Rate)	-42.8	-42.6	-41.0	-34.5	-14.0
Total Crash Costs ($ Billion, 7% Discount Rate)	-20.5	-20.5	-19.7	-16.6	-6.7

Table 792 - Vehicle-Mass-Related Fatality Impacts for CY 2039-2048 for Passenger Car Fleet, Compared to Alternative 0 (Baseline) - Fatalities Undiscounted, Dollars Discounted at 3% and 7%

Vehicle-Mass-Related Fatality Impacts for CY 2039-2048 for Passenger Car Fleet, Compared to Alternative 0 (Baseline) - Fatalities Undiscounted, Dollars Discounted at 3% and 7%					
Category	Regulatory Alternative				
	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fatalities	41,261	41,266	41,305	41,455	41,785
Fatality Costs ($ Billion, 3% Discount Rate)	324.4	324.4	324.7	325.9	328.5
Fatality Costs ($ Billion, 7% Discount Rate)	154.4	154.4	154.5	155.1	156.3
Non-Fatal Crash Costs ($ Billion, 3% Discount Rate)	1,246.4	1,246.6	1,247.8	1,252.3	1,262.3
Non-Fatal Crash Costs ($ Billion, 7% Discount Rate)	593.8	593.8	594.4	596.6	601.3
Total Crash Costs ($ Billion, 3% Discount Rate)	1,570.8	1,571.0	1,572.5	1,578.2	1,590.8
Total Crash Costs ($ Billion, 7% Discount Rate)	748.1	748.2	748.9	751.7	757.7

Table 793 - Vehicle-Mass-Related Fatality Impacts for CY 2039-2048 for Light Truck Fleet, Compared to Alternative 0 (Baseline) - Fatalities Undiscounted, Dollars Discounted at 3% and 7%

Vehicle-Mass-Related Fatality Impacts for CY 2039-2048 for Light Truck Fleet, Compared to Alternative 0 (Baseline) - Fatalities Undiscounted, Dollars Discounted at 3% and 7%					
Category	Regulatory Alternative				
	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fatalities	-42,391	-42,391	-42,388	-42,367	-42,157
Fatality Costs ($ Billion, 3% Discount Rate)	-333.3	-333.3	-333.3	-333.1	-331.5
Fatality Costs ($ Billion, 7% Discount Rate)	-158.7	-158.6	-158.6	-158.6	-157.7
Non-Fatal Crash Costs ($ Billion, 3% Discount Rate)	-1,280.3	-1,280.3	-1,280.2	-1,279.6	-1,273.3
Non-Fatal Crash Costs ($ Billion, 7% Discount Rate)	-610.0	-610.0	-610.0	-609.7	-606.6
Total Crash Costs ($ Billion, 3% Discount Rate)	-1,613.6	-1,613.6	-1,613.5	-1,612.7	-1,604.8
Total Crash Costs ($ Billion, 7% Discount Rate)	-768.7	-768.6	-768.6	-768.2	-764.4

Table 794 - Incremental Vehicle-Mass-Related Fatality Impacts by Model Year and Fleet, Alt 0 - No Action Compared to Alternative 0 (Baseline), Undiscounted

Incremental Vehicle-Mass-Related Fatality Impacts by Model Year and Fleet, Alt 0 - No Action Compared to Alternative 0 (Baseline), Undiscounted									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Passenger Cars	0	0	0	0	0	0	0	0	0
Light Trucks	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0

Table 795 - Incremental Vehicle-Mass-Related Fatality Impacts by Model Year and Fleet, Alt 1 Compared to Alternative 0 (Baseline), Undiscounted

Incremental Vehicle-Mass-Related Fatality Impacts by Model Year and Fleet, Alt 1 Compared to Alternative 0 (Baseline), Undiscounted									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Passenger Cars	-169	-8	-8	-27	-40	-32	5240	5416	10373
Light Trucks	-161	-20	-21	-27	-19	-44	-5331	-5517	-11140
Total	-329	-28	-29	-53	-59	-77	-91	-101	-767

Table 796 - Incremental Vehicle-Mass-Related Fatality Impacts by Model Year and Fleet, Alt 2 Compared to Alternative 0 (Baseline), Undiscounted

Incremental Vehicle-Mass-Related Fatality Impacts by Model Year and Fleet, Alt 2 Compared to Alternative 0 (Baseline), Undiscounted									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Passenger Cars	-168	-8	-8	-27	-40	-32	5240	5417	10374
Light Trucks	-160	-20	-21	-26	-19	-44	-5330	-5517	-11138
Total	-329	-28	-29	-53	-59	-76	-90	-100	-764

Table 797 - Incremental Vehicle-Mass-Related Fatality Impacts by Model Year and Fleet, Alt 3 Compared to Alternative 0 (Baseline), Undiscounted

Incremental Vehicle-Mass-Related Fatality Impacts by Model Year and Fleet, Alt 3 Compared to Alternative 0 (Baseline), Undiscounted									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Passenger Cars	-167	-8	-8	-26	-39	-32	5244	5421	10386
Light Trucks	-159	-20	-21	-23	-16	-41	-5331	-5518	-11129
Total	-326	-27	-29	-49	-55	-73	-87	-96	-743

Table 798 - Incremental Vehicle-Mass-Related Fatality Impacts by Model Year and Fleet, Alt 4 Compared to Alternative 0 (Baseline), Undiscounted

Incremental Vehicle-Mass-Related Fatality Impacts by Model Year and Fleet, Alt 4 Compared to Alternative 0 (Baseline), Undiscounted									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Passenger Cars	-152	-7	-7	-21	-34	-25	5260	5438	10452
Light Trucks	-144	-18	-19	-19	-10	-32	-5330	-5517	-11089
Total	-296	-25	-26	-40	-43	-57	-69	-79	-637

Table 799 - Incremental Vehicle-Mass-Related Fatality Impacts by Model Year and Fleet, Alt 5 Compared to Alternative 0 (Baseline), Undiscounted

Incremental Vehicle-Mass-Related Fatality Impacts by Model Year and Fleet, Alt 5 Compared to Alternative 0 (Baseline), Undiscounted									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Passenger Cars	-86	-4	-4	-12	-19	-11	5290	5470	10623
Light Trucks	-82	-10	-11	-5	9	-2	-5310	-5495	-10907
Total	-168	-14	-15	-17	-9	-14	-20	-26	-283

Table 800 - Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 0 - No Action Compared to Alternative 0 (Baseline), 3% Discount Rate

Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 0 - No Action Compared to Alternative 0 (Baseline), 3% Discount Rate									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Passenger Cars	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 801 - Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 1 Compared to Alternative 0 (Baseline), 3% Discount Rate

Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 1 Compared to Alternative 0 (Baseline), 3% Discount Rate									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Passenger Cars	-1.8	-0.1	-0.1	-0.3	-0.4	-0.3	48.0	48.1	93.2
Light Trucks	-1.6	-0.2	-0.2	-0.2	-0.2	-0.4	-48.8	-49.0	-100.5
Total	-3.3	-0.3	-0.3	-0.5	-0.5	-0.7	-0.8	-0.9	-7.3

Table 802 - Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 2 Compared to Alternative 0 (Baseline), 3% Discount Rate

Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 2 Compared to Alternative 0 (Baseline), 3% Discount Rate									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Passenger Cars	-1.8	-0.1	-0.1	-0.3	-0.4	-0.3	48.0	48.2	93.3
Light Trucks	-1.6	-0.2	-0.2	-0.2	-0.2	-0.4	-48.8	-49.0	-100.5
Total	-3.3	-0.3	-0.3	-0.5	-0.5	-0.7	-0.8	-0.9	-7.3

Table 803 - Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 3 Compared to Alternative 0 (Baseline), 3% Discount Rate

Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 3 Compared to Alternative 0 (Baseline), 3% Discount Rate									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Passenger Cars	-1.8	-0.1	-0.1	-0.3	-0.4	-0.3	48.0	48.2	93.4
Light Trucks	-1.5	-0.2	-0.2	-0.2	-0.1	-0.4	-48.8	-49.0	-100.4
Total	-3.3	-0.2	-0.3	-0.5	-0.5	-0.7	-0.8	-0.8	-7.1

Table 804 - Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 4 Compared to Alternative 0 (Baseline), 3% Discount Rate

Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 4 Compared to Alternative 0 (Baseline), 3% Discount Rate									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Passenger Cars	-1.6	-0.1	-0.1	-0.2	-0.3	-0.2	48.2	48.3	94.0
Light Trucks	-1.4	-0.2	-0.2	-0.2	-0.1	-0.3	-48.8	-49.0	-100.1
Total	-3.0	-0.2	-0.2	-0.4	-0.4	-0.5	-0.6	-0.7	-6.1

Table 805 - Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 5 Compared to Alternative 0 (Baseline), 3% Discount Rate

Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 5 Compared to Alternative 0 (Baseline), 3% Discount Rate									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Passenger Cars	-0.9	0.0	0.0	-0.1	-0.2	-0.1	48.4	48.6	95.7
Light Trucks	-0.8	-0.1	-0.1	0.0	0.1	0.0	-48.6	-48.8	-98.4
Total	-1.7	-0.1	-0.1	-0.2	-0.1	-0.1	-0.2	-0.2	-2.7

Table 806 - Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 0 - No Action Compared to Alternative 0 (Baseline), 7% Discount Rate

Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 0 - No Action Compared to Alternative 0 (Baseline), 7% Discount Rate									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Passenger Cars	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Light Trucks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 807 - Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 1 Compared to Alternative 0 (Baseline), 7% Discount Rate

Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 1 Compared to Alternative 0 (Baseline), 7% Discount Rate									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Passenger Cars	-1.3	0.0	0.0	-0.2	-0.2	-0.2	28.8	27.8	54.6
Light Trucks	-1.0	-0.1	-0.1	-0.1	-0.1	-0.2	-29.2	-28.3	-59.2
Total	-2.3	-0.1	-0.2	-0.3	-0.3	-0.4	-0.5	-0.5	-4.6

Table 808 - Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 2 Compared to Alternative 0 (Baseline), 7% Discount Rate

Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 2 Compared to Alternative 0 (Baseline), 7% Discount Rate									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Passenger Cars	-1.3	0.0	0.0	-0.2	-0.2	-0.2	28.8	27.8	54.6
Light Trucks	-1.0	-0.1	-0.1	-0.1	-0.1	-0.2	-29.2	-28.3	-59.2
Total	-2.3	-0.1	-0.2	-0.3	-0.3	-0.4	-0.5	-0.5	-4.6

Table 809 - Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 3 Compared to Alternative 0 (Baseline), 7% Discount Rate

Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 3 Compared to Alternative 0 (Baseline), 7% Discount Rate									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Passenger Cars	-1.3	0.0	0.0	-0.2	-0.2	-0.2	28.8	27.8	54.6
Light Trucks	-1.0	-0.1	-0.1	-0.1	-0.1	-0.2	-29.2	-28.3	-59.1
Total	-2.2	-0.1	-0.1	-0.3	-0.3	-0.4	-0.5	-0.5	-4.5

Table 810 - Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 4 Compared to Alternative 0 (Baseline), 7% Discount Rate

Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 4 Compared to Alternative 0 (Baseline), 7% Discount Rate									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Passenger Cars	-1.1	0.0	0.0	-0.1	-0.2	-0.1	28.9	27.9	55.1
Light Trucks	-0.9	-0.1	-0.1	-0.1	0.0	-0.2	-29.2	-28.3	-58.9
Total	-2.0	-0.1	-0.1	-0.2	-0.2	-0.3	-0.4	-0.4	-3.8

Table 811 - Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 5 Compared to Alternative 0 (Baseline), 7% Discount Rate

Incremental Vehicle-Mass-Related Fatality Costs ($ billion) by Model Year and Fleet, Alt 5 Compared to Alternative 0 (Baseline), 7% Discount Rate									
Model Year	1985-2024	2025	2026	2027	2028	2029	2030	2031	Total
Passenger Cars	-0.7	0.0	0.0	-0.1	-0.1	-0.1	29.0	28.1	56.1
Light Trucks	-0.5	-0.1	-0.1	0.0	0.1	0.0	-29.1	-28.2	-57.9
Total	-1.2	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	-1.7

Table 812 - Change in Safety Parameters from Alternative 0 (Baseline) for MY 1985-2031 for Total Fleet, 3% Percent Discount Rate, by Alternative

Change in Safety Parameters from Alternative 0 (Baseline) for MY 1985-2031 for Total Fleet, 3% Percent Discount Rate,					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fatalities					
Fatalities From Mass Changes	-10	-10	-13	-18	-25
Fatalities from Rebound Effect	-510	-508	-484	-393	-132
Fatalities from Sales/Scrappage	-246	-246	-246	-226	-126
Total Changes in Fatalities	-767	-764	-743	-637	-283
Fatality Costs ($Billions)					
Fatality Costs From Mass Changes	-0.1	-0.1	-0.1	-0.2	-0.2
Fatality Costs From Rebound Effect	-4.8	-4.8	-4.5	-3.7	-1.2
Fatality Costs from Sales/Scrappage	-2.4	-2.4	-2.4	-2.2	-1.2
Total - Fatality Costs ($Billions)	-7.3	-7.3	-7.1	-6.1	-2.7
Non-Fatal Crash Costs ($Billions)					
Non-Fatal Crash Costs From Mass Changes	-0.4	-0.4	-0.5	-0.7	-0.9
Non-Fatal Crash Costs From Rebound Effect	-18.1	-18.0	-17.2	-13.9	-4.7
Non-Fatal Crash Costs from Sales/Scrappage	-7.3	-7.3	-7.3	-6.7	-3.7
Total - Non-Fatal Crash Costs ($Billions)	-25.8	-25.7	-25.0	-21.3	-9.3
Property Damage Costs ($Billions)					
Property Damage Costs From Mass Changes	0.0	0.0	0.0	-0.1	-0.1
Property Damage Costs From Rebound Effect	-1.7	-1.7	-1.6	-1.3	-0.4
Property Damage Costs From Sales/Scrappage	-0.2	-0.2	-0.2	-0.2	-0.1
Total - Property Damage Costs ($Billions)	-1.9	-1.9	-1.9	-1.6	-0.6
Societal Crash Costs ($Billions)					
Crash Costs from Mass Changes	-0.6	-0.5	-0.7	-0.9	-1.2
Crash Costs from Rebound Effect	-24.5	-24.4	-23.3	-18.9	-6.3
Crash Costs from Sales/Scrappage	-10.0	-10.0	-9.9	-9.1	-5.1
Total - Societal Crash Costs ($Billions)	-35.1	-34.9	-33.9	-28.9	-12.7

Table 813 - Change in Safety Parameters from Alternative 0 (Baseline) for MY 1985-2031 for Passenger Car Fleet, 3% Percent Discount Rate, by Alternative

Change in Safety Parameters from Alternative 0 (Baseline) for MY 1985-2031 for Passenger Car Fleet, 3% Percent					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fatalities					
Fatalities From Mass Changes	-90	-89	-91	-89	-80
Fatalities from Rebound Effect	303	304	316	359	479
Fatalities from Sales/Scrappage	10,159	10,159	10,160	10,182	10,224
Total Changes in Fatalities	10,373	10,374	10,386	10,452	10,623
Fatality Costs ($Billions)					
Fatality Costs From Mass Changes	-0.8	-0.8	-0.8	-0.8	-0.7
Fatality Costs From Rebound Effect	2.6	2.7	2.8	3.2	4.3
Fatality Costs from Sales/Scrappage	91.4	91.4	91.4	91.7	92.1
Total - Fatality Costs ($Billions)	93.2	93.3	93.4	94.0	95.7
Non-Fatal Crash Costs ($Billions)					
Non-Fatal Crash Costs From Mass Changes	-3.2	-3.2	-3.2	-3.1	-2.8
Non-Fatal Crash Costs From Rebound Effect	9.9	10.0	10.4	11.9	16.2
Non-Fatal Crash Costs from Sales/Scrappage	347.1	347.0	347.1	347.9	349.2
Total - Non-Fatal Crash Costs ($Billions)	353.8	353.9	354.3	356.6	362.6
Property Damage Costs ($Billions)					
Property Damage Costs From Mass Changes	-0.3	-0.3	-0.3	-0.3	-0.3
Property Damage Costs From Rebound Effect	0.9	0.9	0.9	1.1	1.5
Property Damage Costs From Sales/Scrappage	32.0	32.0	32.0	32.1	32.1
Total - Property Damage Costs ($Billions)	32.6	32.6	32.7	32.9	33.3
Societal Crash Costs ($Billions)					
Crash Costs from Mass Changes	-4.3	-4.3	-4.3	-4.2	-3.8
Crash Costs from Rebound Effect	13.5	13.5	14.1	16.1	21.9
Crash Costs from Sales/Scrappage	470.5	470.5	470.6	471.6	473.4
Total - Societal Crash Costs ($Billions)	479.7	479.8	480.3	483.5	491.6

Table 814 - Change in Safety Parameters from Alternative 0 (Baseline) for MY 1985-2031 for Light Truck Fleet, 3% Percent Discount Rate, by Alternative

Change in Safety Parameters from Alternative 0 (Baseline) for MY 1985-2031 for Light Truck Fleet, 3% Percent Discount					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fatalities					
Fatalities From Mass Changes	79	79	78	71	54
Fatalities from Rebound Effect	-813	-812	-800	-752	-611
Fatalities from Sales/Scrappage	-10,406	-10,405	-10,406	-10,408	-10,350
Total Changes in Fatalities	-11,140	-11,138	-11,129	-11,089	-10,907
Fatality Costs ($Billions)					
Fatality Costs From Mass Changes	0.7	0.7	0.7	0.6	0.5
Fatality Costs From Rebound Effect	-7.4	-7.4	-7.3	-6.8	-5.5
Fatality Costs from Sales/Scrappage	-93.9	-93.9	-93.9	-93.9	-93.4
Total - Fatality Costs ($Billions)	-100.5	-100.5	-100.4	-100.1	-98.4
Non-Fatal Crash Costs ($Billions)					
Non-Fatal Crash Costs From Mass Changes	2.8	2.8	2.7	2.5	1.9
Non-Fatal Crash Costs From Rebound Effect	-28.0	-28.0	-27.6	-25.8	-20.8
Non-Fatal Crash Costs from Sales/Scrappage	-354.4	-354.4	-354.4	-354.6	-352.9
Total - Non-Fatal Crash Costs ($Billions)	-379.7	-379.6	-379.3	-377.9	-371.9
Property Damage Costs ($Billions)					
Property Damage Costs From Mass Changes	0.3	0.3	0.2	0.2	0.2
Property Damage Costs From Rebound Effect	-2.6	-2.6	-2.5	-2.4	-1.9
Property Damage Costs From Sales/Scrappage	-32.3	-32.3	-32.3	-32.3	-32.2
Total - Property Damage Costs ($Billions)	-34.6	-34.6	-34.5	-34.4	-34.0
Societal Crash Costs ($Billions)					
Crash Costs from Mass Changes	3.7	3.7	3.7	3.3	2.5
Crash Costs from Rebound Effect	-38.0	-38.0	-37.4	-35.0	-28.2
Crash Costs from Sales/Scrappage	-480.5	-480.5	-480.5	-480.7	-478.5
Total - Societal Crash Costs ($Billions)	-514.8	-514.7	-514.2	-512.4	-504.2

Table 815 - Change in Safety Parameters from Alternative 0 (Baseline) for MY 1985-2031 for Total Fleet, 7% Percent Discount Rate, by Alternative

Change in Safety Parameters from Alternative 0 (Baseline) for MY 1985-2031 for Total Fleet, 7% Percent Discount Rate,					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fatalities					
Fatalities From Mass Changes	-10	-10	-13	-18	-25
Fatalities from Rebound Effect	-510	-508	-484	-393	-132
Fatalities from Sales/Scrappage	-246	-246	-246	-226	-126
Total Changes in Fatalities	-767	-764	-743	-637	-283
Fatality Costs ($Billions)					
Fatality Costs From Mass Changes	-0.1	-0.1	-0.1	-0.1	-0.2
Fatality Costs From Rebound Effect	-3.0	-2.9	-2.8	-2.3	-0.8
Fatality Costs from Sales/Scrappage	-1.6	-1.6	-1.6	-1.4	-0.8
Total - Fatality Costs ($Billions)	-4.6	-4.6	-4.5	-3.8	-1.7
Non-Fatal Crash Costs ($Billions)					
Non-Fatal Crash Costs From Mass Changes	-0.3	-0.3	-0.3	-0.4	-0.6
Non-Fatal Crash Costs From Rebound Effect	-11.3	-11.3	-10.7	-8.7	-2.9
Non-Fatal Crash Costs from Sales/Scrappage	-4.7	-4.7	-4.7	-4.3	-2.4
Total - Non-Fatal Crash Costs ($Billions)	-16.3	-16.2	-15.8	-13.4	-5.9
Property Damage Costs ($Billions)					
Property Damage Costs From Mass Changes	0.0	0.0	0.0	0.0	-0.1
Property Damage Costs From Rebound Effect	-1.1	-1.1	-1.0	-0.8	-0.3
Property Damage Costs From Sales/Scrappage	-0.1	-0.1	-0.1	-0.1	-0.1
Total - Property Damage Costs ($Billions)	-1.3	-1.2	-1.2	-1.0	-0.4
Societal Crash Costs ($Billions)					
Crash Costs from Mass Changes	-0.4	-0.4	-0.5	-0.6	-0.8
Crash Costs from Rebound Effect	-15.4	-15.3	-14.6	-11.8	-4.0
Crash Costs from Sales/Scrappage	-6.4	-6.4	-6.4	-5.8	-3.3
Total - Societal Crash Costs ($Billions)	-22.2	-22.1	-21.4	-18.2	-8.0

Table 816 - Change in Safety Parameters from Alternative 0 (Baseline) for MY 1985-2031 for Passenger Car Fleet, 7% Percent Discount Rate, by Alternative

Change in Safety Parameters from Alternative 0 (Baseline) for MY 1985-2031 for Passenger Car Fleet, 7% Percent					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fatalities					
Fatalities From Mass Changes	-90	-89	-91	-89	-80
Fatalities from Rebound Effect	303	304	316	359	479
Fatalities from Sales/Scrappage	10,159	10,159	10,160	10,182	10,224
Total Changes in Fatalities	10,373	10,374	10,386	10,452	10,623
Fatality Costs ($Billions)					
Fatality Costs From Mass Changes	-0.5	-0.5	-0.5	-0.5	-0.4
Fatality Costs From Rebound Effect	1.5	1.5	1.5	1.8	2.5
Fatality Costs from Sales/Scrappage	53.6	53.6	53.6	53.8	54.1
Total - Fatality Costs ($Billions)	54.6	54.6	54.6	55.1	56.1
Non-Fatal Crash Costs ($Billions)					
Non-Fatal Crash Costs From Mass Changes	-2.0	-2.0	-2.0	-1.9	-1.7
Non-Fatal Crash Costs From Rebound Effect	5.6	5.7	5.9	6.8	9.5
Non-Fatal Crash Costs from Sales/Scrappage	205.7	205.7	205.7	206.2	207.2
Total - Non-Fatal Crash Costs ($Billions)	209.3	209.4	209.6	211.1	215.0
Property Damage Costs ($Billions)					
Property Damage Costs From Mass Changes	-0.2	-0.2	-0.2	-0.2	-0.2
Property Damage Costs From Rebound Effect	0.5	0.5	0.6	0.6	0.9
Property Damage Costs From Sales/Scrappage	19.9	19.9	19.9	19.9	20.0
Total - Property Damage Costs ($Billions)	20.2	20.2	20.3	20.4	20.7
Societal Crash Costs ($Billions)					
Crash Costs from Mass Changes	-2.7	-2.7	-2.7	-2.6	-2.3
Crash Costs from Rebound Effect	7.6	7.7	8.0	9.3	12.9
Crash Costs from Sales/Scrappage	279.2	279.2	279.2	279.9	281.3
Total - Societal Crash Costs ($Billions)	284.1	284.2	284.5	286.6	291.8

Table 817 - Change in Safety Parameters from Alternative 0 (Baseline) for MY 1985-2031 for Light Truck Fleet, 7% Percent Discount Rate, by Alternative

Change in Safety Parameters from Alternative 0 (Baseline) for MY 1985-2031 for Light Truck Fleet, 7% Percent Discount					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Fatalities					
Fatalities From Mass Changes	79	79	78	71	54
Fatalities from Rebound Effect	-813	-812	-800	-752	-611
Fatalities from Sales/Scrappage	-10,406	-10,405	-10,406	-10,408	-10,350
Total Changes in Fatalities	-11,140	-11,138	-11,129	-11,089	-10,907
Fatality Costs ($Billions)					
Fatality Costs From Mass Changes	0.4	0.4	0.4	0.4	0.3
Fatality Costs From Rebound Effect	-4.4	-4.4	-4.4	-4.1	-3.2
Fatality Costs from Sales/Scrappage	-55.2	-55.2	-55.2	-55.2	-54.9
Total - Fatality Costs ($Billions)	-59.2	-59.2	-59.1	-58.9	-57.9
Non-Fatal Crash Costs ($Billions)					
Non-Fatal Crash Costs From Mass Changes	1.7	1.7	1.6	1.5	1.1
Non-Fatal Crash Costs From Rebound Effect	-17.0	-16.9	-16.6	-15.5	-12.4
Non-Fatal Crash Costs from Sales/Scrappage	-210.4	-210.3	-210.4	-210.5	-209.6
Total - Non-Fatal Crash Costs ($Billions)	-225.6	-225.6	-225.4	-224.5	-220.9
Property Damage Costs ($Billions)					
Property Damage Costs From Mass Changes	0.2	0.2	0.2	0.1	0.1
Property Damage Costs From Rebound Effect	-1.6	-1.6	-1.6	-1.5	-1.2
Property Damage Costs From Sales/Scrappage	-20.0	-20.0	-20.0	-20.1	-20.0
Total - Property Damage Costs ($Billions)	-21.5	-21.5	-21.5	-21.4	-21.1
Societal Crash Costs ($Billions)					
Crash Costs from Mass Changes	2.3	2.3	2.2	2.0	1.5
Crash Costs from Rebound Effect	-23.0	-23.0	-22.6	-21.1	-16.8
Crash Costs from Sales/Scrappage	-285.6	-285.5	-285.6	-285.8	-284.5
Total - Societal Crash Costs ($Billions)	-306.3	-306.3	-305.9	-304.8	-299.8

Table 818 - Change in Non-Fatal Safety Parameters from Alternative 0 (Baseline) for MY 1985-2031 for Total Fleet, by Alternative

Change in Non-Fatal Safety Parameters from Alternative 0 (Baseline) for MY 1985-2031 for Total Fleet, by Alternative					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Fatal Injuries					
Non-Fatal Injuries From Mass Changes	-1,638	-1,625	-2,068	-2,807	-3,983
Non-Fatal Injuries from Rebound Effect	-79,725	-79,318	-75,659	-61,426	-20,574
Non-Fatal Injuries from Sales/Scrappage	-31,386	-31,380	-31,342	-28,896	-16,064
Total Changes in Non-Fatal Injuries	-112,750	-112,323	-109,069	-93,129	-40,622
Property Damaged Vehicles					
Property Damaged Vehicles From Mass Changes	-5,486	-5,445	-6,802	-9,046	-12,454
Property Damaged Vehicles from Rebound Effect	-245,668	-244,397	-232,975	-188,737	-63,068
Property Damaged Vehicles from Sales/Scrappage	-35,430	-35,454	-35,684	-33,493	-18,199
Total Changes in Property Damaged Vehicles	-286,584	-285,297	-275,461	-231,276	-93,720

Table 819 - Change in Non-Fatal Safety Parameters from Alternative 0 (Baseline) for MY 1985-2031 for Passenger Car Fleet, by Alternative

Change in Non-Fatal Safety Parameters from Alternative 0 (Baseline) for MY 1985-2031 for Passenger Car Fleet, by Alternative					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Fatal Injuries					
Non-Fatal Injuries From Mass Changes	-14,041	-14,028	-14,200	-13,926	-12,499
Non-Fatal Injuries from Rebound Effect	47,159	47,390	49,171	55,926	74,757
Non-Fatal Injuries from Sales/Scrappage	1,591,714	1,591,654	1,591,833	1,594,925	1,600,077
Total Changes in Non-Fatal Injuries	1,624,833	1,625,016	1,626,804	1,636,925	1,662,335
Property Damaged Vehicles					
Property Damaged Vehicles From Mass Changes	-43,505	-43,464	-43,992	-43,113	-38,575
Property Damaged Vehicles from Rebound Effect	141,879	142,598	148,162	169,251	228,026
Property Damaged Vehicles from Sales/Scrappage	4,906,752	4,906,544	4,906,929	4,913,993	4,918,719
Total Changes in Property Damaged Vehicles	5,005,125	5,005,678	5,011,099	5,040,131	5,108,170

Table 820 - Change in Non-Fatal Safety Parameters from Alternative 0 (Baseline) for MY 1985-2031 for Light Truck Fleet, by Alternative

Change in Non-Fatal Safety Parameters from Alternative 0 (Baseline) for MY 1985-2031 for Light Truck Fleet, by Alternative					
Alternative	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5
Non-Fatal Injuries					
Non-Fatal Injuries From Mass Changes	12,402	12,402	12,132	11,120	8,516
Non-Fatal Injuries from Rebound Effect	-126,885	-126,708	-124,831	-117,352	-95,332
Non-Fatal Injuries from Sales/Scrappage	-1,623,101	-1,623,034	-1,623,175	-1,623,821	-1,616,141
Total Changes in Non-Fatal Injuries	-1,737,583	-1,737,339	-1,735,873	-1,730,054	-1,702,957
Property Damaged Vehicles					
Property Damaged Vehicles From Mass Changes	38,019	38,019	37,190	34,067	26,120
Property Damaged Vehicles from Rebound Effect	-387,546	-386,995	-381,137	-357,988	-291,093
Property Damaged Vehicles from Sales/Scrappage	-4,942,182	-4,941,999	-4,942,613	-4,947,487	-4,936,917
Total Changes in Property Damaged Vehicles	-5,291,709	-5,290,974	-5,286,561	-5,271,407	-5,201,890