Preliminary Regulatory Impact Analysis: CAFE DATA BOOK (Appendix III)

Corporate Average Fuel Economy Standards for Passenger Cars and Light Trucks for Model Years 2027 and Beyond and Fuel Efficiency Standards for Heavy-Duty Pickup Trucks and Vans for Model Years 2030 and Beyond

July 2023

U.S. Department of Transportation
National Highway Traffic Safety Administration

NHTSA

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Summary Tables

Table 1 - Incremental Benefits and Costs Over the Lifetimes of HDPUV Fleet for Calendar Years 2022-2050 (2021$ BILLIONS), 3% Percent Discount Rate, by Alternative, All SC-GHG Levels

Incremental Benefits and Costs Over the Lifetimes of HDPUV Fleet for Calendar Years 2022-2050 (2021$ BILLIONS), 3% Percent Discount Rate, by Alternative, All SC-GHG Levels			
Alternative	HDPUV4	HDPUV10	HDPUV14
Total Incremental Social Benefits, 7% SC-GHG Discount Rate	0.084	3.575	14.032
Total Incremental Social Benefits, 3% SC-GHG Discount Rate	0.114	4.319	17.430
Total Incremental Social Benefits, No SC-GHG Valuation	0.135	4.855	19.871
Net Incremental Social Benefits, 7% SC-GHG Discount	-0.005	1.502	4.605
Net Incremental Social Benefits, 3% SC-GHG Discount Rate	0.025	2.246	8.004
Net Incremental Social Benefits, No SC-GHG Valuation	0.047	2.781	10.444

Table Error! No text of specified style in document.2 - Incremental Benefits and Costs Over the Lifetimes of HDPUV Fleet for Calendar Years 2022-2050 (2021$ BILLIONS), 7% Percent Discount Rate, by Alternative, All SC-GHG Levels

Incremental Benefits and Costs Over the Lifetimes of HDPUV Fleet for Calendar Years 2022-2050 (2021$ BILLIONS), 7% Percent Discount Rate, by Alternative, All SC-GHG Levels			
Alternative	HDPUV4	HDPUV10	HDPUV14
Total Incremental Social Benefits, 7% SC-GHG Discount Rate	0.041	1.687	6.726
Total Incremental Social Benefits, 3% SC-GHG Discount Rate	0.071	2.431	10.124
Total Incremental Social Benefits, No SC-GHG Valuation	0.093	2.966	12.565
Net Incremental Social Benefits, 7% SC-GHG Discount	-0.001	0.693	2.054
Net Incremental Social Benefits, 3% SC-GHG Discount Rate	0.029	1.437	5.452
Net Incremental Social Benefits, No SC-GHG Valuation	0.051	1.972	7.893

Table Error! No text of specified style in document.3 - Estimated Costs, Benefits, and Net Benefits Across Calendar Years 2022-2050 (billions of dollars), HDPUV Fleet for No Action Alternative (Baseline), Average SC-GHG

Estimated Costs, Benefits, and Net Benefits Across Calendar Years 2022-2050 (billions of dollars), HDPUV Fleet for No Action Alternative (Baseline), Average SC-GHG				
	Totals		Annualized	
	3% Discount Rate	7% Discount Rate	3% Discount Rate	7% Discount Rate
Costs	0.000	0.000	0.000	0.000
Benefits	0.000	0.000	0.000	0.000
Net Benefits	0.000	0.000	0.000	0.000

Table Error! No text of specified style in document.4 - Estimated Costs, Benefits, and Net Benefits Across Calendar Years 2022-2050 (billions of dollars), HDPUV Fleet for Alternative HDPUV4, Average SC-GHG

Estimated Costs, Benefits, and Net Benefits Across Calendar Years 2022-2050 (billions of dollars), HDPUV Fleet for Alternative HDPUV4, Average SC-GHG				
	Totals		Annualized	
	3% Discount Rate	7% Discount Rate	3% Discount Rate	7% Discount Rate
Costs	0.088	0.042	0.005	0.003
Benefits	0.114	0.071	0.006	0.006
Net Benefits	0.025	0.029	0.001	0.002

Table Error! No text of specified style in document.5 - Estimated Costs, Benefits, and Net Benefits Across Calendar Years 2022-2050 (billions of dollars), HDPUV Fleet for Alternative HDPUV10, Average SC-GHG

Estimated Costs, Benefits, and Net Benefits Across Calendar Years 2022-2050 (billions of dollars), HDPUV Fleet for Alternative HDPUV10, Average SC-GHG				
	Totals		Annualized	
	3% Discount Rate	7% Discount Rate	3% Discount Rate	7% Discount Rate
Costs	2.073	0.994	0.108	0.081
Benefits	4.319	2.431	0.225	0.198
Net Benefits	2.246	1.437	0.117	0.117

Table Error! No text of specified style in document.6 - Estimated Costs, Benefits, and Net Benefits Across Calendar Years 2022-2050 (billions of dollars), HDPUV Fleet for Alternative HDPUV14, Average SC-GHG

Estimated Costs, Benefits, and Net Benefits Across Calendar Years 2022-2050 (billions of dollars), HDPUV Fleet for Alternative HDPUV14, Average SC-GHG				
	Totals		Annualized	
	3% Discount Rate	7% Discount Rate	3% Discount Rate	7% Discount Rate
Costs	9.426	4.672	0.491	0.381
Benefits	17.430	10.124	0.908	0.825
Net Benefits	8.004	5.452	0.417	0.444

Table Error! No text of specified style in document.7 - Estimated HDPUV Fleet Costs, Benefits, and Net Benefits Across Calendar Years 2022-2050 (billions of dollars) HDPUV Fleet, by Alternative, Average SC-GHG

Estimated HDPUV Fleet Costs, Benefits, and Net Benefits Across Calendar Years 2022-2050 (billions of dollars) HDPUV Fleet, by Alternative, Average SC-GHG						
Alternative	3% Discount Rate			7% Discount Rate		
	Costs	Benefits	Net Benefits	Costs	Benefits	Net Benefits
4.00%/Y Hdpuv During 2030-2035	0.088	0.114	0.025	0.044	0.071	0.027
10.0%/Y Hdpuv During 2030-2035	2.073	4.319	2.246	1.335	2.431	1.096
14.0%/Y Hdpuv During 2030-2035	9.426	17.430	8.004	5.669	10.124	4.455

Estimated Required Fuel Efficiency Levels

Table Error! No text of specified style in document.8 - Estimated Required Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Total)

Estimated Required Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Total)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	4.920	5.003	5.002	4.962	4.962	4.965	4.965	4.925	4.925
Alternative HDPUV4	4.723	4.610	4.425	4.214	4.046	3.886	3.886	3.855	3.855
Alternative HDPUV10	4.427	4.051	3.646	3.255	2.930	2.638	2.638	2.616	2.616
Alternative HDPUV14	4.231	3.684	3.167	2.702	2.324	1.999	1.999	1.983	1.983

Table Error! No text of specified style in document.9 - Estimated Required Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Ford)

Estimated Required Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Ford)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	4.785	4.785	4.785	4.694	4.694	4.701	4.701	4.701	4.701
Alternative HDPUV4	4.593	4.409	4.233	3.986	3.827	3.679	3.679	3.679	3.679
Alternative HDPUV10	4.305	3.874	3.487	3.078	2.771	2.497	2.497	2.497	2.497
Alternative HDPUV14	4.115	3.539	3.044	2.568	2.208	1.900	1.900	1.900	1.900

Table Error! No text of specified style in document.10 - Estimated Required Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (GM)

Estimated Required Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (GM)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	5.451	5.343	5.343	5.353	5.353	5.353	5.353	5.353	5.353
Alternative HDPUV4	5.233	4.924	4.727	4.547	4.365	4.190	4.190	4.190	4.190
Alternative HDPUV10	4.906	4.326	3.894	3.512	3.160	2.844	2.844	2.844	2.844
Alternative HDPUV14	4.688	3.898	3.352	2.889	2.484	2.137	2.137	2.137	2.137

Table Error! No text of specified style in document.11 - Estimated Required Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Mercedes-Benz)

Estimated Required Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Mercedes-Benz)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	4.488	4.488	4.488	4.160	4.160	4.160	4.160	4.160	4.160
Alternative HDPUV4	4.308	4.136	3.970	3.533	3.392	3.256	3.256	3.256	3.256
Alternative HDPUV10	4.039	3.635	3.272	2.729	2.456	2.211	2.211	2.210	2.210
Alternative HDPUV14	3.860	3.319	2.854	2.275	1.957	1.683	1.683	1.683	1.683

Table Error! No text of specified style in document.12 - Estimated Required Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Nissan)

Estimated Required Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Nissan)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	4.160	4.160	4.108	4.107	4.107	4.107	4.107	4.107	4.107
Alternative HDPUV4	3.994	3.834	3.634	3.489	3.349	3.215	3.215	3.215	3.215
Alternative HDPUV10	3.744	3.370	2.995	2.695	2.426	2.183	2.183	2.183	2.183
Alternative HDPUV14	3.578	3.077	2.613	2.247	1.932	1.662	1.662	1.662	1.662

Table Error! No text of specified style in document.13 - Estimated Required Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Rivian)

Estimated Required Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Rivian)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	3.813	3.813	3.813	3.813	3.813	3.813	3.813	3.813	3.813
Alternative HDPUV4	3.660	3.514	3.374	3.238	3.109	2.984	2.984	2.984	2.984
Alternative HDPUV10	3.431	3.088	2.779	2.502	2.252	2.027	2.027	2.027	2.027
Alternative HDPUV14	3.279	2.820	2.425	2.086	1.794	1.542	1.542	1.542	1.542

Table Error! No text of specified style in document.14 - Estimated Required Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Stellantis)

Estimated Required Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Stellantis)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	4.817	5.347	5.347	5.347	5.347	5.347	5.347	5.165	5.165
Alternative HDPUV4	4.624	4.928	4.731	4.542	4.360	4.186	4.186	4.043	4.043
Alternative HDPUV10	4.335	4.331	3.898	3.508	3.158	2.842	2.842	2.744	2.744
Alternative HDPUV14	4.143	3.955	3.401	2.925	2.516	2.163	2.163	2.089	2.089

Estimated Achieved Fuel Efficiency Levels

Table Error! No text of specified style in document.15 - Estimated Achieved Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Total)

Estimated Achieved Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Total)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	3.270	2.771	2.766	2.229	2.229	2.225	2.225	2.160	2.160
Alternative HDPUV4	3.269	2.769	2.764	2.227	2.227	2.223	2.223	2.158	2.158
Alternative HDPUV10	3.266	2.764	2.759	2.160	2.157	2.153	2.153	2.088	2.088
Alternative HDPUV14	3.265	2.632	2.627	1.972	1.972	1.878	1.878	1.814	1.814

Table Error! No text of specified style in document.16 - Estimated Achieved Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Ford)

Estimated Achieved Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Ford)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	2.778	2.778	2.778	2.150	2.150	2.144	2.143	2.143	2.143
Alternative HDPUV4	2.775	2.775	2.775	2.145	2.145	2.138	2.138	2.137	2.137
Alternative HDPUV10	2.768	2.768	2.768	2.138	2.138	2.131	2.131	2.131	2.131
Alternative HDPUV14	2.781	2.781	2.780	2.150	2.150	1.900	1.900	1.900	1.900

Table Error! No text of specified style in document.17 - Estimated Achieved Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (GM)

Estimated Achieved Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (GM)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	4.492	3.821	3.821	2.973	2.973	2.973	2.973	2.972	2.972
Alternative HDPUV4	4.492	3.821	3.821	2.973	2.972	2.973	2.972	2.972	2.972
Alternative HDPUV10	4.492	3.812	3.812	2.764	2.753	2.753	2.753	2.753	2.753
Alternative HDPUV14	4.473	3.368	3.368	2.137	2.137	2.137	2.137	2.137	2.137

Table Error! No text of specified style in document.18 - Estimated Achieved Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Mercedes-Benz)

Estimated Achieved Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Mercedes-Benz)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	2.428	2.427	2.427	0.885	0.885	0.886	0.885	0.884	0.884
Alternative HDPUV4	2.427	2.427	2.426	0.884	0.884	0.885	0.885	0.883	0.883
Alternative HDPUV10	2.427	2.427	2.426	0.884	0.884	0.886	0.885	0.884	0.883
Alternative HDPUV14	2.427	2.427	2.426	0.884	0.885	0.886	0.885	0.883	0.884

Table Error! No text of specified style in document.19 - Estimated Achieved Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Nissan)

Estimated Achieved Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Nissan)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	1.720	1.720	1.428	1.426	1.426	1.319	1.320	1.320	1.320
Alternative HDPUV4	1.721	1.720	1.429	1.429	1.429	1.322	1.323	1.322	1.322
Alternative HDPUV10	1.721	1.720	1.429	1.429	1.429	1.322	1.323	1.322	1.322
Alternative HDPUV14	1.720	1.720	1.430	1.429	1.429	1.322	1.322	1.322	1.322

Table Error! No text of specified style in document.20 - Estimated Achieved Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Rivian)

Estimated Achieved Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Rivian)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Alternative HDPUV4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Alternative HDPUV10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Alternative HDPUV14	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table Error! No text of specified style in document.21 - Estimated Achieved Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Stellantis)

Estimated Achieved Average Fuel Economy (gal. per 100 miles), HDPUV Fleet for Manufacturer (Stellantis)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	3.499	2.163	2.163	2.162	2.162	2.162	2.162	1.870	1.870
Alternative HDPUV4	3.499	2.162	2.162	2.162	2.162	2.162	2.162	1.870	1.870
Alternative HDPUV10	3.499	2.162	2.162	2.162	2.162	2.162	2.162	1.868	1.868
Alternative HDPUV14	3.499	2.162	2.162	2.162	2.162	2.162	2.162	1.868	1.868

Table Error! No text of specified style in document.22 - MY 2038 Required and Achieved Gallons per 100 miles, and Per-Vehicle Regulatory Costs ($) for HDPUV Fleet by Alternative

MY 2038 Required and Achieved Gallons per 100 miles, and Per-Vehicle Regulatory Costs ($) for HDPUV Fleet by Alternative			
	Avg Required (gal. per 100 miles)	Avg Achieved (gal. per 100 miles)	Avg Reg. Cost ($)
No Action Alternative (Baseline)	4.925	2.160	1520
Alternative HDPUV4	3.855	2.158	1523
Alternative HDPUV10	2.616	2.088	1651
Alternative HDPUV14	1.983	1.814	2153

Required and Achieved CAFE Levels, Baseline vs. Preferred Alternative

Table Error! No text of specified style in document.23 - Comparison of No Action Alternative (Baseline) and Alternative HDPUV10 Required and Achieved Levels in MYs 2030-2038 for the HDPUV Fleet (gal. per 100 miles)

Comparison of No Action Alternative (Baseline) and Alternative HDPUV10 Required and Achieved Levels in MYs 2030-2038 for the HDPUV Fleet (gal. per 100 miles)												
	Ford				GM				Mercedes-Benz			
	No Action Alternative (Baseline)		Alternative HDPUV10		No Action Alternative (Baseline)		Alternative HDPUV10		No Action Alternative (Baseline)		Alternative HDPUV10	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2030	4.8	2.8	4.3	2.8	5.5	4.5	4.9	4.5	4.5	2.4	4.0	2.4
2031	4.8	2.8	3.9	2.8	5.3	3.8	4.3	3.8	4.5	2.4	3.6	2.4
2032	4.8	2.8	3.5	2.8	5.3	3.8	3.9	3.8	4.5	2.4	3.3	2.4
2033	4.7	2.2	3.1	2.1	5.4	3.0	3.5	2.8	4.2	0.9	2.7	0.9
2034	4.7	2.2	2.8	2.1	5.4	3.0	3.2	2.8	4.2	0.9	2.5	0.9
2035	4.7	2.1	2.5	2.1	5.4	3.0	2.8	2.8	4.2	0.9	2.2	0.9
2036	4.7	2.1	2.5	2.1	5.4	3.0	2.8	2.8	4.2	0.9	2.2	0.9
2037	4.7	2.1	2.5	2.1	5.4	3.0	2.8	2.8	4.2	0.9	2.2	0.9
2038	4.7	2.1	2.5	2.1	5.4	3.0	2.8	2.8	4.2	0.9	2.2	0.9

Table Error! No text of specified style in document.24 - Comparison of No Action Alternative (Baseline) and Alternative HDPUV10 Required and Achieved Levels in MYs 2030-2038 for the HDPUV Fleet (gal. per 100 miles)

Comparison of No Action Alternative (Baseline) and Alternative HDPUV10 Required and Achieved Levels in MYs 2030-2038 for the HDPUV Fleet (gal. per 100 miles)												
	Nissan				Rivian				Stellantis			
	No Action Alternative (Baseline)		Alternative HDPUV10		No Action Alternative (Baseline)		Alternative HDPUV10		No Action Alternative (Baseline)		Alternative HDPUV10	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2030	4.2	1.7	3.7	1.7	3.8	0.0	3.4	0.0	4.8	3.5	4.3	3.5
2031	4.2	1.7	3.4	1.7	3.8	0.0	3.1	0.0	5.3	2.2	4.3	2.2
2032	4.1	1.4	3.0	1.4	3.8	0.0	2.8	0.0	5.3	2.2	3.9	2.2
2033	4.1	1.4	2.7	1.4	3.8	0.0	2.5	0.0	5.3	2.2	3.5	2.2
2034	4.1	1.4	2.4	1.4	3.8	0.0	2.3	0.0	5.3	2.2	3.2	2.2
2035	4.1	1.3	2.2	1.3	3.8	0.0	2.0	0.0	5.3	2.2	2.8	2.2
2036	4.1	1.3	2.2	1.3	3.8	0.0	2.0	0.0	5.3	2.2	2.8	2.2
2037	4.1	1.3	2.2	1.3	3.8	0.0	2.0	0.0	5.2	1.9	2.7	1.9
2038	4.1	1.3	2.2	1.3	3.8	0.0	2.0	0.0	5.2	1.9	2.7	1.9

Table Error! No text of specified style in document.25 - Comparison of No Action Alternative (Baseline) and Alternative HDPUV10 Required and Achieved Levels in MYs 2030-2038 for the HDPUV Fleet (gal. per 100 miles)

Comparison of No Action Alternative (Baseline) and Alternative HDPUV10 Required and Achieved Levels in MYs 2030-2038 for the HDPUV Fleet (gal. per 100 miles)												
	Total											
	No Action Alternative (Baseline)		Alternative HDPUV10		No Action Alternative (Baseline)		Alternative HDPUV10		No Action Alternative (Baseline)		Alternative HDPUV10	
Model Year	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved	Required	Achieved
2030	4.9	3.3	4.4	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2031	5.0	2.8	4.1	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2032	5.0	2.8	3.6	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2033	5.0	2.2	3.3	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2034	5.0	2.2	2.9	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2035	5.0	2.2	2.6	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2036	5.0	2.2	2.6	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2037	4.9	2.2	2.6	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2038	4.9	2.2	2.6	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Incremental Societal Impacts

Table Error! No text of specified style in document.26 - Incremental Benefits and Costs for Calendar Years 2022-2050 for HDPUV Fleet Produced Through MY 2050 (2021$ BILLIONS), 3% Percent Discount Rate, by Alternative, Average SC-GHG

Incremental Benefits and Costs for Calendar Years 2022-2050 for HDPUV Fleet Produced Through MY 2050 (2021$ BILLIONS), 3% Percent Discount Rate, by Alternative, Average SC-GHG			
Alternative	HDPUV4	HDPUV10	HDPUV14
Private Costs			
Technology Costs to Increase Fuel Economy	0.046	1.285	5.810
Increased Maintenance and Repair Costs	0.000	0.000	0.000
Consumer Surplus Loss from Reduced New Vehicle Sales	0.000	0.000	0.003
Safety Costs Internalized by Drivers	0.005	0.122	0.635
Subtotal - Incremental Private Costs	0.051	1.407	6.448
External Costs			
Congestion and Noise Costs from Rebound-Effect Driving	0.004	0.014	0.072
Safety Costs Not Internalized by Drivers	0.002	-0.098	-0.504
Loss in Fuel Tax Revenue	0.031	0.750	3.410
Subtotal - Incremental External Costs	0.037	0.666	2.978
Total Incremental Social Costs	0.088	2.073	9.426
Private Benefits			
Reduced Fuel Costs	0.119	2.977	13.792
Benefits from Additional Driving	0.010	0.259	1.359
Less Frequent Refueling	-0.062	-0.085	-3.064
Subtotal - Incremental Private Benefits	0.066	3.151	12.086
External Benefits			
Reduction in Petroleum Market Externality	0.006	0.149	0.671
Reduced Climate Damages, Average SC-GHG	0.009	0.228	1.051
Reduced Health Damages	0.002	0.047	0.224
Subtotal - Incremental External Benefits	0.017	0.424	1.946
Total Incremental Social Benefits, Average SC-GHG	0.114	4.319	17.430
Net Incremental Social Benefits, Average SC-GHG	0.025	2.246	8.004

Table Error! No text of specified style in document.27 - Incremental Benefits and Costs for Calendar Years 2022-2050 for HDPUV Fleet Produced Through MY 2050 (2021$ BILLIONS), 7% Percent Discount Rate, by Alternative, Average SC-GHG

Incremental Benefits and Costs for Calendar Years 2022-2050 for HDPUV Fleet Produced Through MY 2050 (2021$ BILLIONS), 7% Percent Discount Rate, by Alternative, Average SC-GHG			
Alternative	HDPUV4	HDPUV10	HDPUV14
Private Costs			
Technology Costs to Increase Fuel Economy	0.024	0.642	3.024
Increased Maintenance and Repair Costs	0.000	0.000	0.000
Consumer Surplus Loss from Reduced New Vehicle Sales	0.000	0.000	0.002
Safety Costs Internalized by Drivers	0.002	0.053	0.277
Subtotal - Incremental Private Costs	0.026	0.695	3.303
External Costs			
Congestion and Noise Costs from Rebound-Effect Driving	0.002	0.007	0.036
Safety Costs Not Internalized by Drivers	0.001	-0.040	-0.209
Loss in Fuel Tax Revenue	0.014	0.332	1.543
Subtotal - Incremental External Costs	0.017	0.299	1.369
Total Incremental Social Costs	0.042	0.994	4.672
Private Benefits			
Reduced Fuel Costs	0.052	1.304	6.153
Benefits from Additional Driving	0.004	0.113	0.597
Less Frequent Refueling	-0.027	-0.040	-1.452
Subtotal - Incremental Private Benefits	0.029	1.377	5.297
External Benefits			
Reduction in Petroleum Market Externality	0.003	0.065	0.300
Reduced Climate Damages, Average SC-GHG	0.009	0.228	1.051
Reduced Health Damages	0.001	0.016	0.078
Subtotal - Incremental External Benefits	0.012	0.310	1.429
Total Incremental Social Benefits, Average SC-GHG	0.071	2.431	10.124
Net Incremental Social Benefits, Average SC-GHG	0.029	1.437	5.452

Technology Costs and Civil Penalties per Vehicle, by Model Year

Table Error! No text of specified style in document.28 - Estimated Average Per Vehicle Technology and Civil Penalties Costs ($), HDPUV Fleet for Manufacturer (Ford)

Estimated Average Per Vehicle Technology and Civil Penalties Costs ($), HDPUV Fleet for Manufacturer (Ford)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	3,321	3,090	2,834	3,724	3,442	3,182	2,946	2,716	2,519
Alternative HDPUV4	3,328	3,097	2,840	3,735	3,452	3,191	2,955	2,724	2,527
Alternative HDPUV10	3,344	3,112	2,854	3,748	3,464	3,202	2,966	2,734	2,536
Alternative HDPUV14	3,315	3,085	2,829	3,724	3,442	3,667	3,420	3,177	2,970

Table Error! No text of specified style in document.29 - Estimated Average Per Vehicle Technology and Civil Penalties Costs ($), HDPUV Fleet for Manufacturer (GM)

Estimated Average Per Vehicle Technology and Civil Penalties Costs ($), HDPUV Fleet for Manufacturer (GM)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	-1,498	-57	-184	1,489	1,288	1,092	934	779	645
Alternative HDPUV4	-1,498	-57	-184	1,489	1,288	1,092	934	780	646
Alternative HDPUV10	-1,498	-37	-165	1,941	1,743	1,531	1,361	1,195	1,051
Alternative HDPUV14	-1,384	1,092	906	3,318	3,043	2,776	2,559	2,346	2,162

Table Error! No text of specified style in document.30 - Estimated Average Per Vehicle Technology and Civil Penalties Costs ($), HDPUV Fleet for Manufacturer (Mercedes-Benz)

Estimated Average Per Vehicle Technology and Civil Penalties Costs ($), HDPUV Fleet for Manufacturer (Mercedes-Benz)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	1,797	1,555	1,293	3,879	3,468	3,064	2,715	2,373	2,080
Alternative HDPUV4	1,799	1,556	1,296	3,882	3,471	3,067	2,717	2,375	2,084
Alternative HDPUV10	1,799	1,556	1,296	3,882	3,470	3,066	2,717	2,375	2,083
Alternative HDPUV14	1,799	1,557	1,296	3,882	3,470	3,066	2,717	2,376	2,082

Table Error! No text of specified style in document.31 - Estimated Average Per Vehicle Technology and Civil Penalties Costs ($), HDPUV Fleet for Manufacturer (Nissan)

Estimated Average Per Vehicle Technology and Civil Penalties Costs ($), HDPUV Fleet for Manufacturer (Nissan)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	7,502	7,153	7,342	6,966	6,593	6,438	6,126	5,821	5,562
Alternative HDPUV4	7,502	7,153	7,338	6,960	6,588	6,433	6,121	5,817	5,559
Alternative HDPUV10	7,502	7,153	7,338	6,960	6,587	6,432	6,121	5,817	5,558
Alternative HDPUV14	7,502	7,153	7,339	6,959	6,586	6,432	6,122	5,818	5,559

Table Error! No text of specified style in document.32 - Estimated Average Per Vehicle Technology and Civil Penalties Costs ($), HDPUV Fleet for Manufacturer (Rivian)

Estimated Average Per Vehicle Technology and Civil Penalties Costs ($), HDPUV Fleet for Manufacturer (Rivian)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	0	0	0	0	0	0	0	0	0
Alternative HDPUV4	0	0	0	0	0	0	0	0	0
Alternative HDPUV10	0	0	0	0	0	0	0	0	0
Alternative HDPUV14	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.33 - Estimated Average Per Vehicle Technology and Civil Penalties Costs ($), HDPUV Fleet for Manufacturer (Stellantis)

Estimated Average Per Vehicle Technology and Civil Penalties Costs ($), HDPUV Fleet for Manufacturer (Stellantis)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	3,737	2,333	2,078	1,828	1,583	1,346	1,146	1,301	1,095
Alternative HDPUV4	3,737	2,334	2,078	1,828	1,584	1,346	1,147	1,301	1,095
Alternative HDPUV10	3,737	2,334	2,078	1,829	1,584	1,346	1,147	1,304	1,097
Alternative HDPUV14	3,737	2,333	2,078	1,828	1,584	1,346	1,147	1,304	1,097

Regulatory Cost per Vehicle, by Model Year

Table Error! No text of specified style in document.34 - Estimated Average Per Vehicle Regulatory Costs ($), HDPUV Fleet for Manufacturer (Total)

Estimated Average Per Vehicle Regulatory Costs ($), HDPUV Fleet for Manufacturer (Total)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	1,760	1,797	1,604	2,459	2,222	1,999	1,805	1,692	1,520
Alternative HDPUV4	1,762	1,800	1,606	2,463	2,226	2,003	1,808	1,695	1,523
Alternative HDPUV10	1,768	1,812	1,617	2,607	2,370	2,142	1,944	1,827	1,651
Alternative HDPUV14	1,793	2,149	1,937	3,022	2,762	2,696	2,479	2,344	2,153

Table Error! No text of specified style in document.35 - Estimated Average Per Vehicle Regulatory Costs ($), HDPUV Fleet for Manufacturer (Ford)

Estimated Average Per Vehicle Regulatory Costs ($), HDPUV Fleet for Manufacturer (Ford)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	3,321	3,090	2,834	3,724	3,442	3,182	2,946	2,716	2,519
Alternative HDPUV4	3,328	3,097	2,840	3,735	3,452	3,191	2,955	2,724	2,527
Alternative HDPUV10	3,344	3,112	2,854	3,748	3,464	3,202	2,966	2,734	2,536
Alternative HDPUV14	3,315	3,085	2,829	3,724	3,442	3,667	3,420	3,177	2,970

Table Error! No text of specified style in document.36 - Estimated Average Per Vehicle Regulatory Costs ($), HDPUV Fleet for Manufacturer (GM)

Estimated Average Per Vehicle Regulatory Costs ($), HDPUV Fleet for Manufacturer (GM)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	-1,498	-57	-184	1,489	1,288	1,092	934	779	645
Alternative HDPUV4	-1,498	-57	-184	1,489	1,288	1,092	934	780	646
Alternative HDPUV10	-1,498	-37	-165	1,941	1,743	1,531	1,361	1,195	1,051
Alternative HDPUV14	-1,384	1,092	906	3,318	3,043	2,776	2,559	2,346	2,162

Table Error! No text of specified style in document.37 - Estimated Average Per Vehicle Regulatory Costs ($), HDPUV Fleet for Manufacturer (Mercedes-Benz)

Estimated Average Per Vehicle Regulatory Costs ($), HDPUV Fleet for Manufacturer (Mercedes-Benz)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	1,797	1,555	1,293	3,879	3,468	3,064	2,715	2,373	2,080
Alternative HDPUV4	1,799	1,556	1,296	3,882	3,471	3,067	2,717	2,375	2,084
Alternative HDPUV10	1,799	1,556	1,296	3,882	3,470	3,066	2,717	2,375	2,083
Alternative HDPUV14	1,799	1,557	1,296	3,882	3,470	3,066	2,717	2,376	2,082

Table Error! No text of specified style in document.38 - Estimated Average Per Vehicle Regulatory Costs ($), HDPUV Fleet for Manufacturer (Nissan)

Estimated Average Per Vehicle Regulatory Costs ($), HDPUV Fleet for Manufacturer (Nissan)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	7,502	7,153	7,342	6,966	6,593	6,438	6,126	5,821	5,562
Alternative HDPUV4	7,502	7,153	7,338	6,960	6,588	6,433	6,121	5,817	5,559
Alternative HDPUV10	7,502	7,153	7,338	6,960	6,587	6,432	6,121	5,817	5,558
Alternative HDPUV14	7,502	7,153	7,339	6,959	6,586	6,432	6,122	5,818	5,559

Table Error! No text of specified style in document.39 - Estimated Average Per Vehicle Regulatory Costs ($), HDPUV Fleet for Manufacturer (Rivian)

Estimated Average Per Vehicle Regulatory Costs ($), HDPUV Fleet for Manufacturer (Rivian)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	0	0	0	0	0	0	0	0	0
Alternative HDPUV4	0	0	0	0	0	0	0	0	0
Alternative HDPUV10	0	0	0	0	0	0	0	0	0
Alternative HDPUV14	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.40 - Estimated Average Per Vehicle Regulatory Costs ($), HDPUV Fleet for Manufacturer (Stellantis)

Estimated Average Per Vehicle Regulatory Costs ($), HDPUV Fleet for Manufacturer (Stellantis)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Action Alternative (Baseline)	3,737	2,333	2,078	1,828	1,583	1,346	1,146	1,301	1,095
Alternative HDPUV4	3,737	2,334	2,078	1,828	1,584	1,346	1,147	1,301	1,095
Alternative HDPUV10	3,737	2,334	2,078	1,829	1,584	1,346	1,147	1,304	1,097
Alternative HDPUV14	3,737	2,333	2,078	1,828	1,584	1,346	1,147	1,304	1,097

Labor Impacts

Table Error! No text of specified style in document.41 - Estimated Labor Utilization (1000s of Person-Years), HDPUV Fleet for Manufacturer (Total)

Estimated Labor Utilization (1000s of Person-Years), HDPUV Fleet for Manufacturer (Total)				
Model Year	Regulatory Alternative			
	No Action	HDPUV4	HDPUV10	HDPUV14
2030	32,229	32,230	32,229	32,221
2031	32,185	32,185	32,185	32,154
2032	32,194	32,194	32,194	32,162
2033	32,251	32,251	32,240	32,201
2034	32,264	32,264	32,243	32,181
2035	32,251	32,251	32,231	32,146
2036	32,369	32,369	32,350	32,270
2037	32,617	32,617	32,599	32,524
2038	32,829	32,829	32,812	32,742

Table Error! No text of specified style in document.42 - Estimated Labor Utilization (1000s of Person-Years), HDPUV Fleet for Manufacturer (Ford)

Estimated Labor Utilization (1000s of Person-Years), HDPUV Fleet for Manufacturer (Ford)				
Model Year	Regulatory Alternative			
	No Action	HDPUV4	HDPUV10	HDPUV14
2030	5,077	5,077	5,077	5,076
2031	5,070	5,070	5,070	5,065
2032	5,072	5,072	5,072	5,067
2033	5,081	5,081	5,079	5,073
2034	5,083	5,083	5,079	5,070
2035	5,081	5,081	5,078	5,065
2036	5,100	5,100	5,096	5,084
2037	5,138	5,138	5,135	5,124
2038	5,171	5,172	5,169	5,158

Table Error! No text of specified style in document.43 - Estimated Labor Utilization (1000s of Person-Years), HDPUV Fleet for Manufacturer (GM)

Estimated Labor Utilization (1000s of Person-Years), HDPUV Fleet for Manufacturer (GM)				
Model Year	Regulatory Alternative			
	No Action	HDPUV4	HDPUV10	HDPUV14
2030	22,828	22,828	22,828	22,822
2031	22,796	22,796	22,796	22,774
2032	22,802	22,802	22,802	22,780
2033	22,842	22,842	22,835	22,807
2034	22,852	22,852	22,837	22,793
2035	22,842	22,843	22,828	22,767
2036	22,926	22,926	22,913	22,855
2037	23,102	23,102	23,089	23,035
2038	23,252	23,253	23,241	23,190

Table Error! No text of specified style in document.44 - Estimated Labor Utilization (1000s of Person-Years), HDPUV Fleet for Manufacturer (Mercedes-Benz)

Estimated Labor Utilization (1000s of Person-Years), HDPUV Fleet for Manufacturer (Mercedes-Benz)				
Model Year	Regulatory Alternative			
	No Action	HDPUV4	HDPUV10	HDPUV14
2030	377	377	377	377
2031	376	376	376	376
2032	376	376	376	376
2033	377	377	377	376
2034	377	377	377	376
2035	377	377	377	376
2036	378	378	378	377
2037	381	381	381	380
2038	384	384	383	383

Table Error! No text of specified style in document.45 - Estimated Labor Utilization (1000s of Person-Years), HDPUV Fleet for Manufacturer (Nissan)

Estimated Labor Utilization (1000s of Person-Years), HDPUV Fleet for Manufacturer (Nissan)				
Model Year	Regulatory Alternative			
	No Action	HDPUV4	HDPUV10	HDPUV14
2030	315	315	315	314
2031	314	314	314	314
2032	314	314	314	314
2033	315	315	315	314
2034	315	315	315	314
2035	315	315	314	314
2036	316	316	316	315
2037	318	318	318	317
2038	320	320	320	319

Table Error! No text of specified style in document.46 - Estimated Labor Utilization (1000s of Person-Years), HDPUV Fleet for Manufacturer (Rivian)

Estimated Labor Utilization (1000s of Person-Years), HDPUV Fleet for Manufacturer (Rivian)				
Model Year	Regulatory Alternative			
	No Action	HDPUV4	HDPUV10	HDPUV14
2030	776	776	776	775
2031	774	774	774	774
2032	775	775	775	774
2033	776	776	776	775
2034	776	776	776	774
2035	776	776	776	773
2036	779	779	778	776
2037	785	785	784	783
2038	790	790	790	788

Table Error! No text of specified style in document.47 - Estimated Labor Utilization (1000s of Person-Years), HDPUV Fleet for Manufacturer (Stellantis)

Estimated Labor Utilization (1000s of Person-Years), HDPUV Fleet for Manufacturer (Stellantis)				
Model Year	Regulatory Alternative			
	No Action	HDPUV4	HDPUV10	HDPUV14
2030	2,858	2,858	2,858	2,858
2031	2,854	2,854	2,854	2,851
2032	2,855	2,855	2,855	2,852
2033	2,860	2,860	2,859	2,856
2034	2,861	2,861	2,859	2,854
2035	2,860	2,860	2,858	2,851
2036	2,871	2,871	2,869	2,862
2037	2,893	2,892	2,891	2,884
2038	2,911	2,911	2,910	2,904

Table Error! No text of specified style in document.48 - Changes in Work Loss Days (thousand instances), HDPUV Fleet through MY 2038

Changes in Work Loss Days (thousand instances), HDPUV Fleet through MY 2038			
Category	Regulatory Alternative		
	HDPUV4	HDPUV10	HDPUV14
Work Loss Days from Upstream Emissions	0.062	1.461	7.085
Work Loss Days from Tailpipe Emissions	-0.119	-3.181	-15.663
Total Work Loss Days	-0.057	-1.719	-8.577

Compliance Impacts

Table Error! No text of specified style in document.**49 - Compliance Impacts and Cumulative Industry Costs by Model Year for HDPUV Fleet, No Action Alternative (Baseline)(Total)**

Compliance Impacts and Cumulative Industry Costs by Model Year for HDPUV Fleet, No Action Alternative (Baseline)(Total)										
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	Total
Fuel Economy										
Average Required (gal per 100 miles)	4.920	5.003	5.002	4.962	4.962	4.965	4.965	4.925	4.925	N/A
Change from Baseline (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	N/A
Average Achieved (gal per 100 miles)	3.270	2.771	2.766	2.229	2.229	2.225	2.225	2.160	2.160	N/A
Total Regulatory Costs										
Technology (non-Off-Cycle, non-AC) Costs ($b)	1.863	1.900	1.695	2.604	2.354	2.118	1.919	1.812	1.638	17.903
Off-Cycle Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
A/C Efficiency Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Subtotal Technology Costs ($b)	1.863	1.900	1.695	2.604	2.354	2.118	1.919	1.812	1.638	17.903
Total Civil Penalties ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Regulatory Costs ($b)	1.863	1.900	1.695	2.604	2.354	2.118	1.919	1.812	1.638	17.903
Sales Impacts										
Sales Change from Baseline (m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
HDPUV Specific Outcomes										
Average Work Factor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000

Table Error! No text of specified style in document.**50 - Compliance Impacts and Cumulative Industry Costs by Model Year for HDPUV Fleet, Alternative HDPUV4(Total)**

Compliance Impacts and Cumulative Industry Costs by Model Year for HDPUV Fleet, Alternative HDPUV4(Total)										
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	Total
Fuel Economy										
Average Required (gal per 100 miles)	4.723	4.610	4.425	4.214	4.046	3.886	3.886	3.855	3.855	N/A
Change from Baseline (%)	-4%	-8%	-12%	-15%	-18%	-22%	-22%	-22%	-22%	N/A
Average Achieved (gal per 100 miles)	3.269	2.769	2.764	2.227	2.227	2.223	2.223	2.158	2.158	N/A
Total Regulatory Costs										
Technology (non-Off-Cycle, non-AC) Costs ($b)	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.003	0.003	0.031
Off-Cycle Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
A/C Efficiency Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Subtotal Technology Costs ($b)	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.003	0.003	0.031
Total Civil Penalties ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Regulatory Costs ($b)	0.003	0.003	0.003	0.004	0.004	0.004	0.004	0.003	0.003	0.031
Sales Impacts										
Sales Change from Baseline (m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
HDPUV Specific Outcomes										
Average Work Factor	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.087

Table Error! No text of specified style in document.**51 - Compliance Impacts and Cumulative Industry Costs by Model Year for HDPUV Fleet, Alternative HDPUV10(Total)**

Compliance Impacts and Cumulative Industry Costs by Model Year for HDPUV Fleet, Alternative HDPUV10(Total)										
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	Total
Fuel Economy										
Average Required (gal per 100 miles)	4.427	4.051	3.646	3.255	2.930	2.638	2.638	2.616	2.616	N/A
Change from Baseline (%)	-10%	-19%	-27%	-34%	-41%	-47%	-47%	-47%	-47%	N/A
Average Achieved (gal per 100 miles)	3.266	2.764	2.759	2.160	2.157	2.153	2.153	2.088	2.088	N/A
Total Regulatory Costs										
Technology (non-Off-Cycle, non-AC) Costs ($b)	0.009	0.015	0.014	0.156	0.155	0.149	0.146	0.143	0.141	0.929
Off-Cycle Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
A/C Efficiency Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Subtotal Technology Costs ($b)	0.009	0.015	0.014	0.156	0.155	0.149	0.146	0.143	0.141	0.929
Total Civil Penalties ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Regulatory Costs ($b)	0.009	0.015	0.014	0.156	0.155	0.149	0.146	0.143	0.141	0.929
Sales Impacts										
Sales Change from Baseline (m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.004
HDPUV Specific Outcomes										
Average Work Factor	-0.01	0.01	0.00	0.01	0.02	0.02	0.04	0.03	0.04	0.162

Table Error! No text of specified style in document.**52 - Compliance Impacts and Cumulative Industry Costs by Model Year for HDPUV Fleet, Alternative HDPUV14(Total)**

Compliance Impacts and Cumulative Industry Costs by Model Year for HDPUV Fleet, Alternative HDPUV14(Total)										
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	Total
Fuel Economy										
Average Required (gal per 100 miles)	4.231	3.684	3.167	2.702	2.324	1.999	1.999	1.983	1.983	N/A
Change from Baseline (%)	-14%	-26%	-37%	-46%	-53%	-60%	-60%	-60%	-60%	N/A
Average Achieved (gal per 100 miles)	3.265	2.632	2.627	1.972	1.972	1.878	1.878	1.814	1.814	N/A
Total Regulatory Costs										
Technology (non-Off-Cycle, non-AC) Costs ($b)	0.034	0.370	0.351	0.591	0.565	0.729	0.709	0.692	0.676	4.716
Off-Cycle Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
A/C Efficiency Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Subtotal Technology Costs ($b)	0.034	0.370	0.351	0.591	0.565	0.729	0.709	0.692	0.676	4.716
Total Civil Penalties ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Regulatory Costs ($b)	0.034	0.370	0.351	0.591	0.565	0.729	0.709	0.692	0.676	4.716
Sales Impacts										
Sales Change from Baseline (m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.019
HDPUV Specific Outcomes										
Average Work Factor	-0.01	0.00	0.00	0.02	0.01	0.00	0.02	0.00	0.00	0.043

Table Error! No text of specified style in document.**53 - Compliance Impacts and Cumulative Industry Costs by Model Year for HDPUV Fleet, Alternative HDPUV10(Ford)**

Compliance Impacts and Cumulative Industry Costs by Model Year for HDPUV Fleet, Alternative HDPUV10(Ford)										
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	Total
Fuel Economy										
Average Required (gal per 100 miles)	4.305	3.874	3.487	3.078	2.771	2.497	2.497	2.497	2.497	N/A
Change from Baseline (%)	-10%	-19%	-27%	-34%	-41%	-47%	-47%	-47%	-47%	N/A
Average Achieved (gal per 100 miles)	2.768	2.768	2.768	2.138	2.138	2.131	2.131	2.131	2.131	N/A
Total Regulatory Costs										
Technology (non-Off-Cycle, non-AC) Costs ($b)	0.009	0.008	0.008	0.009	0.008	0.007	0.007	0.007	0.006	0.068
Off-Cycle Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
A/C Efficiency Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Subtotal Technology Costs ($b)	0.009	0.008	0.008	0.009	0.008	0.007	0.007	0.007	0.006	0.068
Total Civil Penalties ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Regulatory Costs ($b)	0.009	0.008	0.008	0.009	0.008	0.007	0.007	0.007	0.006	0.068
Sales Impacts										
Sales Change from Baseline (m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.001
HDPUV Specific Outcomes										
Average Work Factor	-0.01	0.00	0.00	-0.02	0.03	0.03	0.06	0.06	0.06	0.197

Table Error! No text of specified style in document.**54 - Compliance Impacts and Cumulative Industry Costs by Model Year for HDPUV Fleet, Alternative HDPUV10(GM)**

Compliance Impacts and Cumulative Industry Costs by Model Year for HDPUV Fleet, Alternative HDPUV10(GM)										
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	Total
Fuel Economy										
Average Required (gal per 100 miles)	4.906	4.326	3.894	3.512	3.160	2.844	2.844	2.844	2.844	N/A
Change from Baseline (%)	-10%	-19%	-27%	-34%	-41%	-47%	-47%	-47%	-47%	N/A
Average Achieved (gal per 100 miles)	4.492	3.812	3.812	2.764	2.753	2.753	2.753	2.753	2.753	N/A
Total Regulatory Costs										
Technology (non-Off-Cycle, non-AC) Costs ($b)	0.000	0.007	0.006	0.147	0.148	0.143	0.139	0.137	0.134	0.861
Off-Cycle Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
A/C Efficiency Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Subtotal Technology Costs ($b)	0.000	0.007	0.006	0.147	0.148	0.143	0.139	0.137	0.134	0.861
Total Civil Penalties ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Regulatory Costs ($b)	0.000	0.007	0.006	0.147	0.148	0.143	0.139	0.137	0.134	0.861
Sales Impacts										
Sales Change from Baseline (m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.001
HDPUV Specific Outcomes										
Average Work Factor	-0.01	0.01	0.01	0.02	0.03	0.04	0.04	0.03	0.01	0.192

Table Error! No text of specified style in document.**55 - Compliance Impacts and Cumulative Industry Costs by Model Year for HDPUV Fleet, Alternative HDPUV10(Mercedes-Benz)**

Compliance Impacts and Cumulative Industry Costs by Model Year for HDPUV Fleet, Alternative HDPUV10(Mercedes-Benz)										
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	Total
Fuel Economy										
Average Required (gal per 100 miles)	4.039	3.635	3.272	2.729	2.456	2.211	2.211	2.210	2.210	N/A
Change from Baseline (%)	-10%	-19%	-27%	-34%	-41%	-47%	-47%	-47%	-47%	N/A
Average Achieved (gal per 100 miles)	2.427	2.427	2.426	0.884	0.884	0.886	0.885	0.884	0.883	N/A
Total Regulatory Costs										
Technology (non-Off-Cycle, non-AC) Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Off-Cycle Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
A/C Efficiency Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Subtotal Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Civil Penalties ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Regulatory Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sales Impacts										
Sales Change from Baseline (m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
HDPUV Specific Outcomes										
Average Work Factor	0.00	0.00	0.00	-0.01	0.00	0.00	-0.02	0.01	0.01	-0.012

Table Error! No text of specified style in document.**56 - Compliance Impacts and Cumulative Industry Costs by Model Year for HDPUV Fleet, Alternative HDPUV10(Nissan)**

Compliance Impacts and Cumulative Industry Costs by Model Year for HDPUV Fleet, Alternative HDPUV10(Nissan)										
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	Total
Fuel Economy										
Average Required (gal per 100 miles)	3.744	3.370	2.995	2.695	2.426	2.183	2.183	2.183	2.183	N/A
Change from Baseline (%)	-10%	-19%	-27%	-34%	-41%	-47%	-47%	-47%	-47%	N/A
Average Achieved (gal per 100 miles)	1.721	1.720	1.429	1.429	1.429	1.322	1.323	1.322	1.322	N/A
Total Regulatory Costs										
Technology (non-Off-Cycle, non-AC) Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.001
Off-Cycle Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
A/C Efficiency Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Subtotal Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.001
Total Civil Penalties ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Regulatory Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.001
Sales Impacts										
Sales Change from Baseline (m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
HDPUV Specific Outcomes										
Average Work Factor	0.00	0.00	0.00	-0.04	0.02	0.02	0.02	0.03	0.02	0.068

Table Error! No text of specified style in document.**57 - Compliance Impacts and Cumulative Industry Costs by Model Year for HDPUV Fleet, Alternative HDPUV10(Rivian)**

Compliance Impacts and Cumulative Industry Costs by Model Year for HDPUV Fleet, Alternative HDPUV10(Rivian)										
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	Total
Fuel Economy										
Average Required (gal per 100 miles)	3.431	3.088	2.779	2.502	2.252	2.027	2.027	2.027	2.027	N/A
Change from Baseline (%)	-10%	-19%	-27%	-34%	-41%	-47%	-47%	-47%	-47%	N/A
Average Achieved (gal per 100 miles)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	N/A
Total Regulatory Costs										
Technology (non-Off-Cycle, non-AC) Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Off-Cycle Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
A/C Efficiency Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Subtotal Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Civil Penalties ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Regulatory Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sales Impacts										
Sales Change from Baseline (m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000
HDPUV Specific Outcomes										
Average Work Factor	0.00	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.082

Table Error! No text of specified style in document.58 - Compliance Impacts and Cumulative Industry Costs by Model Year for HDPUV Fleet, Alternative HDPUV10(Stellantis)

Compliance Impacts and Cumulative Industry Costs by Model Year for HDPUV Fleet, Alternative HDPUV10(Stellantis)										
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	Total
Fuel Economy										
Average Required (gal per 100 miles)	4.335	4.331	3.898	3.508	3.158	2.842	2.842	2.744	2.744	N/A
Change from Baseline (%)	-10%	-19%	-27%	-34%	-41%	-47%	-47%	-47%	-47%	N/A
Average Achieved (gal per 100 miles)	3.499	2.162	2.162	2.162	2.162	2.162	2.162	1.868	1.868	N/A
Total Regulatory Costs										
Technology (non-Off-Cycle, non-AC) Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
Off-Cycle Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
A/C Efficiency Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Subtotal Technology Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
Total Civil Penalties ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Regulatory Costs ($b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
Sales Impacts										
Sales Change from Baseline (m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.001
HDPUV Specific Outcomes										
Average Work Factor	0.01	0.02	0.01	0.03	0.00	0.00	0.00	-0.01	0.01	0.056

Table Error! No text of specified style in document.59 - Compliance Impacts and Cumulative Industry Costs for MY 2030 to 2038 HDPUV Fleet by Alternative for Manufacturer (Total)

Compliance Impacts and Cumulative Industry Costs for MY 2030 to 2038 HDPUV Fleet by Alternative for Manufacturer (Total)				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Fuel Economy				
Average Required (gal per 100 miles)	4.9	3.9	2.6	2.0
Percent Change from Baseline	0%	-22%	-47%	-60%
Average Achieved (gal per 100 miles)	2.2	2.2	2.1	1.8
Total Regulatory Costs				
Technology Application Costs ($b)	3.277	0.003	0.141	0.676
Off-Cycle Technology Costs ($b)	0.000	0.000	0.000	0.000
A/C Efficiency Technology Costs ($b)	0.000	0.000	0.000	0.000
Subtotal Technology Costs ($b)	3.277	0.003	0.141	0.676
Total Civil Penalties ($b)	0.000	0.000	0.000	0.000
Total Regulatory Costs ($b)	3.277	0.003	0.141	0.676
Sales Impacts				
Sales Change from Baseline (m)	0.00	0.00	0.00	-0.02
HDPUV Specific Outcomes				
Average Work Factor	0.00	-0.09	0.16	0.04

Table Error! No text of specified style in document.60 - Compliance Impacts and Cumulative Industry Costs for MY 2030 to 2038 HDPUV Fleet by Alternative for Manufacturer (Ford)

Compliance Impacts and Cumulative Industry Costs for MY 2030 to 2038 HDPUV Fleet by Alternative for Manufacturer (Ford)				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Fuel Economy				
Average Required (gal per 100 miles)	4.7	3.7	2.5	1.9
Percent Change from Baseline	0%	-22%	-47%	-60%
Average Achieved (gal per 100 miles)	2.1	2.1	2.1	1.9
Total Regulatory Costs				
Technology Application Costs ($b)	1.998	0.003	0.006	0.176
Off-Cycle Technology Costs ($b)	0.000	0.000	0.000	0.000
A/C Efficiency Technology Costs ($b)	0.000	0.000	0.000	0.000
Subtotal Technology Costs ($b)	1.998	0.003	0.006	0.176
Total Civil Penalties ($b)	0.000	0.000	0.000	0.000
Total Regulatory Costs ($b)	1.998	0.003	0.006	0.176
Sales Impacts				
Sales Change from Baseline (m)	0.00	0.00	0.00	-0.01
HDPUV Specific Outcomes				
Average Work Factor	0.00	-0.20	0.20	0.13

Table Error! No text of specified style in document.61 - Compliance Impacts and Cumulative Industry Costs for MY 2030 to 2038 HDPUV Fleet by Alternative for Manufacturer (GM)

Compliance Impacts and Cumulative Industry Costs for MY 2030 to 2038 HDPUV Fleet by Alternative for Manufacturer (GM)				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Fuel Economy				
Average Required (gal per 100 miles)	5.4	4.2	2.8	2.1
Percent Change from Baseline	0%	-22%	-47%	-60%
Average Achieved (gal per 100 miles)	3.0	3.0	2.8	2.1
Total Regulatory Costs				
Technology Application Costs ($b)	0.428	0.000	0.134	0.501
Off-Cycle Technology Costs ($b)	0.000	0.000	0.000	0.000
A/C Efficiency Technology Costs ($b)	0.000	0.000	0.000	0.000
Subtotal Technology Costs ($b)	0.428	0.000	0.134	0.501
Total Civil Penalties ($b)	0.000	0.000	0.000	0.000
Total Regulatory Costs ($b)	0.428	0.000	0.134	0.501
Sales Impacts				
Sales Change from Baseline (m)	0.00	0.00	0.00	-0.01
HDPUV Specific Outcomes				
Average Work Factor	0.00	0.08	0.19	-0.10

Table Error! No text of specified style in document.62 - Compliance Impacts and Cumulative Industry Costs for MY 2030 to 2038 HDPUV Fleet by Alternative for Manufacturer (Mercedes-Benz)

Compliance Impacts and Cumulative Industry Costs for MY 2030 to 2038 HDPUV Fleet by Alternative for Manufacturer (Mercedes-Benz)				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Fuel Economy				
Average Required (gal per 100 miles)	4.2	3.3	2.2	1.7
Percent Change from Baseline	0%	-22%	-47%	-60%
Average Achieved (gal per 100 miles)	0.9	0.9	0.9	0.9
Total Regulatory Costs				
Technology Application Costs ($b)	0.130	0.000	0.000	0.000
Off-Cycle Technology Costs ($b)	0.000	0.000	0.000	0.000
A/C Efficiency Technology Costs ($b)	0.000	0.000	0.000	0.000
Subtotal Technology Costs ($b)	0.130	0.000	0.000	0.000
Total Civil Penalties ($b)	0.000	0.000	0.000	0.000
Total Regulatory Costs ($b)	0.130	0.000	0.000	0.000
Sales Impacts				
Sales Change from Baseline (m)	0.00	0.00	0.00	0.00
HDPUV Specific Outcomes				
Average Work Factor	0.00	0.01	-0.01	0.25

Table Error! No text of specified style in document.63 - Compliance Impacts and Cumulative Industry Costs for MY 2030 to 2038 HDPUV Fleet by Alternative for Manufacturer (Nissan)

Compliance Impacts and Cumulative Industry Costs for MY 2030 to 2038 HDPUV Fleet by Alternative for Manufacturer (Nissan)				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Fuel Economy				
Average Required (gal per 100 miles)	4.1	3.2	2.2	1.7
Percent Change from Baseline	0%	-22%	-47%	-60%
Average Achieved (gal per 100 miles)	1.3	1.3	1.3	1.3
Total Regulatory Costs				
Technology Application Costs ($b)	0.204	0.000	0.000	0.000
Off-Cycle Technology Costs ($b)	0.000	0.000	0.000	0.000
A/C Efficiency Technology Costs ($b)	0.000	0.000	0.000	0.000
Subtotal Technology Costs ($b)	0.204	0.000	0.000	0.000
Total Civil Penalties ($b)	0.000	0.000	0.000	0.000
Total Regulatory Costs ($b)	0.204	0.000	0.000	0.000
Sales Impacts				
Sales Change from Baseline (m)	0.00	0.00	0.00	0.00
HDPUV Specific Outcomes				
Average Work Factor	0.00	0.02	0.07	-0.48

Table Error! No text of specified style in document.64 - Compliance Impacts and Cumulative Industry Costs for MY 2030 to 2038 HDPUV Fleet by Alternative for Manufacturer (Rivian)

Compliance Impacts and Cumulative Industry Costs for MY 2030 to 2038 HDPUV Fleet by Alternative for Manufacturer (Rivian)				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Fuel Economy				
Average Required (gal per 100 miles)	3.8	3.0	2.0	1.5
Percent Change from Baseline	0%	-22%	-47%	-60%
Average Achieved (gal per 100 miles)	0.0	0.0	0.0	0.0
Total Regulatory Costs				
Technology Application Costs ($b)	0.000	0.000	0.000	0.000
Off-Cycle Technology Costs ($b)	0.000	0.000	0.000	0.000
A/C Efficiency Technology Costs ($b)	0.000	0.000	0.000	0.000
Subtotal Technology Costs ($b)	0.000	0.000	0.000	0.000
Total Civil Penalties ($b)	0.000	0.000	0.000	0.000
Total Regulatory Costs ($b)	0.000	0.000	0.000	0.000
Sales Impacts				
Sales Change from Baseline (m)	0.00	0.00	0.00	0.00
HDPUV Specific Outcomes				
Average Work Factor	0.00	0.07	0.08	0.07

Table Error! No text of specified style in document.65 - Compliance Impacts and Cumulative Industry Costs for MY 2030 to 2038 HDPUV Fleet by Alternative for Manufacturer (Stellantis)

Compliance Impacts and Cumulative Industry Costs for MY 2030 to 2038 HDPUV Fleet by Alternative for Manufacturer (Stellantis)				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Fuel Economy				
Average Required (gal per 100 miles)	5.2	4.0	2.7	2.1
Percent Change from Baseline	0%	-22%	-47%	-60%
Average Achieved (gal per 100 miles)	1.9	1.9	1.9	1.9
Total Regulatory Costs				
Technology Application Costs ($b)	0.517	0.000	0.000	0.000
Off-Cycle Technology Costs ($b)	0.000	0.000	0.000	0.000
A/C Efficiency Technology Costs ($b)	0.000	0.000	0.000	0.000
Subtotal Technology Costs ($b)	0.517	0.000	0.000	0.000
Total Civil Penalties ($b)	0.000	0.000	0.000	0.000
Total Regulatory Costs ($b)	0.517	0.000	0.000	0.000
Sales Impacts				
Sales Change from Baseline (m)	0.00	0.00	0.00	0.00
HDPUV Specific Outcomes				
Average Work Factor	0.00	0.00	0.06	0.57

Powertrain Technology Penetration Rate, by Model Year

Table Error! No text of specified style in document.66 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) HDPUV Fleet, No Action Alternative (Baseline)

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) HDPUV Fleet, No Action Alternative (Baseline)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	11	7	6	3	3	3	3	3	3
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	10	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	17	17	17	17	17	17	17	17	17
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	25.7	36.0	36.0	26.0	26.0	26.0	26.0	26.0	26.0
Plug-In Hybrid Powertrains	0.0	4.4	4.4	13.3	13.3	13.3	13.3	9.1	9.1
Battery Electric Vehicles (BEVs)	31.4	35.2	35.3	40.5	40.5	40.5	40.5	44.6	44.6
BEV 1 Mile Range	23.7	27.5	27.6	32.7	32.7	32.7	32.7	36.9	36.9
BEV 2 Mile Range	7.7	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	43	24	24	20	20	20	20	20	20
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.67 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) HDPUV Fleet, Alternative HDPUV4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) HDPUV Fleet, Alternative HDPUV4									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	11	6	6	3	3	3	3	3	3
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	10	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	17	17	17	17	17	17	17	17	17
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	25.7	36.0	36.0	26.0	26.0	26.0	26.0	26.0	26.0
Plug-In Hybrid Powertrains	0.0	4.4	4.4	13.3	13.3	13.3	13.3	9.1	9.1
Battery Electric Vehicles (BEVs)	31.4	35.3	35.4	40.5	40.5	40.5	40.5	44.7	44.7
BEV 1 Mile Range	23.7	27.5	27.6	32.8	32.8	32.8	32.8	36.9	36.9
BEV 2 Mile Range	7.7	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	43	24	24	20	20	20	20	20	20
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.68 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) HDPUV Fleet, Alternative HDPUV10

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) HDPUV Fleet, Alternative HDPUV10									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	11	6	6	4	4	5	5	5	5
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	10	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	17	17	17	15	15	15	15	16	16
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	25.7	36.0	36.0	26.0	26.0	26.0	26.0	26.0	26.0
Plug-In Hybrid Powertrains	0.0	4.4	4.4	14.7	14.7	14.7	14.7	10.6	10.6
Battery Electric Vehicles (BEVs)	31.4	35.4	35.5	40.7	40.7	40.7	40.7	44.8	44.8
BEV 1 Mile Range	23.8	27.6	27.7	32.9	32.9	32.9	32.9	37.0	37.0
BEV 2 Mile Range	7.7	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	43	24	24	19	19	19	19	19	19
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.69 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) HDPUV Fleet, Alternative HDPUV14

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Total) HDPUV Fleet, Alternative HDPUV14									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	11	5	5	7	7	13	13	13	13
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	10	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	17	16	16	13	13	12	12	12	12
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	25.7	36.0	36.0	26.2	26.2	26.2	26.1	26.1	26.2
Plug-In Hybrid Powertrains	0.0	4.4	4.4	15.7	15.7	17.1	17.1	12.9	12.9
Battery Electric Vehicles (BEVs)	31.3	37.9	38.1	43.2	43.2	43.4	43.4	47.6	47.6
BEV 1 Mile Range	23.7	30.2	30.3	35.5	35.5	35.6	35.6	39.8	39.8
BEV 2 Mile Range	7.7	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	36	15	15	11	11	9	9	9	9
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	7	7	7	4	4	4	4	4	4
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.70 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ford) HDPUV Fleet, No Action Alternative (Baseline)

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ford) HDPUV Fleet, No Action Alternative (Baseline)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	11	11	11	2	2	2	2	2	2
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	0	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	21	21	21	19	19	19	19	19	19
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	40.0	40.0	40.0	51.0	51.0	51.0	51.0	51.0	51.0
BEV 1 Mile Range	37.0	37.0	37.0	47.9	47.9	47.9	47.9	47.9	47.9
BEV 2 Mile Range	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.1	3.1
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	32	32	32	21	21	21	21	21	21
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.71 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (GM) HDPUV Fleet, No Action Alternative (Baseline)

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (GM) HDPUV Fleet, No Action Alternative (Baseline)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	6	6	6	6	6	6	6	6	6
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	0	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	28	31	31	31	31	31	31	31	31
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	44.7	44.6	44.6	15.7	15.7	15.7	15.7	15.7	15.7
Plug-In Hybrid Powertrains	0.0	0.0	0.0	28.9	28.9	28.9	28.9	28.9	28.9
Battery Electric Vehicles (BEVs)	5.3	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8
BEV 1 Mile Range	3.8	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1
BEV 2 Mile Range	1.5	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	50	38	38	38	38	38	38	38	38
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.72 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mercedes-Benz) HDPUV Fleet, No Action Alternative (Baseline)

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mercedes-Benz) HDPUV Fleet, No Action Alternative (Baseline)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	0	0	0	0	0	0	0	0	0
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	0	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	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	0.0
Strong Hybrid Powertrains Total	60.5	60.4	60.4	20.8	20.8	20.8	20.8	20.7	20.7
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	39.5	39.6	39.6	79.2	79.2	79.2	79.2	79.3	79.3
BEV 1 Mile Range	37.9	37.9	37.9	77.6	77.6	77.5	77.6	77.6	77.6
BEV 2 Mile Range	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	0	0	0	0	0	0	0	0	0
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.73 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Nissan) HDPUV Fleet, No Action Alternative (Baseline)

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Nissan) HDPUV Fleet, No Action Alternative (Baseline)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	5	5	0	0	0	30	30	30	30
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	0	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	5	5	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	0.0
Strong Hybrid Powertrains Total	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	63.7	63.6	69.7	69.7	69.7	69.7	69.7	69.7	69.7
BEV 1 Mile Range	62.6	62.6	68.6	68.6	68.6	68.6	68.6	68.6	68.6
BEV 2 Mile Range	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	30	30	30	30	30	30	30	30	30
9-Speed Automatic	5	5	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.74 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Rivian) HDPUV Fleet, No Action Alternative (Baseline)

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Rivian) HDPUV Fleet, No Action Alternative (Baseline)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	0	0	0	0	0	0	0	0	0
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	0	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	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	0.0
Strong Hybrid Powertrains Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
BEV 1 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 2 Mile Range	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	0	0	0	0	0	0	0	0	0
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.75 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Stellantis) HDPUV Fleet, No Action Alternative (Baseline)

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Stellantis) HDPUV Fleet, No Action Alternative (Baseline)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	21	1	1	1	1	1	1	1	1
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	47	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	1	0	0	0	0	0	0	1	1
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	47.4	47.4	47.4	47.4	47.4	47.4	47.4	47.4
Plug-In Hybrid Powertrains	0.0	20.0	20.0	20.0	20.0	20.0	20.0	1.1	1.1
Battery Electric Vehicles (BEVs)	31.3	31.3	31.3	31.3	31.3	31.3	31.3	50.1	50.1
BEV 1 Mile Range	30.8	30.8	30.8	30.8	30.8	30.8	30.8	49.6	49.6
BEV 2 Mile Range	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	69	1	1	1	1	1	1	1	1
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.76 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ford) HDPUV Fleet, Alternative HDPUV4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ford) HDPUV Fleet, Alternative HDPUV4									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	11	11	11	2	2	2	2	2	2
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	0	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	21	21	21	19	19	19	19	19	19
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	40.1	40.1	40.1	51.1	51.1	51.1	51.1	51.1	51.1
BEV 1 Mile Range	37.0	37.0	37.0	48.0	48.0	48.0	48.0	48.0	48.0
BEV 2 Mile Range	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.1	3.1
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	32	32	32	21	21	21	21	21	21
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.77 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (GM) HDPUV Fleet, Alternative HDPUV4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (GM) HDPUV Fleet, Alternative HDPUV4									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	6	6	6	6	6	6	6	6	6
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	0	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	28	31	31	31	31	31	31	31	31
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	44.7	44.6	44.6	15.7	15.7	15.7	15.7	15.7	15.7
Plug-In Hybrid Powertrains	0.0	0.0	0.0	28.9	28.9	28.9	28.9	28.9	28.9
Battery Electric Vehicles (BEVs)	5.3	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8
BEV 1 Mile Range	3.8	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1
BEV 2 Mile Range	1.5	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	50	38	38	38	38	38	38	38	38
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.78 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mercedes-Benz) HDPUV Fleet, Alternative HDPUV4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mercedes-Benz) HDPUV Fleet, Alternative HDPUV4									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	0	0	0	0	0	0	0	0	0
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	0	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	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	0.0
Strong Hybrid Powertrains Total	60.4	60.4	60.4	20.7	20.7	20.8	20.8	20.7	20.7
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	39.6	39.6	39.6	79.3	79.3	79.2	79.2	79.3	79.3
BEV 1 Mile Range	37.9	37.9	37.9	77.6	77.6	77.5	77.6	77.6	77.6
BEV 2 Mile Range	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	0	0	0	0	0	0	0	0	0
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.79 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Nissan) HDPUV Fleet, Alternative HDPUV4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Nissan) HDPUV Fleet, Alternative HDPUV4									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	5	5	0	0	0	30	30	30	30
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	0	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	5	5	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	0.0
Strong Hybrid Powertrains Total	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	63.6	63.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6
BEV 1 Mile Range	62.6	62.6	68.5	68.5	68.5	68.5	68.5	68.5	68.5
BEV 2 Mile Range	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	30	30	30	30	30	30	30	30	30
9-Speed Automatic	5	5	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.80 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Rivian) HDPUV Fleet, Alternative HDPUV4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Rivian) HDPUV Fleet, Alternative HDPUV4									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	0	0	0	0	0	0	0	0	0
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	0	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	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	0.0
Strong Hybrid Powertrains Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
BEV 1 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 2 Mile Range	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	0	0	0	0	0	0	0	0	0
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.81 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Stellantis) HDPUV Fleet, Alternative HDPUV4

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Stellantis) HDPUV Fleet, Alternative HDPUV4									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	21	1	1	1	1	1	1	1	1
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	47	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	1	0	0	0	0	0	0	1	1
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	47.4	47.4	47.4	47.4	47.4	47.4	47.4	47.4
Plug-In Hybrid Powertrains	0.0	20.0	20.0	20.0	20.0	20.0	20.0	1.2	1.2
Battery Electric Vehicles (BEVs)	31.3	31.3	31.3	31.3	31.3	31.3	31.3	50.1	50.1
BEV 1 Mile Range	30.8	30.8	30.8	30.8	30.8	30.8	30.8	49.6	49.6
BEV 2 Mile Range	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	69	1	1	1	1	1	1	1	1
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.82 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ford) HDPUV Fleet, Alternative HDPUV10

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ford) HDPUV Fleet, Alternative HDPUV10									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	11	11	11	2	2	2	2	2	2
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	0	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	21	21	21	19	19	19	19	19	19
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	40.2	40.2	40.2	51.2	51.2	51.2	51.2	51.2	51.2
BEV 1 Mile Range	37.2	37.2	37.2	48.2	48.2	48.2	48.2	48.2	48.2
BEV 2 Mile Range	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.1	3.1
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	32	32	32	21	21	21	21	21	21
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.83 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (GM) HDPUV Fleet, Alternative HDPUV10

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (GM) HDPUV Fleet, Alternative HDPUV10									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	6	6	6	9	11	11	11	11	11
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	0	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	28	31	31	27	27	27	27	27	27
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	44.7	44.6	44.6	15.7	15.7	15.7	15.7	15.7	15.7
Plug-In Hybrid Powertrains	0.0	0.0	0.0	33.7	33.7	33.7	33.7	33.7	33.7
Battery Electric Vehicles (BEVs)	5.3	18.0	18.0	18.0	18.0	18.0	18.0	18.0	18.0
BEV 1 Mile Range	3.8	16.3	16.3	16.3	16.3	16.3	16.3	16.3	16.3
BEV 2 Mile Range	1.5	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	50	37	37	33	33	33	33	33	33
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.84 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mercedes-Benz) HDPUV Fleet, Alternative HDPUV10

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mercedes-Benz) HDPUV Fleet, Alternative HDPUV10									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	0	0	0	0	0	0	0	0	0
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	0	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	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	0.0
Strong Hybrid Powertrains Total	60.4	60.4	60.4	20.7	20.7	20.8	20.8	20.7	20.7
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	39.6	39.6	39.6	79.3	79.3	79.2	79.2	79.3	79.3
BEV 1 Mile Range	37.9	37.9	37.9	77.6	77.6	77.5	77.6	77.6	77.6
BEV 2 Mile Range	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	0	0	0	0	0	0	0	0	0
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.85 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Nissan) HDPUV Fleet, Alternative HDPUV10

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Nissan) HDPUV Fleet, Alternative HDPUV10									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	5	5	0	0	0	30	30	30	30
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	0	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	5	5	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	0.0
Strong Hybrid Powertrains Total	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	63.6	63.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6
BEV 1 Mile Range	62.6	62.6	68.5	68.5	68.5	68.5	68.5	68.5	68.5
BEV 2 Mile Range	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	30	30	30	30	30	30	30	30	30
9-Speed Automatic	5	5	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.86 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Rivian) HDPUV Fleet, Alternative HDPUV10

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Rivian) HDPUV Fleet, Alternative HDPUV10									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	0	0	0	0	0	0	0	0	0
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	0	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	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	0.0
Strong Hybrid Powertrains Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
BEV 1 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 2 Mile Range	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	0	0	0	0	0	0	0	0	0
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.87 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Stellantis) HDPUV Fleet, Alternative HDPUV10

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Stellantis) HDPUV Fleet, Alternative HDPUV10									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	21	1	1	1	1	1	1	1	1
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	47	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	1	0	0	0	0	0	0	1	1
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	47.4	47.4	47.4	47.4	47.4	47.4	47.4	47.4
Plug-In Hybrid Powertrains	0.0	20.0	20.0	20.0	20.0	20.0	20.0	1.0	1.0
Battery Electric Vehicles (BEVs)	31.3	31.3	31.3	31.3	31.3	31.3	31.3	50.2	50.2
BEV 1 Mile Range	30.8	30.8	30.8	30.8	30.8	30.8	30.8	49.7	49.7
BEV 2 Mile Range	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	69	1	1	1	1	1	1	1	1
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.88 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ford) HDPUV Fleet, Alternative HDPUV14

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Ford) HDPUV Fleet, Alternative HDPUV14									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	12	12	12	2	2	17	17	17	17
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	0	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	21	21	21	20	20	15	15	15	15
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	3.8	3.8	3.8	3.8
Battery Electric Vehicles (BEVs)	40.0	40.0	40.0	50.9	50.9	51.4	51.4	51.4	51.4
BEV 1 Mile Range	36.9	36.9	36.9	47.9	47.9	48.3	48.3	48.3	48.3
BEV 2 Mile Range	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.1	3.1
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	32	32	32	21	21	17	17	17	17
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.89 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (GM) HDPUV Fleet, Alternative HDPUV14

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (GM) HDPUV Fleet, Alternative HDPUV14									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	6	0	0	20	20	20	20	20	20
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	0	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	28	28	28	20	20	20	20	20	20
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	44.7	44.6	44.6	16.3	16.3	16.3	16.3	16.3	16.3
Plug-In Hybrid Powertrains	0.0	0.0	0.0	36.7	36.7	36.7	36.7	36.7	36.7
Battery Electric Vehicles (BEVs)	5.3	26.7	26.7	26.7	26.7	26.7	26.7	26.7	26.7
BEV 1 Mile Range	3.8	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
BEV 2 Mile Range	1.5	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	28	7	7	7	7	7	7	7	7
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	22	22	22	14	14	14	14	14	14
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.90 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mercedes-Benz) HDPUV Fleet, Alternative HDPUV14

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Mercedes-Benz) HDPUV Fleet, Alternative HDPUV14									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	0	0	0	0	0	0	0	0	0
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	0	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	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	0.0
Strong Hybrid Powertrains Total	60.4	60.4	60.4	20.7	20.8	20.8	20.7	20.7	20.7
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	39.6	39.6	39.6	79.3	79.2	79.2	79.3	79.3	79.3
BEV 1 Mile Range	37.9	37.9	37.9	77.5	77.5	77.5	77.6	77.6	77.6
BEV 2 Mile Range	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	0	0	0	0	0	0	0	0	0
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.91 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Nissan) HDPUV Fleet, Alternative HDPUV14

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Nissan) HDPUV Fleet, Alternative HDPUV14									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	5	5	0	0	0	30	30	30	30
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	0	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	5	5	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	0.0
Strong Hybrid Powertrains Total	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	63.6	63.6	69.6	69.6	69.6	69.6	69.6	69.6	69.6
BEV 1 Mile Range	62.6	62.6	68.5	68.5	68.5	68.5	68.5	68.5	68.5
BEV 2 Mile Range	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	30	30	30	30	30	30	30	30	30
9-Speed Automatic	5	5	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.92 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Rivian) HDPUV Fleet, Alternative HDPUV14

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Rivian) HDPUV Fleet, Alternative HDPUV14									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	0	0	0	0	0	0	0	0	0
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	0	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	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	0.0
Strong Hybrid Powertrains Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Plug-In Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
BEV 1 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 2 Mile Range	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	0	0	0	0	0	0	0	0	0
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.93 - Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Stellantis) HDPUV Fleet, Alternative HDPUV14

Powertrain Technology Penetration Rate (%) by Model Year for Manufacturer (Stellantis) HDPUV Fleet, Alternative HDPUV14									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Non-Hybrid High Compression Engines	0	0	0	0	0	0	0	0	0
Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0	0	0	0	0	0
Non-Hybrid Turbocharged Engines	21	1	1	1	1	1	1	1	1
Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0	0	0	0	0	0
Diesel Engines	47	0	0	0	0	0	0	0	0
Compressed Natural Gas	0	0	0	0	0	0	0	0	0
12V Stop-Start (non-hybrid)	1	0	0	0	0	0	0	1	1
Mild Hybrid Powertrains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Strong Hybrid Powertrains Total	0.0	47.4	47.4	47.4	47.4	47.4	47.4	47.4	47.4
Plug-In Hybrid Powertrains	0.0	20.0	20.0	20.0	20.0	20.0	20.0	1.0	1.0
Battery Electric Vehicles (BEVs)	31.3	31.3	31.3	31.3	31.3	31.3	31.3	50.2	50.2
BEV 1 Mile Range	30.8	30.8	30.8	30.8	30.8	30.8	30.8	49.7	49.7
BEV 2 Mile Range	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
BEV 3 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BEV 4 Mile Range	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fuel Cell Vehicles (FCVs)	0.0	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
6-Speed Automatic	0	0	0	0	0	0	0	0	0
7-Speed Automatic	0	0	0	0	0	0	0	0	0
8-Speed Automatic	69	1	1	1	1	1	1	1	1
9-Speed Automatic	0	0	0	0	0	0	0	0	0
10-Speed Automatic	0	0	0	0	0	0	0	0	0
DCT Transmissions	0	0	0	0	0	0	0	0	0
CVT Transmissions	0	0	0	0	0	0	0	0	0

Mass Reduction Penetration Rate, by Model Year

Table Error! No text of specified style in document.94 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) HDPUV Fleet, No Action Alternative (Baseline)

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) HDPUV Fleet, No Action Alternative (Baseline)									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Mass Reduction Level 0 (%)	61	46	46	23	23	6	6	6	6
Mass Reduction Level 1 (%)	24	39	39	62	62	79	79	79	79
Mass Reduction Level 2 (%)	15	15	15	15	15	15	15	15	15
Avg Curb Weight - Fleet (pounds)	6,788	6,776	6,776	6,759	6,759	6,747	6,747	6,747	6,747

Table Error! No text of specified style in document.95 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) HDPUV Fleet, Alternative HDPUV4

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) HDPUV Fleet, Alternative HDPUV4									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Mass Reduction Level 0 (%)	61	46	46	23	23	6	6	6	6
Mass Reduction Level 1 (%)	24	39	39	62	62	79	79	79	79
Mass Reduction Level 2 (%)	15	15	15	15	15	15	15	15	15
Avg Curb Weight - Fleet (pounds)	6,788	6,776	6,776	6,759	6,759	6,747	6,747	6,747	6,747
Diff. from Baseline - Fleet (pounds)	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.96 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) HDPUV Fleet, Alternative HDPUV10

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) HDPUV Fleet, Alternative HDPUV10									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Mass Reduction Level 0 (%)	61	46	46	23	23	6	6	6	6
Mass Reduction Level 1 (%)	24	39	39	62	62	79	79	79	79
Mass Reduction Level 2 (%)	15	15	15	15	15	15	15	15	15
Avg Curb Weight - Fleet (pounds)	6,788	6,776	6,776	6,759	6,759	6,747	6,747	6,747	6,747
Diff. from Baseline - Fleet (pounds)	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.97 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) HDPUV Fleet, Alternative HDPUV14

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Total) HDPUV Fleet, Alternative HDPUV14									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Mass Reduction Level 0 (%)	61	46	46	23	23	6	6	6	6
Mass Reduction Level 1 (%)	24	39	39	62	62	79	79	79	79
Mass Reduction Level 2 (%)	15	15	15	15	15	15	15	15	15
Avg Curb Weight - Fleet (pounds)	6,788	6,776	6,776	6,759	6,759	6,747	6,747	6,747	6,747
Diff. from Baseline - Fleet (pounds)	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.98 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Ford) HDPUV Fleet, Alternative HDPUV10

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Ford) HDPUV Fleet, Alternative HDPUV10									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Mass Reduction Level 0 (%)	47	47	47	47	47	1	1	1	1
Mass Reduction Level 1 (%)	12	12	12	12	12	59	59	59	59
Mass Reduction Level 2 (%)	41	41	41	41	41	41	41	41	41
Avg Curb Weight - Fleet (pounds)	6,509	6,509	6,509	6,509	6,509	6,475	6,475	6,475	6,475
Diff. from Baseline - Fleet (pounds)	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.99 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (GM) HDPUV Fleet, Alternative HDPUV10

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (GM) HDPUV Fleet, Alternative HDPUV10									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Mass Reduction Level 0 (%)	73	73	73	0	0	0	0	0	0
Mass Reduction Level 1 (%)	27	27	27	100	100	100	100	100	100
Mass Reduction Level 2 (%)	0	0	0	0	0	0	0	0	0
Avg Curb Weight - Fleet (pounds)	7,024	7,024	7,024	6,971	6,971	6,971	6,971	6,971	6,971
Diff. from Baseline - Fleet (pounds)	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.100 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Mercedes-Benz) HDPUV Fleet, Alternative HDPUV10

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Mercedes-Benz) HDPUV Fleet, Alternative HDPUV10									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Mass Reduction Level 0 (%)	0	0	0	0	0	0	0	0	0
Mass Reduction Level 1 (%)	100	100	100	100	100	100	100	100	100
Mass Reduction Level 2 (%)	0	0	0	0	0	0	0	0	0
Avg Curb Weight - Fleet (pounds)	5,569	5,569	5,569	5,569	5,569	5,569	5,569	5,569	5,569
Diff. from Baseline - Fleet (pounds)	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.101 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Nissan) HDPUV Fleet, Alternative HDPUV10

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Nissan) HDPUV Fleet, Alternative HDPUV10									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Mass Reduction Level 0 (%)	0	0	0	0	0	0	0	0	0
Mass Reduction Level 1 (%)	100	100	100	100	100	100	100	100	100
Mass Reduction Level 2 (%)	0	0	0	0	0	0	0	0	0
Avg Curb Weight - Fleet (pounds)	6,087	6,087	6,087	6,087	6,087	6,087	6,087	6,087	6,087
Diff. from Baseline - Fleet (pounds)	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.102 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Rivian) HDPUV Fleet, Alternative HDPUV10

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Rivian) HDPUV Fleet, Alternative HDPUV10									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Mass Reduction Level 0 (%)	100	100	100	100	100	100	100	100	100
Mass Reduction Level 1 (%)	0	0	0	0	0	0	0	0	0
Mass Reduction Level 2 (%)	0	0	0	0	0	0	0	0	0
Avg Curb Weight - Fleet (pounds)	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500
Diff. from Baseline - Fleet (pounds)	0	0	0	0	0	0	0	0	0

Table Error! No text of specified style in document.103 - Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Stellantis) HDPUV Fleet, Alternative HDPUV10

Mass Reduction Penetration Rate and Curb Weights by Model Year for Manufacturer (Stellantis) HDPUV Fleet, Alternative HDPUV10									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Mass Reduction Level 0 (%)	71	0	0	0	0	0	0	0	0
Mass Reduction Level 1 (%)	29	100	100	100	100	100	100	100	100
Mass Reduction Level 2 (%)	0	0	0	0	0	0	0	0	0
Avg Curb Weight - Fleet (pounds)	6,946	6,892	6,892	6,892	6,892	6,892	6,892	6,892	6,892
Diff. from Baseline - Fleet (pounds)	0	0	0	0	0	0	0	0	0

Powertrain Technology Penetration Rate, by Alternative

Table Error! No text of specified style in document.104 - Powertrain Technology Penetration Rate (%) for Manufacturer (Total), MY 2038 HDPUV Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Total), MY 2038 HDPUV Fleet by Alternative				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Non-Hybrid High Compression Engines	0	0	0	0
Cylinder Deactivation	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0
Non-Hybrid Turbocharged Engines	3	3	5	13
Variable Geometry Turbo	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0
Diesel Engines	0	0	0	0
Compressed Natural Gas	0	0	0	0
12V Stop-Start (non-hybrid)	17	17	16	12
Mild Hybrid	0.0	0.0	0.0	0.0
Strong Hybrid	26.0	26.0	26.0	26.2
Plug-In Hybrid	9.1	9.1	10.6	12.9
Battery Electric Vehicles (BEVs)	44.64	44.68	44.81	47.55
BEV 1 Mile Range	36.86	36.89	37.03	39.77
BEV 2 Mile Range	7.79	7.79	7.79	7.79
BEV 3 Mile Range	0.00	0.00	0.00	0.00
BEV 4 Mile Range	0.00	0.00	0.00	0.00
Fuel Cell Vehicles (FCVs)	0.00	0.00	0.00	0.00
5-Speed Automatic	0	0	0	0
6-Speed Automatic	0	0	0	0
7-Speed Automatic	0	0	0	0
8-Speed Automatic	20	20	19	9
9-Speed Automatic	0	0	0	0
10-Speed Automatic	0	0	0	4
DCT Transmissions	0	0	0	0
CVT Transmissions	0	0	0	0

Table Error! No text of specified style in document.105 - Powertrain Technology Penetration Rate (%) for Manufacturer (Ford), MY 2038 HDPUV Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Ford), MY 2038 HDPUV Fleet by Alternative				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Non-Hybrid High Compression Engines	0	0	0	0
Cylinder Deactivation	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0
Non-Hybrid Turbocharged Engines	2	2	2	17
Variable Geometry Turbo	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0
Diesel Engines	0	0	0	0
Compressed Natural Gas	0	0	0	0
12V Stop-Start (non-hybrid)	19	19	19	15
Mild Hybrid	0.0	0.0	0.0	0.0
Strong Hybrid	27.6	27.6	27.6	27.6
Plug-In Hybrid	0.0	0.0	0.0	3.8
Battery Electric Vehicles (BEVs)	50.98	51.08	51.23	51.37
BEV 1 Mile Range	47.92	48.02	48.18	48.32
BEV 2 Mile Range	3.06	3.05	3.05	3.05
BEV 3 Mile Range	0.00	0.00	0.00	0.00
BEV 4 Mile Range	0.00	0.00	0.00	0.00
Fuel Cell Vehicles (FCVs)	0.00	0.00	0.00	0.00
5-Speed Automatic	0	0	0	0
6-Speed Automatic	0	0	0	0
7-Speed Automatic	0	0	0	0
8-Speed Automatic	21	21	21	17
9-Speed Automatic	0	0	0	0
10-Speed Automatic	0	0	0	0
DCT Transmissions	0	0	0	0
CVT Transmissions	0	0	0	0

Table Error! No text of specified style in document.106 - Powertrain Technology Penetration Rate (%) for Manufacturer (GM), MY 2038 HDPUV Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (GM), MY 2038 HDPUV Fleet by Alternative				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Non-Hybrid High Compression Engines	0	0	0	0
Cylinder Deactivation	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0
Non-Hybrid Turbocharged Engines	6	6	11	20
Variable Geometry Turbo	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0
Diesel Engines	0	0	0	0
Compressed Natural Gas	0	0	0	0
12V Stop-Start (non-hybrid)	31	31	27	20
Mild Hybrid	0.0	0.0	0.0	0.0
Strong Hybrid	15.7	15.7	15.7	16.3
Plug-In Hybrid	28.9	28.9	33.7	36.7
Battery Electric Vehicles (BEVs)	17.84	17.84	18.02	26.74
BEV 1 Mile Range	16.08	16.08	16.26	24.98
BEV 2 Mile Range	1.76	1.76	1.76	1.76
BEV 3 Mile Range	0.00	0.00	0.00	0.00
BEV 4 Mile Range	0.00	0.00	0.00	0.00
Fuel Cell Vehicles (FCVs)	0.00	0.00	0.00	0.00
5-Speed Automatic	0	0	0	0
6-Speed Automatic	0	0	0	0
7-Speed Automatic	0	0	0	0
8-Speed Automatic	38	38	33	7
9-Speed Automatic	0	0	0	0
10-Speed Automatic	0	0	0	14
DCT Transmissions	0	0	0	0
CVT Transmissions	0	0	0	0

Table Error! No text of specified style in document.107 - Powertrain Technology Penetration Rate (%) for Manufacturer (Mercedes-Benz), MY 2038 HDPUV Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Mercedes-Benz), MY 2038 HDPUV Fleet by Alternative				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Non-Hybrid High Compression Engines	0	0	0	0
Cylinder Deactivation	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0
Non-Hybrid Turbocharged Engines	0	0	0	0
Variable Geometry Turbo	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0
Diesel Engines	0	0	0	0
Compressed Natural Gas	0	0	0	0
12V Stop-Start (non-hybrid)	0	0	0	0
Mild Hybrid	0.0	0.0	0.0	0.0
Strong Hybrid	20.7	20.7	20.7	20.7
Plug-In Hybrid	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	79.26	79.28	79.28	79.27
BEV 2 Mile Range	1.69	1.70	1.70	1.70
BEV 3 Mile Range	0.00	0.00	0.00	0.00
BEV 4 Mile Range	0.00	0.00	0.00	0.00
BEV 1 Mile Range	77.57	77.58	77.58	77.57
Fuel Cell Vehicles (FCVs)	0.00	0.00	0.00	0.00
5-Speed Automatic	0	0	0	0
6-Speed Automatic	0	0	0	0
7-Speed Automatic	0	0	0	0
8-Speed Automatic	0	0	0	0
9-Speed Automatic	0	0	0	0
10-Speed Automatic	0	0	0	0
DCT Transmissions	0	0	0	0
CVT Transmissions	0	0	0	0

Table Error! No text of specified style in document.108 - Powertrain Technology Penetration Rate (%) for Manufacturer (Nissan), MY 2038 HDPUV Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Nissan), MY 2038 HDPUV Fleet by Alternative				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Non-Hybrid High Compression Engines	0	0	0	0
Cylinder Deactivation	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0
Non-Hybrid Turbocharged Engines	30	30	30	30
Variable Geometry Turbo	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0
Diesel Engines	0	0	0	0
Compressed Natural Gas	0	0	0	0
12V Stop-Start (non-hybrid)	0	0	0	0
Mild Hybrid	0.0	0.0	0.0	0.0
Strong Hybrid	0.0	0.0	0.0	0.0
Plug-In Hybrid	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	69.68	69.63	69.63	69.63
BEV 2 Mile Range	1.12	1.12	1.12	1.12
BEV 3 Mile Range	0.00	0.00	0.00	0.00
BEV 4 Mile Range	0.00	0.00	0.00	0.00
BEV 1 Mile Range	68.55	68.51	68.51	68.51
Fuel Cell Vehicles (FCVs)	0.00	0.00	0.00	0.00
5-Speed Automatic	0	0	0	0
6-Speed Automatic	0	0	0	0
7-Speed Automatic	0	0	0	0
8-Speed Automatic	30	30	30	30
9-Speed Automatic	0	0	0	0
10-Speed Automatic	0	0	0	0
DCT Transmissions	0	0	0	0
CVT Transmissions	0	0	0	0

Table Error! No text of specified style in document.109 - Powertrain Technology Penetration Rate (%) for Manufacturer (Rivian), MY 2038 HDPUV Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Rivian), MY 2038 HDPUV Fleet by Alternative				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Non-Hybrid High Compression Engines	0	0	0	0
Cylinder Deactivation	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0
Non-Hybrid Turbocharged Engines	0	0	0	0
Variable Geometry Turbo	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0
Diesel Engines	0	0	0	0
Compressed Natural Gas	0	0	0	0
12V Stop-Start (non-hybrid)	0	0	0	0
Mild Hybrid	0.0	0.0	0.0	0.0
Strong Hybrid	0.0	0.0	0.0	0.0
Plug-In Hybrid	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	100.00	100.00	100.00	100.00
BEV 2 Mile Range	100.00	100.00	100.00	100.00
BEV 3 Mile Range	0.00	0.00	0.00	0.00
BEV 4 Mile Range	0.00	0.00	0.00	0.00
BEV 1 Mile Range	0.00	0.00	0.00	0.00
Fuel Cell Vehicles (FCVs)	0.00	0.00	0.00	0.00
5-Speed Automatic	0	0	0	0
6-Speed Automatic	0	0	0	0
7-Speed Automatic	0	0	0	0
8-Speed Automatic	0	0	0	0
9-Speed Automatic	0	0	0	0
10-Speed Automatic	0	0	0	0
DCT Transmissions	0	0	0	0
CVT Transmissions	0	0	0	0

Table Error! No text of specified style in document.110 - Powertrain Technology Penetration Rate (%) for Manufacturer (Stellantis), MY 2038 HDPUV Fleet by Alternative

Powertrain Technology Penetration Rate (%) for Manufacturer (Stellantis), MY 2038 HDPUV Fleet by Alternative				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Non-Hybrid High Compression Engines	0	0	0	0
Cylinder Deactivation	0	0	0	0
Dynamic Cylinder Deactivation	0	0	0	0
Non-Hybrid Turbocharged Engines	1	1	1	1
Variable Geometry Turbo	0	0	0	0
Electric Variable Geometry Turbo	0	0	0	0
Diesel Engines	0	0	0	0
Compressed Natural Gas	0	0	0	0
12V Stop-Start (non-hybrid)	1	1	1	1
Mild Hybrid	0.0	0.0	0.0	0.0
Strong Hybrid	47.4	47.4	47.4	47.4
Plug-In Hybrid	1.1	1.2	1.0	1.0
Battery Electric Vehicles (BEVs)	50.10	50.08	50.20	50.23
BEV 2 Mile Range	0.48	0.48	0.48	0.48
BEV 3 Mile Range	0.00	0.00	0.00	0.00
BEV 4 Mile Range	0.00	0.00	0.00	0.00
BEV 1 Mile Range	49.63	49.60	49.72	49.75
Fuel Cell Vehicles (FCVs)	0.00	0.00	0.00	0.00
5-Speed Automatic	0	0	0	0
6-Speed Automatic	0	0	0	0
7-Speed Automatic	0	0	0	0
8-Speed Automatic	1	1	1	1
9-Speed Automatic	0	0	0	0
10-Speed Automatic	0	0	0	0
DCT Transmissions	0	0	0	0
CVT Transmissions	0	0	0	0

Electrification Rates

Table Error! No text of specified style in document.111 - Electrification Rates (%) for Manufacturer (Total), MY 2038 HDPUV Fleet by Alternative

Electrification Rates (%) for Manufacturer (Total), MY 2038 HDPUV Fleet by Alternative				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Mild Hybrid	0.0	0.0	0.0	0.0
Strong Hybrid	26.0	26.0	26.0	26.2
Plug-In Hybrid	9.1	9.1	10.6	12.9
Battery Electric Vehicles (BEVs)	44.64	44.68	44.81	47.55
BEV 1 Mile Range	36.86	36.89	37.03	39.77
BEV 2 Mile Range	7.79	7.79	7.79	7.79
BEV 3 Mile Range	0.00	0.00	0.00	0.00
BEV 4 Mile Range	0.00	0.00	0.00	0.00
Fuel Cell Vehicles (FCVs)	0.00	0.00	0.00	0.00

Table Error! No text of specified style in document.112 - Electrification Rates (%) for Manufacturer (Ford), MY 2038 HDPUV Fleet by Alternative

Electrification Rates (%) for Manufacturer (Ford), MY 2038 HDPUV Fleet by Alternative				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Mild Hybrid	0.0	0.0	0.0	0.0
Strong Hybrid	27.6	27.6	27.6	27.6
Plug-In Hybrid	0.0	0.0	0.0	3.8
Battery Electric Vehicles (BEVs)	50.98	51.08	51.23	51.37
BEV 1 Mile Range	47.92	48.02	48.18	48.32
BEV 2 Mile Range	3.06	3.05	3.05	3.05
BEV 3 Mile Range	0.00	0.00	0.00	0.00
BEV 4 Mile Range	0.00	0.00	0.00	0.00
Fuel Cell Vehicles (FCVs)	0.00	0.00	0.00	0.00

Table Error! No text of specified style in document.113 - Electrification Rates (%) for Manufacturer (GM), MY 2038 HDPUV Fleet by Alternative

Electrification Rates (%) for Manufacturer (GM), MY 2038 HDPUV Fleet by Alternative				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Mild Hybrid	0.0	0.0	0.0	0.0
Strong Hybrid	15.7	15.7	15.7	16.3
Plug-In Hybrid	28.9	28.9	33.7	36.7
Battery Electric Vehicles (BEVs)	17.84	17.84	18.02	26.74
BEV 1 Mile Range	16.08	16.08	16.26	24.98
BEV 2 Mile Range	1.76	1.76	1.76	1.76
BEV 3 Mile Range	0.00	0.00	0.00	0.00
BEV 4 Mile Range	0.00	0.00	0.00	0.00
Fuel Cell Vehicles (FCVs)	0.00	0.00	0.00	0.00

Table Error! No text of specified style in document.114 - Electrification Rates (%) for Manufacturer (Mercedes-Benz), MY 2038 HDPUV Fleet by Alternative

Electrification Rates (%) for Manufacturer (Mercedes-Benz), MY 2038 HDPUV Fleet by Alternative				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Mild Hybrid	0.0	0.0	0.0	0.0
Strong Hybrid	20.7	20.7	20.7	20.7
Plug-In Hybrid	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	79.26	79.28	79.28	79.27
BEV 1 Mile Range	77.57	77.58	77.58	77.57
BEV 2 Mile Range	1.69	1.70	1.70	1.70
BEV 3 Mile Range	0.00	0.00	0.00	0.00
BEV 4 Mile Range	0.00	0.00	0.00	0.00
Fuel Cell Vehicles (FCVs)	0.00	0.00	0.00	0.00

Table Error! No text of specified style in document.115 - Electrification Rates (%) for Manufacturer (Nissan), MY 2038 HDPUV Fleet by Alternative

Electrification Rates (%) for Manufacturer (Nissan), MY 2038 HDPUV Fleet by Alternative				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Mild Hybrid	0.0	0.0	0.0	0.0
Strong Hybrid	0.0	0.0	0.0	0.0
Plug-In Hybrid	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	69.68	69.63	69.63	69.63
BEV 1 Mile Range	68.55	68.51	68.51	68.51
BEV 2 Mile Range	1.12	1.12	1.12	1.12
BEV 3 Mile Range	0.00	0.00	0.00	0.00
BEV 4 Mile Range	0.00	0.00	0.00	0.00
Fuel Cell Vehicles (FCVs)	0.00	0.00	0.00	0.00

Table Error! No text of specified style in document.116 - Electrification Rates (%) for Manufacturer (Rivian), MY 2038 HDPUV Fleet by Alternative

Electrification Rates (%) for Manufacturer (Rivian), MY 2038 HDPUV Fleet by Alternative				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Mild Hybrid	0.0	0.0	0.0	0.0
Strong Hybrid	0.0	0.0	0.0	0.0
Plug-In Hybrid	0.0	0.0	0.0	0.0
Battery Electric Vehicles (BEVs)	100.00	100.00	100.00	100.00
BEV 1 Mile Range	0.00	0.00	0.00	0.00
BEV 2 Mile Range	100.00	100.00	100.00	100.00
BEV 3 Mile Range	0.00	0.00	0.00	0.00
BEV 4 Mile Range	0.00	0.00	0.00	0.00
Fuel Cell Vehicles (FCVs)	0.00	0.00	0.00	0.00

Table Error! No text of specified style in document.117 - Electrification Rates (%) for Manufacturer (Stellantis), MY 2038 HDPUV Fleet by Alternative

Electrification Rates (%) for Manufacturer (Stellantis), MY 2038 HDPUV Fleet by Alternative				
Alternative	No Action	HDPUV4	HDPUV10	HDPUV14
Mild Hybrid	0.0	0.0	0.0	0.0
Strong Hybrid	47.4	47.4	47.4	47.4
Plug-In Hybrid	1.1	1.2	1.0	1.0
Battery Electric Vehicles (BEVs)	50.10	50.08	50.20	50.23
BEV 1 Mile Range	49.63	49.60	49.72	49.75
BEV 2 Mile Range	0.48	0.48	0.48	0.48
BEV 3 Mile Range	0.00	0.00	0.00	0.00
BEV 4 Mile Range	0.00	0.00	0.00	0.00
Fuel Cell Vehicles (FCVs)	0.00	0.00	0.00	0.00

Required and Achieved Fuel Efficiency Levels, Comparison

Table Error! No text of specified style in document.118 - Required and Achieved Gallons per 100 miles for HDPUV Fleet for Alternative HDPUV10

Required and Achieved Gallons per 100 miles for HDPUV Fleet for Alternative HDPUV10			
Model Year	Total		
	Required	Achieved	Difference
2030	4.427	3.266	-1.161
2031	4.051	2.764	-1.287
2032	3.646	2.759	-0.887
2033	3.255	2.160	-1.095
2034	2.930	2.157	-0.773
2035	2.638	2.153	-0.485
2036	2.638	2.153	-0.485
2037	2.616	2.088	-0.528
2038	2.616	2.088	-0.528

Table Error! No text of specified style in document.119 - Required and Achieved Gallons per 100 miles for HDPUV Fleet for Alternative HDPUV10

Required and Achieved Gallons per 100 miles for HDPUV Fleet for Alternative HDPUV10												
Model Year	Ford			GM			Mercedes-Benz			Nissan		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2030	4.305	2.768	-1.537	4.906	4.492	-0.414	4.039	2.427	-1.612	3.744	1.721	-2.023
2031	3.874	2.768	-1.106	4.326	3.812	-0.514	3.635	2.427	-1.208	3.370	1.720	-1.650
2032	3.487	2.768	-0.719	3.894	3.812	-0.082	3.272	2.426	-0.846	2.995	1.429	-1.566
2033	3.078	2.138	-0.940	3.512	2.764	-0.748	2.729	0.884	-1.845	2.695	1.429	-1.266
2034	2.771	2.138	-0.633	3.160	2.753	-0.407	2.456	0.884	-1.572	2.426	1.429	-0.997
2035	2.497	2.131	-0.366	2.844	2.753	-0.091	2.211	0.886	-1.325	2.183	1.322	-0.861
2036	2.497	2.131	-0.366	2.844	2.753	-0.091	2.211	0.885	-1.326	2.183	1.323	-0.860
2037	2.497	2.131	-0.366	2.844	2.753	-0.091	2.210	0.884	-1.326	2.183	1.322	-0.861
2038	2.497	2.131	-0.366	2.844	2.753	-0.091	2.210	0.883	-1.327	2.183	1.322	-0.861

Table Error! No text of specified style in document.120 - Required and Achieved Gallons per 100 miles for HDPUV Fleet for Alternative HDPUV10

Required and Achieved Gallons per 100 miles for HDPUV Fleet for Alternative HDPUV10									
Model Year	Rivian			Stellantis			Total		
	Required	Achieved	Difference	Required	Achieved	Difference	Required	Achieved	Difference
2030	3.431	0.000	-3.431	4.335	3.499	-0.836	4.427	3.266	-1.161
2031	3.088	0.000	-3.088	4.331	2.162	-2.169	4.051	2.764	-1.287
2032	2.779	0.000	-2.779	3.898	2.162	-1.736	3.646	2.759	-0.887
2033	2.502	0.000	-2.502	3.508	2.162	-1.346	3.255	2.160	-1.095
2034	2.252	0.000	-2.252	3.158	2.162	-0.996	2.930	2.157	-0.773
2035	2.027	0.000	-2.027	2.842	2.162	-0.680	2.638	2.153	-0.485
2036	2.027	0.000	-2.027	2.842	2.162	-0.680	2.638	2.153	-0.485
2037	2.027	0.000	-2.027	2.744	1.868	-0.876	2.616	2.088	-0.528
2038	2.027	0.000	-2.027	2.744	1.868	-0.876	2.616	2.088	-0.528

Regulatory Cost, Comparison

Table Error! No text of specified style in document.121 - Regulatory Costs ($b) for HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10

Regulatory Costs ($b) for HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10												
Model Year	Ford			GM			Mercedes-Benz			Nissan		
	No Action Alternative (Baseline)	Alternative HDPUV10	Difference	No Action Alternative (Baseline)	Alternative HDPUV10	Difference	No Action Alternative (Baseline)	Alternative HDPUV10	Difference	No Action Alternative (Baseline)	Alternative HDPUV10	Difference
2030	1.293	1.302	0.009	-0.488	-0.488	0.000	0.055	0.055	0.000	0.135	0.135	0.000
2031	1.202	1.210	0.008	-0.019	-0.012	0.007	0.047	0.048	0.000	0.129	0.129	0.000
2032	1.102	1.110	0.008	-0.060	-0.054	0.006	0.039	0.040	0.000	0.132	0.132	0.000
2033	1.451	1.460	0.009	0.485	0.632	0.147	0.119	0.119	0.000	0.125	0.125	0.000
2034	1.342	1.349	0.008	0.420	0.567	0.148	0.106	0.106	0.000	0.119	0.119	0.000
2035	1.240	1.247	0.007	0.356	0.498	0.143	0.094	0.094	0.000	0.116	0.116	0.000
2036	1.152	1.159	0.007	0.305	0.445	0.139	0.083	0.083	0.000	0.111	0.111	0.000
2037	1.070	1.077	0.007	0.257	0.393	0.137	0.073	0.073	0.000	0.106	0.106	0.000
2038	0.999	1.005	0.006	0.214	0.348	0.134	0.065	0.065	0.000	0.102	0.102	0.000

Table Error! No text of specified style in document.122 - Regulatory Costs ($b) for HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10

Regulatory Costs ($b) for HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10									
Model Year	Rivian			Stellantis			Total		
	No Action Alternative (Baseline)	Alternative HDPUV10	Difference	No Action Alternative (Baseline)	Alternative HDPUV10	Difference	No Action Alternative (Baseline)	Alternative HDPUV10	Difference
2030	0.000	0.000	0.000	0.867	0.867	0.000	1.863	1.872	0.009
2031	0.000	0.000	0.000	0.540	0.541	0.000	1.900	1.915	0.015
2032	0.000	0.000	0.000	0.481	0.482	0.000	1.695	1.710	0.014
2033	0.000	0.000	0.000	0.424	0.424	0.000	2.604	2.760	0.156
2034	0.000	0.000	0.000	0.368	0.368	0.000	2.354	2.509	0.155
2035	0.000	0.000	0.000	0.312	0.312	0.000	2.118	2.267	0.149
2036	0.000	0.000	0.000	0.267	0.267	0.000	1.919	2.065	0.146
2037	0.000	0.000	0.000	0.306	0.306	0.000	1.812	1.955	0.143
2038	0.000	0.000	0.000	0.259	0.259	0.000	1.638	1.779	0.141

Vehicle Price Increases

Table Error! No text of specified style in document.123 - Comparison of Average Vehicle Price Increase (dollars) for HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10

Comparison of Average Vehicle Price Increase (dollars) for HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10			
Model Year	Total		
	No Action Alternative (Baseline)	Alternative HDPUV10	Difference
2030	1,760	1,768	8
2031	1,797	1,812	14
2032	1,604	1,617	14
2033	2,459	2,607	148
2034	2,222	2,370	148
2035	1,999	2,142	142
2036	1,805	1,944	139
2037	1,692	1,827	135
2038	1,520	1,651	131

Technology Costs, Price Increase, Sales, and Labor Utilization

Table Error! No text of specified style in document.124 - Comparison of Average Vehicle Price Increase (dollars) for HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10

Comparison of Average Vehicle Price Increase (dollars) for HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10												
Model Year	Ford			GM			Mercedes-Benz			Nissan		
	No Action Alternative (Baseline)	Alternative HDPUV10	Difference	No Action Alternative (Baseline)	Alternative HDPUV10	Difference	No Action Alternative (Baseline)	Alternative HDPUV10	Difference	No Action Alternative (Baseline)	Alternative HDPUV10	Difference
2030	3,321	3,344	22	-1,498	-1,498	0	1,797	1,799	2	7,502	7,502	0
2031	3,090	3,112	22	-57	-37	20	1,555	1,556	1	7,153	7,153	0
2032	2,834	2,854	20	-184	-165	19	1,293	1,296	3	7,342	7,338	-3
2033	3,724	3,748	24	1,489	1,941	453	3,879	3,882	2	6,966	6,960	-6
2034	3,442	3,464	22	1,288	1,743	455	3,468	3,470	2	6,593	6,587	-6
2035	3,182	3,202	20	1,092	1,531	439	3,064	3,066	1	6,438	6,432	-6
2036	2,946	2,966	19	934	1,361	427	2,715	2,717	2	6,126	6,121	-5
2037	2,716	2,734	18	779	1,195	416	2,373	2,375	2	5,821	5,817	-4
2038	2,519	2,536	17	645	1,051	405	2,080	2,083	3	5,562	5,558	-4

Table Error! No text of specified style in document.125 - Comparison of Average Vehicle Price Increase (dollars) for HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10

Comparison of Average Vehicle Price Increase (dollars) for HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10									
Model Year	Rivian			Stellantis			Total		
	No Action Alternative (Baseline)	Alternative HDPUV10	Difference	No Action Alternative (Baseline)	Alternative HDPUV10	Difference	No Action Alternative (Baseline)	Alternative HDPUV10	Difference
2030	0	0	0	3,737	3,737	0	1,760	1,768	8
2031	0	0	0	2,333	2,334	1	1,797	1,812	14
2032	0	0	0	2,078	2,078	1	1,604	1,617	14
2033	0	0	0	1,828	1,829	1	2,459	2,607	148
2034	0	0	0	1,583	1,584	1	2,222	2,370	148
2035	0	0	0	1,346	1,346	1	1,999	2,142	142
2036	0	0	0	1,146	1,147	1	1,805	1,944	139
2037	0	0	0	1,301	1,304	3	1,692	1,827	135
2038	0	0	0	1,095	1,097	2	1,520	1,651	131

Table Error! No text of specified style in document.126 - Comparison of Average Vehicle Price Increase (dollars) for HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10

Comparison of Average Vehicle Price Increase (dollars) for HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10												
Model Year	Ford			GM			Mercedes-Benz			Nissan		
	No Action Alternative (Baseline)	Alternative HDPUV10	Difference	No Action Alternative (Baseline)	Alternative HDPUV10	Difference	No Action Alternative (Baseline)	Alternative HDPUV10	Difference	No Action Alternative (Baseline)	Alternative HDPUV10	Difference
2030	3,321	3,344	22	-1,498	-1,498	0	1,797	1,799	2	7,502	7,502	0
2031	3,090	3,112	22	-57	-37	20	1,555	1,556	1	7,153	7,153	0
2032	2,834	2,854	20	-184	-165	19	1,293	1,296	3	7,342	7,338	-3
2033	3,724	3,748	24	1,489	1,941	453	3,879	3,882	2	6,966	6,960	-6
2034	3,442	3,464	22	1,288	1,743	455	3,468	3,470	2	6,593	6,587	-6
2035	3,182	3,202	20	1,092	1,531	439	3,064	3,066	1	6,438	6,432	-6
2036	2,946	2,966	19	934	1,361	427	2,715	2,717	2	6,126	6,121	-5
2037	2,716	2,734	18	779	1,195	416	2,373	2,375	2	5,821	5,817	-4
2038	2,519	2,536	17	645	1,051	405	2,080	2,083	3	5,562	5,558	-4

Table Error! No text of specified style in document.127 - Comparison of Average Vehicle Price Increase (dollars) for HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10

Comparison of Average Vehicle Price Increase (dollars) for HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10									
Model Year	Rivian			Stellantis			Total		
	No Action Alternative (Baseline)	Alternative HDPUV10	Difference	No Action Alternative (Baseline)	Alternative HDPUV10	Difference	No Action Alternative (Baseline)	Alternative HDPUV10	Difference
2030	0	0	0	3,737	3,737	0	1,760	1,768	8
2031	0	0	0	2,333	2,334	1	1,797	1,812	14
2032	0	0	0	2,078	2,078	1	1,604	1,617	14
2033	0	0	0	1,828	1,829	1	2,459	2,607	148
2034	0	0	0	1,583	1,584	1	2,222	2,370	148
2035	0	0	0	1,346	1,346	1	1,999	2,142	142
2036	0	0	0	1,146	1,147	1	1,805	1,944	139
2037	0	0	0	1,301	1,304	3	1,692	1,827	135
2038	0	0	0	1,095	1,097	2	1,520	1,651	131

Table Error! No text of specified style in document.128 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Total) HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10																
	Technology Costs Increase ($b)				Avg. Vehicle Price Increase ($)				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	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent
2030	2	2	0	0%	1,760	1,768	8	0%	1.058	1.058	0.000	0.0%	32	32	0.000	0.0%
2031	2	2	0	1%	1,797	1,812	14	1%	1.057	1.057	0.000	0.0%	32	32	0.000	0.0%
2032	2	2	0	1%	1,604	1,617	14	1%	1.057	1.057	0.000	0.0%	32	32	0.000	0.0%
2033	3	3	0	6%	2,459	2,607	148	6%	1.059	1.059	0.000	0.0%	32	32	-0.011	0.0%
2034	2	3	0	7%	2,222	2,370	148	7%	1.060	1.059	-0.001	-0.1%	32	32	-0.021	-0.1%
2035	2	2	0	7%	1,999	2,142	142	7%	1.059	1.058	-0.001	-0.1%	32	32	-0.021	-0.1%
2036	2	2	0	8%	1,805	1,944	139	8%	1.063	1.062	-0.001	-0.1%	32	32	-0.019	-0.1%
2037	2	2	0	8%	1,692	1,827	135	8%	1.071	1.070	-0.001	-0.1%	33	33	-0.018	-0.1%
2038	2	2	0	9%	1,520	1,651	131	9%	1.078	1.077	-0.001	-0.1%	33	33	-0.017	-0.1%

Table Error! No text of specified style in document.129 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ford) HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Ford) HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10																
	Technology Costs Increase ($b)				Avg. Vehicle Price Increase ($)				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	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent
2030	1	1	0	1%	3,321	3,344	22	1%	0.389	0.389	0.000	0.0%	5	5	0.000	0.0%
2031	1	1	0	1%	3,090	3,112	22	1%	0.389	0.389	0.000	0.0%	5	5	0.000	0.0%
2032	1	1	0	1%	2,834	2,854	20	1%	0.389	0.389	0.000	0.0%	5	5	0.000	0.0%
2033	1	1	0	1%	3,724	3,748	24	1%	0.390	0.390	0.000	0.0%	5	5	-0.002	0.0%
2034	1	1	0	1%	3,442	3,464	22	1%	0.390	0.390	0.000	-0.1%	5	5	-0.003	-0.1%
2035	1	1	0	1%	3,182	3,202	20	1%	0.390	0.389	0.000	-0.1%	5	5	-0.003	-0.1%
2036	1	1	0	1%	2,946	2,966	19	1%	0.391	0.391	0.000	-0.1%	5	5	-0.003	-0.1%
2037	1	1	0	1%	2,716	2,734	18	1%	0.394	0.394	0.000	-0.1%	5	5	-0.003	-0.1%
2038	1	1	0	1%	2,519	2,536	17	1%	0.397	0.396	0.000	-0.1%	5	5	-0.003	-0.1%

Table Error! No text of specified style in document.130 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (GM) HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (GM) HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10																
	Technology Costs Increase ($b)				Avg. Vehicle Price Increase ($)				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	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent
2030	0	0	0	0%	-1,498	-1,498	0	0%	0.326	0.326	0.000	0.0%	23	23	0.000	0.0%
2031	0	0	0	0%	-57	-37	20	0%	0.325	0.325	0.000	0.0%	23	23	0.000	0.0%
2032	0	0	0	0%	-184	-165	19	0%	0.325	0.325	0.000	0.0%	23	23	0.000	0.0%
2033	0	1	0	30%	1,489	1,941	453	30%	0.326	0.326	0.000	0.0%	23	23	-0.008	0.0%
2034	0	1	0	35%	1,288	1,743	455	35%	0.326	0.326	0.000	-0.1%	23	23	-0.015	-0.1%
2035	0	0	0	40%	1,092	1,531	439	40%	0.326	0.326	0.000	-0.1%	23	23	-0.014	-0.1%
2036	0	0	0	46%	934	1,361	427	46%	0.327	0.327	0.000	-0.1%	23	23	-0.013	-0.1%
2037	0	0	0	53%	779	1,195	416	53%	0.329	0.329	0.000	-0.1%	23	23	-0.012	-0.1%
2038	0	0	0	63%	645	1,051	405	63%	0.332	0.331	0.000	-0.1%	23	23	-0.012	-0.1%

Table Error! No text of specified style in document.131 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mercedes-Benz) HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Mercedes-Benz) HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10																
	Technology Costs Increase ($b)				Avg. Vehicle Price Increase ($)				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	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent
2030	0	0	0	0%	1,797	1,799	2	0%	0.031	0.031	0.000	0.0%	0	0	0.000	0.0%
2031	0	0	0	0%	1,555	1,556	1	0%	0.031	0.031	0.000	0.0%	0	0	0.000	0.0%
2032	0	0	0	0%	1,293	1,296	3	0%	0.031	0.031	0.000	0.0%	0	0	0.000	0.0%
2033	0	0	0	0%	3,879	3,882	2	0%	0.031	0.031	0.000	0.0%	0	0	0.000	0.0%
2034	0	0	0	0%	3,468	3,470	2	0%	0.031	0.031	0.000	-0.1%	0	0	0.000	-0.1%
2035	0	0	0	0%	3,064	3,066	1	0%	0.031	0.031	0.000	-0.1%	0	0	0.000	-0.1%
2036	0	0	0	0%	2,715	2,717	2	0%	0.031	0.031	0.000	-0.1%	0	0	0.000	-0.1%
2037	0	0	0	0%	2,373	2,375	2	0%	0.031	0.031	0.000	-0.1%	0	0	0.000	-0.1%
2038	0	0	0	0%	2,080	2,083	3	0%	0.031	0.031	0.000	-0.1%	0	0	0.000	-0.1%

Table Error! No text of specified style in document.132 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Nissan) HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Nissan) HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10																
	Technology Costs Increase ($b)				Avg. Vehicle Price Increase ($)				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	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent
2030	0	0	0	0%	7,502	7,502	0	0%	0.018	0.018	0.000	0.0%	0	0	0.000	0.0%
2031	0	0	0	0%	7,153	7,153	0	0%	0.018	0.018	0.000	0.0%	0	0	0.000	0.0%
2032	0	0	0	0%	7,342	7,338	-3	0%	0.018	0.018	0.000	0.0%	0	0	0.000	0.0%
2033	0	0	0	0%	6,966	6,960	-6	0%	0.018	0.018	0.000	0.0%	0	0	0.000	0.0%
2034	0	0	0	0%	6,593	6,587	-6	0%	0.018	0.018	0.000	-0.1%	0	0	0.000	-0.1%
2035	0	0	0	0%	6,438	6,432	-6	0%	0.018	0.018	0.000	-0.1%	0	0	0.000	-0.1%
2036	0	0	0	0%	6,126	6,121	-5	0%	0.018	0.018	0.000	-0.1%	0	0	0.000	-0.1%
2037	0	0	0	0%	5,821	5,817	-4	0%	0.018	0.018	0.000	-0.1%	0	0	0.000	-0.1%
2038	0	0	0	0%	5,562	5,558	-4	0%	0.018	0.018	0.000	-0.1%	0	0	0.000	-0.1%

Table Error! No text of specified style in document.133 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Rivian) HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Rivian) HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10																
	Technology Costs Increase ($b)				Avg. Vehicle Price Increase ($)				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	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent
2030	0	0	0	0%	0	0	0	0%	0.063	0.063	0.000	0.0%	1	1	0.000	0.0%
2031	0	0	0	0%	0	0	0	0%	0.063	0.063	0.000	0.0%	1	1	0.000	0.0%
2032	0	0	0	0%	0	0	0	0%	0.063	0.063	0.000	0.0%	1	1	0.000	0.0%
2033	0	0	0	0%	0	0	0	0%	0.063	0.063	0.000	0.0%	1	1	0.000	0.0%
2034	0	0	0	0%	0	0	0	0%	0.063	0.063	0.000	-0.1%	1	1	-0.001	-0.1%
2035	0	0	0	0%	0	0	0	0%	0.063	0.063	0.000	-0.1%	1	1	-0.001	-0.1%
2036	0	0	0	0%	0	0	0	0%	0.063	0.063	0.000	-0.1%	1	1	0.000	-0.1%
2037	0	0	0	0%	0	0	0	0%	0.064	0.064	0.000	-0.1%	1	1	0.000	-0.1%
2038	0	0	0	0%	0	0	0	0%	0.064	0.064	0.000	-0.1%	1	1	0.000	-0.1%

Table Error! No text of specified style in document.134 - Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Stellantis) HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10

Comparison of Technology Costs, Average Price Increase, Sales, and Labor Utilization for Manufacturer (Stellantis) HDPUV Fleet Between No Action Alternative (Baseline) and Alternative HDPUV10																
	Technology Costs Increase ($b)				Avg. Vehicle Price Increase ($)				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	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent	No Action Alternative (Baseline)	Alternative HDPUV10	Absolute	Percent
2030	1	1	0	0%	3,737	3,737	0	0%	0.232	0.232	0.000	0.0%	3	3	0.000	0.0%
2031	1	1	0	0%	2,333	2,334	1	0%	0.232	0.232	0.000	0.0%	3	3	0.000	0.0%
2032	0	0	0	0%	2,078	2,078	1	0%	0.232	0.232	0.000	0.0%	3	3	0.000	0.0%
2033	0	0	0	0%	1,828	1,829	1	0%	0.232	0.232	0.000	0.0%	3	3	-0.001	0.0%
2034	0	0	0	0%	1,583	1,584	1	0%	0.232	0.232	0.000	-0.1%	3	3	-0.002	-0.1%
2035	0	0	0	0%	1,346	1,346	1	0%	0.232	0.232	0.000	-0.1%	3	3	-0.002	-0.1%
2036	0	0	0	0%	1,146	1,147	1	0%	0.233	0.233	0.000	-0.1%	3	3	-0.002	-0.1%
2037	0	0	0	0%	1,301	1,304	3	0%	0.235	0.235	0.000	-0.1%	3	3	-0.002	-0.1%
2038	0	0	0	0%	1,095	1,097	2	0%	0.236	0.236	0.000	-0.1%	3	3	-0.002	-0.1%

CAFE Compliance Credits

Table Error! No text of specified style in document.135 - CAFE Compliance Credits (in millions) Earned by Manufacturers, HDPUV Fleet by Model Year for No Action Alternative (Baseline)

CAFE Compliance Credits (in millions) Earned by Manufacturers, HDPUV Fleet by Model Year for No Action Alternative (Baseline)									
Manufacturer	2030	2031	2032	2033	2034	2035	2036	2037	2038
Ford	1,172	1,171	1,171	1,487	1,487	1,494	1,500	1,512	1,522
GM	468	742	742	1,163	1,163	1,163	1,167	1,177	1,184
Mercedes-Benz	94	94	94	150	150	150	151	152	153
Nissan	66	66	72	72	72	75	76	76	77
Rivian	360	360	360	360	360	360	362	364	367
Stellantis	459	1,106	1,107	1,109	1,110	1,109	1,113	1,160	1,168
Total	2,620	3,539	3,547	4,342	4,344	4,352	4,369	4,441	4,470

Table Error! No text of specified style in document.136 - CAFE Compliance Credits (in millions) Earned by Manufacturers, HDPUV Fleet by Model Year for Alternative HDPUV4

CAFE Compliance Credits (in millions) Earned by Manufacturers, HDPUV Fleet by Model Year for Alternative HDPUV4									
Manufacturer	2030	2031	2032	2033	2034	2035	2036	2037	2038
Ford	1,062	953	851	1,076	983	901	904	911	917
GM	362	538	442	769	681	595	597	602	606
Mercedes-Benz	86	78	71	122	115	109	109	110	111
Nissan	61	57	59	56	52	51	51	52	52
Rivian	346	331	318	306	294	282	283	285	287
Stellantis	391	961	893	829	766	705	707	765	770
Total	2,308	2,919	2,634	3,157	2,891	2,642	2,652	2,725	2,743

Table Error! No text of specified style in document.137 - CAFE Compliance Credits (in millions) Earned by Manufacturers, HDPUV Fleet by Model Year for Alternative HDPUV10

CAFE Compliance Credits (in millions) Earned by Manufacturers, HDPUV Fleet by Model Year for Alternative HDPUV10									
Manufacturer	2030	2031	2032	2033	2034	2035	2036	2037	2038
Ford	898	645	420	549	370	214	215	216	218
GM	202	251	40	365	199	44	45	45	45
Mercedes-Benz	74	55	39	85	72	61	61	61	62
Nissan	55	45	42	34	27	23	23	24	24
Rivian	324	291	262	236	213	191	192	194	195
Stellantis	291	754	603	469	347	237	238	308	310
Total	1,843	2,041	1,406	1,738	1,227	770	773	848	854

Table Error! No text of specified style in document.138 - CAFE Compliance Credits (in millions) Earned by Manufacturers, HDPUV Fleet by Model Year for Alternative HDPUV14

CAFE Compliance Credits (in millions) Earned by Manufacturers, HDPUV Fleet by Model Year for Alternative HDPUV14									
Manufacturer	2030	2031	2032	2033	2034	2035	2036	2037	2038
Ford	779	442	154	244	34	0	0	0	0
GM	105	258	-8	367	169	0	0	0	0
Mercedes-Benz	66	41	20	64	49	36	37	37	37
Nissan	50	37	32	22	14	9	9	9	9
Rivian	310	266	228	197	169	145	146	147	148
Stellantis	224	622	430	265	123	0	0	78	78
Total	1,533	1,665	856	1,159	558	191	192	271	273

Consumer Impacts

Table Error! No text of specified style in document.139 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the HDPUV Fleet, No Action Alternative (Baseline) at a 3% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the HDPUV Fleet, No Action Alternative (Baseline) at a 3% Discount Rate (dollars), per Vehicle Model Year									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Price Increase	0	0	0	0	0	0	0	0	0
Increase in Financing Cost	0	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	0	0	0	0	0	0
Increase in Taxes/Fees	0	0	0	0	0	0	0	0	0
Lost Consumer Surplus	0	0	0	0	0	0	0	0	0
Total Consumer Cost	0	0	0	0	0	0	0	0	0
Fuel Savings	0	0	0	0	0	0	0	0	0
Mobility Benefit	0	0	0	0	0	0	0	0	0
Reallocated Benefit	0	0	0	0	0	0	0	0	0
Refueling Benefit	0	0	0	0	0	0	0	0	0
Total Consumer Benefit	0	0	0	0	0	0	0	0	0
Net Consumer Benefit	0	0	0	0	0	0	0	0	0
Payback	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table Error! No text of specified style in document.140 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the HDPUV Fleet, No Action Alternative (Baseline) at a 7% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the HDPUV Fleet, No Action Alternative (Baseline) at a 7% Discount Rate (dollars), per Vehicle Model Year									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Price Increase	0	0	0	0	0	0	0	0	0
Increase in Financing Cost	0	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	0	0	0	0	0	0
Increase in Taxes/Fees	0	0	0	0	0	0	0	0	0
Lost Consumer Surplus	0	0	0	0	0	0	0	0	0
Total Consumer Cost	0	0	0	0	0	0	0	0	0
Fuel Savings	0	0	0	0	0	0	0	0	0
Mobility Benefit	0	0	0	0	0	0	0	0	0
Reallocated Benefit	0	0	0	0	0	0	0	0	0
Refueling Benefit	0	0	0	0	0	0	0	0	0
Total Consumer Benefit	0	0	0	0	0	0	0	0	0
Net Consumer Benefit	0	0	0	0	0	0	0	0	0
Payback	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table Error! No text of specified style in document.141 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the HDPUV Fleet, Alternative HDPUV4 at a 3% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the HDPUV Fleet, Alternative HDPUV4 at a 3% Discount Rate (dollars), per Vehicle Model Year									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Price Increase	3	3	3	4	4	4	3	3	3
Increase in Financing Cost	0	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	0	0	0	0	0	0
Increase in Taxes/Fees	0	0	0	0	0	0	0	0	0
Lost Consumer Surplus	0	0	0	0	0	0	0	0	0
Total Consumer Cost	3	3	3	5	5	4	4	4	3
Fuel Savings	-6	-6	-6	-12	-12	-12	-12	-12	-12
Mobility Benefit	0	0	0	1	1	1	1	1	1
Reallocated Benefit	0	0	0	0	0	0	0	0	0
Refueling Benefit	3	3	3	6	7	7	6	6	5
Total Consumer Benefit	4	4	4	7	6	6	6	7	7
Net Consumer Benefit	1	1	1	3	2	2	2	3	3
Payback	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table Error! No text of specified style in document.142 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the HDPUV Fleet, Alternative HDPUV4 at a 7% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the HDPUV Fleet, Alternative HDPUV4 at a 7% Discount Rate (dollars), per Vehicle Model Year									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Price Increase	3	3	3	4	4	4	3	3	3
Increase in Financing Cost	0	0	0	0	0	0	0	0	0
Increase in Insurance Cost	0	0	0	0	0	0	0	0	0
Increase in Taxes/Fees	0	0	0	0	0	0	0	0	0
Lost Consumer Surplus	0	0	0	0	0	0	0	0	0
Total Consumer Cost	3	3	3	5	5	4	4	3	3
Fuel Savings	-4	-5	-5	-9	-10	-9	-9	-9	-9
Mobility Benefit	0	0	0	0	0	0	0	0	0
Reallocated Benefit	0	0	0	0	0	0	0	0	0
Refueling Benefit	2	3	2	5	5	5	5	4	4
Total Consumer Benefit	3	3	3	6	5	5	5	5	5
Net Consumer Benefit	0	0	0	1	0	1	1	2	2
Payback	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table Error! No text of specified style in document.143 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the HDPUV Fleet, Alternative HDPUV10 at a 3% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the HDPUV Fleet, Alternative HDPUV10 at a 3% Discount Rate (dollars), per Vehicle Model Year									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Price Increase	8	14	14	148	148	142	139	135	131
Increase in Financing Cost	0	0	0	0	0	0	0	0	0
Increase in Insurance Cost	1	1	1	14	14	13	13	13	12
Increase in Taxes/Fees	0	1	1	8	8	8	8	7	7
Lost Consumer Surplus	0	0	0	0	0	0	0	0	0
Total Consumer Cost	10	17	16	170	170	164	159	155	151
Fuel Savings	-19	-34	-35	-400	-427	-430	-433	-437	-439
Mobility Benefit	1	1	1	19	22	22	23	23	24
Reallocated Benefit	0	0	0	0	0	0	0	0	0
Refueling Benefit	13	24	24	4	3	3	3	7	7
Total Consumer Benefit	10	18	17	460	446	449	453	453	456
Net Consumer Benefit	1	1	1	290	276	285	293	298	305
Payback	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table Error! No text of specified style in document.144 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the HDPUV Fleet, Alternative HDPUV10 at a 7% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the HDPUV Fleet, Alternative HDPUV10 at a 7% Discount Rate (dollars), per Vehicle Model Year									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Price Increase	8	14	14	148	148	142	139	135	131
Increase in Financing Cost	0	0	0	0	0	0	0	0	0
Increase in Insurance Cost	1	1	1	12	12	11	11	11	10
Increase in Taxes/Fees	0	1	1	8	8	8	8	7	7
Lost Consumer Surplus	0	0	0	0	0	0	0	0	0
Total Consumer Cost	10	16	15	168	168	161	157	153	149
Fuel Savings	-14	-26	-26	-307	-329	-331	-333	-337	-339
Mobility Benefit	0	1	1	14	17	17	18	18	18
Reallocated Benefit	0	0	0	0	0	0	0	0	0
Refueling Benefit	10	19	19	4	3	2	2	5	5
Total Consumer Benefit	9	15	14	364	343	346	349	350	352
Net Consumer Benefit	-1	-2	-1	196	175	184	192	197	203
Payback	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table Error! No text of specified style in document.145 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the HDPUV Fleet, Alternative HDPUV14 at a 3% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the HDPUV Fleet, Alternative HDPUV14 at a 3% Discount Rate (dollars), per Vehicle Model Year									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Price Increase	33	352	334	563	540	697	674	652	633
Increase in Financing Cost	0	0	0	0	0	0	0	0	0
Increase in Insurance Cost	3	33	31	53	51	66	64	61	60
Increase in Taxes/Fees	2	19	18	31	29	38	37	36	35
Lost Consumer Surplus	0	0	0	0	0	1	1	0	0
Total Consumer Cost	38	404	383	647	621	801	775	750	728
Fuel Savings	-39	-764	-772	-1,505	-1,516	-2,077	-2,092	-2,106	-2,117
Mobility Benefit	5	27	28	72	73	112	115	117	119
Reallocated Benefit	0	0	0	0	0	0	0	0	0
Refueling Benefit	-7	486	485	445	445	442	442	447	448
Total Consumer Benefit	50	434	423	1,288	1,144	1,748	1,764	1,775	1,789
Net Consumer Benefit	12	30	40	641	523	947	989	1,026	1,061
Payback	0.000	1.000	0.000	0.000	0.000	1.000	1.000	0.000	0.000

Table Error! No text of specified style in document.146 - Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the HDPUV Fleet, Alternative HDPUV14 at a 7% Discount Rate (dollars), per Vehicle Model Year

Average Impacts to Consumers Relative to Alternative 0 (Baseline) for the HDPUV Fleet, Alternative HDPUV14 at a 7% Discount Rate (dollars), per Vehicle Model Year									
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038
Price Increase	33	352	334	563	540	697	674	652	633
Increase in Financing Cost	0	0	0	0	0	0	0	0	0
Increase in Insurance Cost	3	28	26	44	42	55	53	51	50
Increase in Taxes/Fees	2	19	18	31	29	38	37	36	35
Lost Consumer Surplus	0	0	0	0	0	1	1	0	0
Total Consumer Cost	37	399	378	638	612	790	764	739	717
Fuel Savings	-29	-585	-592	-1,156	-1,165	-1,599	-1,611	-1,624	-1,634
Mobility Benefit	4	21	21	55	56	87	89	91	92
Reallocated Benefit	0	0	0	0	0	0	0	0	0
Refueling Benefit	-5	378	377	346	346	344	344	348	348
Total Consumer Benefit	37	358	345	1,021	876	1,342	1,357	1,367	1,378
Net Consumer Benefit	0	-41	-34	384	264	552	592	627	661
Payback	0.000	1.000	0.000	0.000	0.000	1.000	1.000	0.000	0.000

Environmental Impacts

Table Error! No text of specified style in document.147 - Total Criteria Emissions from the MY 2038 HDPUV Fleet in Calendar Year 2040, by Alternative (1,000 metric tons)

Total Criteria Emissions from the MY 2038 HDPUV Fleet in Calendar Year 2040, by Alternative (1,000 metric tons)			
Alternative	HDPUV4	HDPUV10	HDPUV14
Fleetwide Change in Upstream Emissions			
CO Upstream	1.197	1.212	1.269
VOC Upstream	1.841	1.797	1.625
NOx Upstream	2.110	2.131	2.208
SO2 Upstream	1.345	1.368	1.453
PM Upstream	0.160	0.162	0.169
Fleetwide Change in Tailpipe Emissions			
CO Tailpipe	8.528	8.333	7.591
VOC Tailpipe	2.159	2.110	1.922
NOx Tailpipe	0.435	0.425	0.387
SO2 Tailpipe	0.032	0.031	0.027
PM Tailpipe	0.071	0.070	0.064
Fleetwide Change in Total Emissions			
CO Total	9.725	9.545	8.859
VOC Total	4.000	3.907	3.547
NOx Total	2.545	2.556	2.596
SO2 Total	1.377	1.399	1.48
PM Total	0.231	0.232	0.233

Table Error! No text of specified style in document.148 - Total Criteria Emissions from the MY 2038 HDPUV Fleet in Calendar Year 2045, by Alternative (1,000 metric tons)

Total Criteria Emissions from the MY 2038 HDPUV Fleet in Calendar Year 2045, by Alternative (1,000 metric tons)			
Alternative	HDPUV4	HDPUV10	HDPUV14
Fleetwide Change in Upstream Emissions			
CO Upstream	0.842	0.852	0.892
VOC Upstream	1.307	1.276	1.153
NOx Upstream	1.459	1.473	1.524
SO2 Upstream	0.888	0.903	0.958
PM Upstream	0.110	0.111	0.116
Fleetwide Change in Tailpipe Emissions			
CO Tailpipe	12.507	12.219	11.126
VOC Tailpipe	1.882	1.839	1.675
NOx Tailpipe	0.411	0.401	0.365
SO2 Tailpipe	0.023	0.022	0.019
PM Tailpipe	0.085	0.083	0.075
Fleetwide Change in Total Emissions			
CO Total	13.349	13.072	12.017
VOC Total	3.190	3.115	2.827
NOx Total	1.870	1.874	1.890
SO2 Total	0.911	0.925	0.977
PM Total	0.195	0.194	0.191

Table Error! No text of specified style in document.149 - Total Criteria Emissions from the MY 2038 HDPUV Fleet in Calendar Year 2050, by Alternative (1,000 metric tons)

Total Criteria Emissions from the MY 2038 HDPUV Fleet in Calendar Year 2050, by Alternative (1,000 metric tons)			
Alternative	HDPUV4	HDPUV10	HDPUV14
Fleetwide Change in Upstream Emissions			
CO Upstream	0.546	0.553	0.578
VOC Upstream	0.855	0.835	0.754
NOx Upstream	0.941	0.950	0.982
SO2 Upstream	0.560	0.569	0.603
PM Upstream	0.071	0.071	0.074
Fleetwide Change in Tailpipe Emissions			
CO Tailpipe	8.645	8.446	7.690
VOC Tailpipe	1.464	1.431	1.302
NOx Tailpipe	0.290	0.283	0.258
SO2 Tailpipe	0.015	0.014	0.013
PM Tailpipe	0.058	0.057	0.052
Fleetwide Change in Total Emissions			
CO Total	9.191	8.999	8.268
VOC Total	2.320	2.265	2.056
NOx Total	1.230	1.232	1.239
SO2 Total	0.575	0.583	0.616
PM Total	0.129	0.128	0.126

Fleet Characteristics

Table Error! No text of specified style in document.150 - Changes in Fleet Characteristics for Model Years 2030-2038 for No Action Alternative (Baseline)

Changes in Fleet Characteristics for Model Years 2030-2038 for No Action Alternative (Baseline)											
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	Total	Avg.
Changes in Fleet Size, Usage and Fuel Consumption											
Changes in Fleet Size (m)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
VMT from Rebound (b)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Fuel Volume - Total (b gallons)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Changes in Fatalities by Source											
Fatalities from Rebound Miles	0	0	0	0	0	0	0	0	0	0	0
Fatalities from Curb Weight Change	0	0	0	0	0	0	0	0	0	0	0
Total Changes in Fatalities	0	0	0	0	0	0	0	0	0	0	0
Changes in Non-Fatal Safety Impacts											
Injuries from Rebound Miles (thousands)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0
Injuries from Curb Weight (thousands)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Change in Injuries (thousands)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Property Damage from Rebound Miles (thousands)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Property Damage from Curb Weight (thousands)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Property Damaged Vehicles (thousands)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table Error! No text of specified style in document.151 - Changes in Fleet Characteristics for Model Years 2030-2038 for Alternative HDPUV4

Changes in Fleet Characteristics for Model Years 2030-2038 for Alternative HDPUV4											
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	Total	Avg.
Changes in Fleet Size, Usage and Fuel Consumption											
Changes in Fleet Size (m)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
VMT from Rebound (b)	0.002	0.002	0.002	0.004	0.004	0.004	0.004	0.004	0.004	0.032	0.004
Fuel Volume - Total (b gallons)	-0.003	-0.003	-0.003	-0.006	-0.006	-0.006	-0.006	-0.005	-0.005	-0.042	-0.005
Changes in Fatalities by Source											
Fatalities from Rebound Miles	0	0	0	0	0	0	0	0	0	0	0
Fatalities from Curb Weight Change	0	0	0	0	0	0	0	0	0	0	0
Total Changes in Fatalities	0	0	0	0	0	0	0	0	0	0	0
Changes in Non-Fatal Safety Impacts											
Injuries from Rebound Miles (thousands)	0.001	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0	0
Injuries from Curb Weight (thousands)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Change in Injuries (thousands)	0.003	0.001	0.002	0.003	0.005	0.004	0.004	0.004	0.003	0.029	0.003
Property Damage from Rebound Miles (thousands)	0.004	0.005	0.005	0.009	0.010	0.009	0.009	0.009	0.009	0.070	0.008
Property Damage from Curb Weight (thousands)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Property Damaged Vehicles (thousands)	0.008	0.004	0.006	0.009	0.014	0.013	0.014	0.013	0.009	0.089	0.010

Table Error! No text of specified style in document.152 - Changes in Fleet Characteristics for Model Years 2030-2038 for Alternative HDPUV14

Changes in Fleet Characteristics for Model Years 2030-2038 for Alternative HDPUV14											
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	Total	Avg.
Changes in Fleet Size, Usage and Fuel Consumption											
Changes in Fleet Size (m)	-0.007	-0.024	-0.026	-0.038	-0.060	-0.077	-0.073	-0.067	-0.063	-0.436	-0.048
VMT from Rebound (b)	0.028	0.239	0.243	0.545	0.543	0.781	0.795	0.812	0.827	4.812	0.535
Fuel Volume - Total (b gallons)	-0.022	-0.381	-0.381	-0.724	-0.734	-0.993	-0.994	-0.998	-1.001	-6.228	-0.692
Changes in Fatalities by Source											
Fatalities from Rebound Miles	0	1	1	3	3	4	4	4	4	24	3
Fatalities from Curb Weight Change	0	0	0	0	0	0	0	0	0	0	0
Total Changes in Fatalities	0	0	0	0	-1	-1	-1	0	0	-4	0
Changes in Non-Fatal Safety Impacts											
Injuries from Rebound Miles (thousands)	0.022	0.189	0.192	0.421	0.419	0.600	0.610	0.623	0.634	4	0
Injuries from Curb Weight (thousands)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Change in Injuries (thousands)	-0.032	-0.041	-0.053	0.047	-0.183	-0.171	-0.123	-0.059	-0.001	-0.616	-0.068
Property Damage from Rebound Miles (thousands)	0.066	0.557	0.567	1.253	1.255	1.802	1.835	1.877	1.914	11.127	1.236
Property Damage from Curb Weight (thousands)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Property Damaged Vehicles (thousands)	-0.064	-0.092	-0.126	0.174	-0.516	-0.481	-0.339	-0.145	0.028	-1.560	-0.173

Table Error! No text of specified style in document.153 - Changes in Fleet Characteristics for Model Years 2030-2038 for Alternative HDPUV10

Changes in Fleet Characteristics for Model Years 2030-2038 for Alternative HDPUV10											
Model Year	2030	2031	2032	2033	2034	2035	2036	2037	2038	Total	Avg.
Changes in Fleet Size, Usage and Fuel Consumption											
Changes in Fleet Size (m)	0.000	-0.001	-0.001	-0.008	-0.015	-0.015	-0.014	-0.013	-0.013	-0.081	-0.009
VMT from Rebound (b)	0.006	0.010	0.010	0.138	0.154	0.155	0.158	0.162	0.165	0.960	0.107
Fuel Volume - Total (b gallons)	-0.009	-0.017	-0.017	-0.192	-0.206	-0.206	-0.206	-0.207	-0.208	-1.269	-0.141
Changes in Fatalities by Source											
Fatalities from Rebound Miles	0	0	0	1	1	1	1	1	1	5	1
Fatalities from Curb Weight Change	0	0	0	0	0	0	0	0	0	0	0
Total Changes in Fatalities	0	0	0	0	0	0	0	0	0	0	0
Changes in Non-Fatal Safety Impacts											
Injuries from Rebound Miles (thousands)	0.004	0.008	0.008	0.104	0.118	0.119	0.121	0.124	0.126	1	0
Injuries from Curb Weight (thousands)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Change in Injuries (thousands)	0.005	0.004	0.003	0.025	-0.035	-0.035	-0.024	-0.011	-0.002	-0.070	-0.008
Property Damage from Rebound Miles (thousands)	0.013	0.023	0.023	0.309	0.355	0.358	0.365	0.374	0.381	2.199	0.244
Property Damage from Curb Weight (thousands)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total Property Damaged Vehicles (thousands)	0.020	0.017	0.015	0.079	-0.098	-0.101	-0.065	-0.027	-0.001	-0.162	-0.018

Liquid Fuel and Electricity Consumption

Table Error! No text of specified style in document.154 - Change in Liquid Fuel Consumed (b Gallons), HDPUV Fleet, Undiscounted Over the Lifetime of the Model Year

Change in Liquid Fuel Consumed (b Gallons), HDPUV Fleet, Undiscounted Over the Lifetime of the Model Year										
Model Year	1983-2030	2031	2032	2033	2034	2035	2036	2037	2038	Total
Alternative HDPUV4	288.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	288.3
Alternative HDPUV10	288.4	0.0	0.0	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	287.1
Alternative HDPUV14	288.4	-0.4	-0.4	-0.7	-0.7	-1.0	-1.0	-1.0	-1.0	282.2

Table Error! No text of specified style in document.155 - Estimated Average Per Vehicle Fuel Costs ($) for MY 2038 HDPUV Fleet, by Alternative

Estimated Average Per Vehicle Fuel Costs ($) for MY 2038 HDPUV Fleet, by Alternative				
	Lifetime Fuel Expenditures		Lifetime Increase	
	7% Discount Rate	3% Discount Rate	7% Discount Rate	3% Discount Rate
No Action Alternative (Baseline)	20,744	26,751	0	0
Alternative HDPUV4	20,735	26,739	-9	-12
Alternative HDPUV10	20,406	26,312	-339	-439
Alternative HDPUV14	19,110	24,634	-1,634	-2,117

Table Error! No text of specified style in document.156 - Change in Electricity (G-Wh) Consumed, HDPUV Fleet, Undiscounted Over the Lifetime of the Model Year

Change in Electricity (G-Wh) Consumed, HDPUV Fleet, Undiscounted Over the Lifetime of the Model Year										
Model Year	2011-2030	2031	2032	2033	2034	2035	2036	2037	2038	Total
Alternative HDPUV4	180.3	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	180.8
Alternative HDPUV10	180.4	0.2	0.2	2.3	2.3	2.3	2.3	2.3	2.3	194.7
Alternative HDPUV14	180.2	5.2	5.2	8.5	8.4	10.8	10.9	11.0	11.1	251.1

Sales Impacts

Table Error! No text of specified style in document.157 - Estimated Sales Impacts by Alternative, HDPUV Fleet for Manufacturer (Total)

Estimated Sales Impacts by Alternative, HDPUV Fleet for Manufacturer (Total)				
Model Year	Regulatory Alternative			
	No Action	HDPUV4	HDPUV10	HDPUV14
2030	1,058,000	0	0	0
2031	1,057,000	0	0	-1,000
2032	1,057,000	0	0	-1,000
2033	1,059,000	0	0	-2,000
2034	1,060,000	0	-1,000	-3,000
2035	1,059,000	0	-1,000	-3,000
2036	1,063,000	0	-1,000	-3,000
2037	1,071,000	0	-1,000	-3,000
2038	1,078,000	0	-1,000	-3,000

Table Error! No text of specified style in document.158 - Estimated Sales Impacts by Alternative, HDPUV Fleet for Manufacturer (Ford)

Estimated Sales Impacts by Alternative, HDPUV Fleet for Manufacturer (Ford)				
Model Year	Regulatory Alternative			
	No Action	HDPUV4	HDPUV10	HDPUV14
2030	389,000	0	0	0
2031	389,000	0	0	0
2032	389,000	0	0	0
2033	390,000	0	0	-1,000
2034	390,000	0	0	-1,000
2035	390,000	0	0	-1,000
2036	391,000	0	0	-1,000
2037	394,000	0	0	-1,000
2038	397,000	0	0	-1,000

Table Error! No text of specified style in document.159 - Estimated Sales Impacts by Alternative, HDPUV Fleet for Manufacturer (GM)

Estimated Sales Impacts by Alternative, HDPUV Fleet for Manufacturer (GM)				
Model Year	Regulatory Alternative			
	No Action	HDPUV4	HDPUV10	HDPUV14
2030	326,000	0	0	0
2031	325,000	0	0	0
2032	325,000	0	0	0
2033	326,000	0	0	-1,000
2034	326,000	0	0	-1,000
2035	326,000	0	0	-1,000
2036	327,000	0	0	-1,000
2037	329,000	0	0	-1,000
2038	332,000	0	0	-1,000

Table Error! No text of specified style in document.160 - Estimated Sales Impacts by Alternative, HDPUV Fleet for Manufacturer (Mercedes-Benz)

Estimated Sales Impacts by Alternative, HDPUV Fleet for Manufacturer (Mercedes-Benz)				
Model Year	Regulatory Alternative			
	No Action	HDPUV4	HDPUV10	HDPUV14
2030	31,000	0	0	0
2031	31,000	0	0	0
2032	31,000	0	0	0
2033	31,000	0	0	0
2034	31,000	0	0	0
2035	31,000	0	0	0
2036	31,000	0	0	0
2037	31,000	0	0	0
2038	31,000	0	0	0

Table Error! No text of specified style in document.161 - Estimated Sales Impacts by Alternative, HDPUV Fleet for Manufacturer (Nissan)

Estimated Sales Impacts by Alternative, HDPUV Fleet for Manufacturer (Nissan)				
Model Year	Regulatory Alternative			
	No Action	HDPUV4	HDPUV10	HDPUV14
2030	18,000	0	0	0
2031	18,000	0	0	0
2032	18,000	0	0	0
2033	18,000	0	0	0
2034	18,000	0	0	0
2035	18,000	0	0	0
2036	18,000	0	0	0
2037	18,000	0	0	0
2038	18,000	0	0	0

Table Error! No text of specified style in document.162 - Estimated Sales Impacts by Alternative, HDPUV Fleet for Manufacturer (Rivian)

Estimated Sales Impacts by Alternative, HDPUV Fleet for Manufacturer (Rivian)				
Model Year	Regulatory Alternative			
	No Action	HDPUV4	HDPUV10	HDPUV14
2030	63,000	0	0	0
2031	63,000	0	0	0
2032	63,000	0	0	0
2033	63,000	0	0	0
2034	63,000	0	0	0
2035	63,000	0	0	0
2036	63,000	0	0	0
2037	64,000	0	0	0
2038	64,000	0	0	0

Table Error! No text of specified style in document.163 - Estimated Sales Impacts by Alternative, HDPUV Fleet for Manufacturer (Stellantis)

Estimated Sales Impacts by Alternative, HDPUV Fleet for Manufacturer (Stellantis)				
Model Year	Regulatory Alternative			
	No Action	HDPUV4	HDPUV10	HDPUV14
2030	232,000	0	0	0
2031	232,000	0	0	0
2032	232,000	0	0	0
2033	232,000	0	0	0
2034	232,000	0	0	-1,000
2035	232,000	0	0	-1,000
2036	233,000	0	0	-1,000
2037	235,000	0	0	-1,000
2038	236,000	0	0	-1,000

Vehicle Mass Related Fatality Impacts

Table Error! No text of specified style in document.164 - Vehicle-Mass-Related Fatality Impacts over the Lifetime of MY 1983-2038 for HDPUV Fleet, Compared to Alternative 0 (Baseline) - Fatalities Undiscounted, Dollars Discounted at 3% and 7%

Vehicle-Mass-Related Fatality Impacts over the Lifetime of MY 1983-2038 for HDPUV Fleet, Compared to Alternative 0 (Baseline) - Fatalities Undiscounted, Dollars Discounted at 3% and 7%			
Category	Regulatory Alternative		
	HDPUV4	HDPUV10	HDPUV14
Fatalities	0	0	0
Fatality Costs ($ Billion, 3% Discount Rate)	0.001	0.004	0.010
Fatality Costs ($ Billion, 7% Discount Rate)	0.001	0.003	0.011
Non-Fatal Crash Costs ($ Billion, 3% Discount Rate)	0.003	0.008	0.018
Non-Fatal Crash Costs ($ Billion, 7% Discount Rate)	0.001	0.006	0.019
Total Crash Costs ($ Billion, 3% Discount Rate)	0.004	0.012	0.028
Total Crash Costs ($ Billion, 7% Discount Rate)	0.002	0.009	0.030

Table Error! No text of specified style in document.165 - Vehicle-Mass-Related Fatality Impacts for CY 2039-2050 for HDPUV Fleet, Compared to Alternative 0 (Baseline) - Fatalities Undiscounted, Dollars Discounted at 3% and 7%

Vehicle-Mass-Related Fatality Impacts for CY 2039-2050 for HDPUV Fleet, Compared to Alternative 0 (Baseline) - Fatalities Undiscounted, Dollars Discounted at 3% and 7%			
Category	Regulatory Alternative		
	HDPUV4	HDPUV10	HDPUV14
Fatalities	0	0	2
Fatality Costs ($ Billion, 3% Discount Rate)	0.002	0.001	0.013
Fatality Costs ($ Billion, 7% Discount Rate)	0.001	0.001	0.005
Non-Fatal Crash Costs ($ Billion, 3% Discount Rate)	0.003	0.003	0.027
Non-Fatal Crash Costs ($ Billion, 7% Discount Rate)	0.001	0.001	0.011
Total Crash Costs ($ Billion, 3% Discount Rate)	0.005	0.004	0.040
Total Crash Costs ($ Billion, 7% Discount Rate)	0.002	0.002	0.017

Change in Safety Parameters

Table Error! No text of specified style in document.166 - Change in Safety Parameters from Alternative 0 (Baseline) for CY 2039-2050 for HDPUV Fleet, 3% Percent Discount Rate, by Alternative

Change in Safety Parameters from Alternative 0 (Baseline) for CY 2039-2050 for HDPUV Fleet, 3% Percent Discount Rate, by Alternative			
Alternative	HDPUV4	HDPUV10	HDPUV14
Fatalities			
Fatalities From Mass Changes	0	0	0
Fatalities from Rebound Effect	0	6	29
Fatalities from Sales/Scrappage	0	-5	-27
Total Changes in Fatalities	0	0	2
Fatality Costs ($b)			
Fatality Costs From Mass Changes	0.000	0.000	0.000
Fatality Costs From Rebound Effect	0.001	0.033	0.173
Fatality Costs from Sales/Scrappage	0.000	-0.032	-0.160
Total - Fatality Costs ($b)	0.002	0.001	0.013
Non-Fatal Crash Costs ($b)			
Non-Fatal Crash Costs From Mass Changes	0.000	0.000	0.000
Non-Fatal Crash Costs From Rebound Effect	0.003	0.067	0.347
Non-Fatal Crash Costs from Sales/Scrappage	0.000	-0.064	-0.320
Total - Non-Fatal Crash Costs ($b)	0.003	0.003	0.027
Property Damage Costs ($b)			
Property Damage Costs From Mass Changes	0.000	0.000	0.000
Property Damage Costs From Rebound Effect	0.000	0.011	0.059
Property Damage Costs From Sales/Scrappage	0.000	-0.011	-0.053
Total - Property Damage Costs ($b)	0.001	0.001	0.006
Societal Crash Costs ($b)			
Crash Costs from Mass Changes	0.000	0.000	0.000
Crash Costs from Rebound Effect	0.004	0.111	0.579
Crash Costs from Sales/Scrappage	0.001	-0.106	-0.532
Total - Societal Crash Costs ($b)	0.005	0.005	0.046

Table Error! No text of specified style in document.167 - Change in Safety Parameters from Alternative 0 (Baseline) for CY 2039-2050 for HDPUV Fleet, 7% Percent Discount Rate, by Alternative

Change in Safety Parameters from Alternative 0 (Baseline) for CY 2039-2050 for HDPUV Fleet, 7% Percent Discount Rate, by Alternative			
Alternative	HDPUV4	HDPUV10	HDPUV14
Fatalities			
Fatalities From Mass Changes	0	0	0
Fatalities from Rebound Effect	0	6	29
Fatalities from Sales/Scrappage	0	-5	-27
Total Changes in Fatalities	0	0	2
Fatality Costs ($b)			
Fatality Costs From Mass Changes	0.000	0.000	0.000
Fatality Costs From Rebound Effect	0.001	0.013	0.070
Fatality Costs from Sales/Scrappage	0.000	-0.013	-0.065
Total - Fatality Costs ($b)	0.001	0.001	0.005
Non-Fatal Crash Costs ($b)			
Non-Fatal Crash Costs From Mass Changes	0.000	0.000	0.000
Non-Fatal Crash Costs From Rebound Effect	0.001	0.027	0.141
Non-Fatal Crash Costs from Sales/Scrappage	0.000	-0.026	-0.130
Total - Non-Fatal Crash Costs ($b)	0.001	0.001	0.011
Property Damage Costs ($b)			
Property Damage Costs From Mass Changes	0.000	0.000	0.000
Property Damage Costs From Rebound Effect	0.000	0.005	0.024
Property Damage Costs From Sales/Scrappage	0.000	-0.004	-0.022
Total - Property Damage Costs ($b)	0.000	0.000	0.002
Societal Crash Costs ($b)			
Crash Costs from Mass Changes	0.000	0.000	0.000
Crash Costs from Rebound Effect	0.002	0.045	0.236
Crash Costs from Sales/Scrappage	0.000	-0.043	-0.217
Total - Societal Crash Costs ($b)	0.002	0.002	0.019

Table Error! No text of specified style in document.168 - Change in Non-Fatal Safety Parameters from Alternative 0 (Baseline) for CY 2039-2050 for HDPUV Fleet, by Alternative

Change in Non-Fatal Safety Parameters from Alternative 0 (Baseline) for CY 2039-2050 for HDPUV Fleet, by Alternative			
Alternative	HDPUV4	HDPUV10	HDPUV14
Non-Fatal Injuries			
Non-Fatal Injuries From Mass Changes	0	0	0
Non-Fatal Injuries from Rebound Effect	36	888	4,597
Non-Fatal Injuries from Sales/Scrappage	5	-850	-4,237
Total Changes in Non-Fatal Injuries	40	38	359
Property Damaged Vehicles			
Property Damaged Vehicles From Mass Changes	0	0	0
Property Damaged Vehicles from Rebound Effect	124	3,010	15,478
Property Damaged Vehicles from Sales/Scrappage	13	-2,836	-13,787
Total Changes in Property Damaged Vehicles	137	174	1,691