

Table L10. Light-duty vehicle stocks by technology, Low Zero-carbon Technology Cost case

million vehicles

Region and technology	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas								
Electric	3.1	6.3	15.1	25.1	34.7	42.8	49.8	10.4%
Hydrogen	0.0	0.0	0.0	0.0	0.1	0.1	0.1	4.6%
Liquefied petroleum gas	0.1	0.1	0.1	0.1	0.1	0.0	0.0	-4.0%
Natural gas	5.0	5.7	6.4	6.4	5.4	3.7	2.9	-1.9%
Diesel	7.0	7.9	9.6	11.3	12.5	13.3	13.8	2.5%
Motor gasoline	389.6	392.3	392.7	387.8	385.8	389.0	394.4	0.0%
Plug-in hybrid	1.3	2.4	5.8	10.7	17.1	24.3	30.5	12.1%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	406.1	414.8	429.7	441.4	455.7	473.2	491.4	0.7%
United States								
Electric	2.7	5.3	12.2	19.9	27.0	32.4	36.5	9.7%
Hydrogen	0.0	0.0	0.0	0.0	0.1	0.1	0.1	4.6%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8%
Natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.7%
Diesel	1.4	1.5	1.9	2.1	2.3	2.6	2.8	2.6%
Motor gasoline	270.6	270.8	266.5	258.9	255.1	255.9	259.2	-0.2%
Plug-in hybrid	1.1	2.1	4.3	6.6	8.8	10.6	12.0	8.9%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	275.9	279.7	284.9	287.5	293.3	301.5	310.7	0.4%
Canada								
Electric	0.4	0.9	2.1	3.3	4.5	5.4	6.5	10.9%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-77.6%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-10.0%
Natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-10.2%
Diesel	1.2	1.3	1.7	2.1	2.3	2.4	2.3	2.5%
Motor gasoline	22.9	22.9	22.3	21.6	20.6	19.8	18.8	-0.7%
Plug-in hybrid	0.1	0.2	0.6	1.1	1.7	2.6	3.6	12.8%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	24.6	25.4	26.8	28.0	29.1	30.2	31.3	0.9%
Mexico								
Electric	0.0	0.1	0.3	0.7	1.2	1.8	2.4	18.3%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5%
Liquefied petroleum gas	0.1	0.1	0.1	0.0	0.0	0.0	0.0	-6.4%
Natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1%
Diesel	0.4	0.3	0.1	0.1	0.1	0.1	0.1	-3.3%
Motor gasoline	22.3	23.5	25.9	28.4	30.2	31.7	32.9	1.4%
Plug-in hybrid	0.0	0.1	0.2	0.6	1.4	2.4	3.4	24.0%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	22.8	24.1	26.7	29.9	33.0	36.1	38.9	1.9%
Brazil								
Electric	0.0	0.0	0.2	0.4	0.8	1.2	1.6	20.7%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3%
Natural gas	2.1	2.3	2.7	2.9	2.5	1.5	1.3	-1.9%
Diesel	0.7	1.0	1.5	2.0	2.2	2.3	2.2	4.4%
Motor gasoline	45.3	45.5	46.5	46.4	45.9	45.9	46.0	0.1%
Plug-in hybrid	0.0	0.1	0.5	1.9	4.0	6.5	8.5	25.4%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	48.1	48.9	51.5	53.6	55.3	57.3	59.6	0.8%
Other Americas								

Total	544.9	609.9	712.2	797.6	861.3	917.4	968.6	2.1%
Japan								
Electric	0.3	0.6	1.4	2.5	3.8	5.4	7.5	12.0%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-64.7%
Liquefied petroleum gas	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-2.8%
Natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6%
Diesel	1.7	2.0	2.3	2.3	2.1	2.0	1.9	0.5%
Motor gasoline	63.8	60.0	54.1	49.0	44.6	40.5	36.3	-2.0%
Plug-in hybrid	0.3	0.6	1.2	2.0	2.6	3.0	3.2	9.3%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	66.3	63.3	59.1	55.8	53.2	51.0	49.0	-1.1%
South Korea								
Electric	0.4	0.6	1.6	3.6	6.7	9.7	12.1	13.3%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-79.9%
Liquefied petroleum gas	1.8	1.4	0.9	0.6	0.5	0.4	0.3	-6.7%
Natural gas	0.9	0.8	0.7	0.6	0.4	0.3	0.2	-5.3%
Diesel	6.4	6.0	4.7	3.2	2.3	1.8	1.7	-4.6%
Motor gasoline	13.5	15.0	16.3	15.5	12.7	9.6	7.0	-2.3%
Plug-in hybrid	0.1	0.3	1.1	2.0	2.6	2.5	2.0	13.1%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	23.0	24.2	25.3	25.5	25.1	24.4	23.3	0.0%
Australia and New Zealand								
Electric	0.1	0.2	0.5	0.9	1.3	1.9	2.7	11.7%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-53.3%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2%
Natural gas	0.1	0.1	0.0	0.0	0.0	0.0	0.0	-14.4%
Diesel	1.6	1.9	2.2	2.2	2.1	1.9	1.7	0.0%
Motor gasoline	14.8	15.5	16.3	16.6	16.2	15.3	14.0	-0.2%
Plug-in hybrid	0.0	0.1	0.4	1.1	2.4	4.1	5.9	19.8%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	16.7	17.9	19.5	20.9	22.1	23.3	24.3	1.3%
China								
Electric	15.7	30.7	59.3	95.9	136.1	166.2	186.7	9.2%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-78.6%
Liquefied petroleum gas	1.2	1.4	1.5	1.4	1.0	0.7	0.5	-3.4%
Natural gas	16.7	18.2	18.0	16.8	14.6	12.8	11.7	-1.3%
Diesel	3.3	3.1	2.5	1.8	1.1	1.1	1.0	-4.0%
Motor gasoline	284.8	307.5	315.4	289.4	235.0	187.1	158.7	-2.1%
Plug-in hybrid	3.7	8.8	25.0	38.2	50.9	57.6	56.1	10.2%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	325.5	369.7	421.7	443.4	438.8	425.4	414.7	0.9%
India								
Electric	0.1	0.2	0.5	1.1	3.0	6.8	12.8	20.9%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.3%
Liquefied petroleum gas	2.2	2.0	1.9	2.3	2.8	3.2	3.8	1.9%
Natural gas	1.5	2.0	3.0	3.6	3.9	3.7	3.1	2.5%
Diesel	21.1	27.4	42.2	59.9	76.6	91.1	100.9	5.8%
Motor gasoline	24.7	31.4	49.6	73.8	98.3	119.6	134.3	6.2%
Plug-in hybrid	0.0	0.1	0.8	3.0	7.9	14.7	23.2	32.9%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	49.6	63.1	98.0	143.8	192.4	239.1	278.1	6.4%
Other Asia Pacific								
Electric	0.1	0.5	1.5	3.6	6.3	9.6	12.7	19.8%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.1%
Liquefied petroleum gas	0.2	0.2	0.1	0.0	0.0	0.0	0.0	-21.7%
Natural gas	2.0	1.8	1.5	1.1	0.8	0.7	0.6	-4.2%
Diesel	14.9	17.2	21.2	25.0	28.0	30.8	33.5	2.9%
Motor gasoline	46.5	51.8	63.1	75.6	88.9	103.7	119.8	3.4%

Plug-in hybrid	0.1	0.3	1.1	2.8	5.7	9.5	12.5	18.4%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	63.8	71.7	88.5	108.1	129.8	154.3	179.1	3.8%
Africa and Middle East								
Electric	0.1	0.4	1.2	2.5	4.3	6.3	8.4	17.7%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5%
Liquefied petroleum gas	0.4	0.4	0.4	0.3	0.1	0.0	0.0	-13.8%
Natural gas	3.8	3.8	3.4	2.2	1.5	1.0	0.7	-5.7%
Diesel	4.0	4.4	4.9	5.4	5.8	6.3	6.9	2.0%
Motor gasoline	88.4	96.8	109.5	118.6	125.3	133.7	143.1	1.7%
Plug-in hybrid	0.0	0.2	0.9	2.9	6.3	10.6	14.0	22.7%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	96.7	106.0	120.3	132.0	143.3	157.9	173.2	2.1%
Africa								
Electric	0.0	0.0	0.2	0.7	1.5	2.4	3.4	25.1%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.3%
Liquefied petroleum gas	0.3	0.3	0.2	0.1	0.0	0.0	0.0	-28.4%
Natural gas	0.3	0.3	0.4	0.4	0.4	0.3	0.2	-1.7%
Diesel	3.7	4.0	4.4	4.8	5.2	5.7	6.4	2.0%
Motor gasoline	32.7	35.6	40.3	44.5	48.3	53.5	59.6	2.2%
Plug-in hybrid	0.0	0.0	0.1	0.4	1.0	1.7	2.4	26.4%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	37.0	40.3	45.7	50.9	56.4	63.6	72.0	2.4%
Middle East								
Electric	0.1	0.4	0.9	1.8	2.8	3.9	5.0	15.8%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.7%
Liquefied petroleum gas	0.1	0.2	0.2	0.2	0.1	0.0	0.0	-9.9%
Natural gas	3.5	3.5	3.0	1.8	1.1	0.7	0.5	-6.4%
Diesel	0.2	0.3	0.5	0.6	0.6	0.6	0.5	2.5%
Motor gasoline	55.7	61.3	69.1	74.2	77.0	80.2	83.5	1.5%
Plug-in hybrid	0.0	0.2	0.8	2.5	5.3	8.9	11.7	22.2%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	59.7	65.8	74.5	81.0	86.9	94.3	101.2	1.9%
World								
Electric	26.9	53.0	114.6	207.0	311.9	406.1	486.4	10.9%
Hydrogen	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3%
Liquefied petroleum gas	9.6	7.9	7.3	8.3	9.0	9.4	9.9	0.1%
Natural gas	35.7	38.9	39.7	36.5	31.1	25.3	21.7	-1.8%
Diesel	178.4	182.6	192.1	197.6	202.1	213.1	219.3	0.7%
Motor gasoline	1,158.3	1,196.6	1,224.8	1,205.1	1,159.2	1,126.0	1,117.8	-0.1%
Plug-in hybrid	10.0	23.9	59.9	99.0	138.5	168.7	183.9	10.9%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	1,418.9	1,502.9	1,638.4	1,753.6	1,851.9	1,948.8	2,039.0	1.3%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run lz_230821.151531 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

Note: Totals may not equal sum of components due to independent rounding.