

Table L1. Transportation sector energy consumption by region and fuel, Low Economic Growth case

quadrillion British thermal units

Region and fuel	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
World								
Motor gasoline and E85	46.6	46.2	44.9	43.5	42.4	42.3	43.3	-0.3%
Distillate fuel oil and bioDiesel	42.9	43.2	42.4	41.9	42.0	42.7	43.1	0.0%
Residual fuel oil	8.0	8.6	8.9	8.8	8.6	8.2	7.7	-0.2%
Liquefied petroleum gas	0.5	0.4	0.3	0.3	0.3	0.3	0.3	-1.5%
Jet fuel	11.1	13.9	15.2	16.3	17.3	18.4	19.4	2.0%
Other liquid fuels	0.4	0.5	0.5	0.5	0.4	0.4	0.4	-0.1%
Natural gas	4.2	4.5	4.4	4.5	4.5	4.8	5.2	0.8%
Electricity	1.9	2.1	2.6	3.3	4.1	4.9	5.5	3.8%
Total	115.7	119.4	119.1	119.1	119.7	122.0	124.9	0.3%
Americas								
Motor gasoline and E85	21.7	20.7	19.3	18.2	17.3	17.1	17.4	-0.8%
Distillate fuel oil and bioDiesel	11.1	10.9	10.5	10.3	10.3	10.3	10.3	-0.3%
Residual fuel oil	1.3	1.2	1.1	1.1	1.1	1.1	1.0	-0.7%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Jet fuel	4.1	4.5	4.6	4.7	4.9	5.2	5.5	1.0%
Other liquid fuels	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0%
Natural gas	1.4	1.2	1.1	1.1	1.1	1.1	1.2	-0.5%
Electricity	0.1	0.1	0.3	0.5	0.7	0.8	1.0	8.4%
Total	39.9	38.8	37.2	36.2	35.6	35.8	36.6	-0.3%
United States								
Motor gasoline and E85	15.8	14.9	13.8	12.8	12.0	11.6	11.8	-1.0%
Distillate fuel oil and bioDiesel	6.7	6.4	6.0	5.7	5.5	5.4	5.3	-0.8%
Residual fuel oil	0.7	0.5	0.5	0.5	0.4	0.4	0.4	-1.8%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7%
Jet fuel	3.1	3.3	3.4	3.4	3.5	3.7	3.9	0.8%
Other liquid fuels	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0%
Natural gas	1.0	0.8	0.7	0.8	0.8	0.9	1.0	-0.2%
Electricity	0.1	0.1	0.2	0.4	0.5	0.6	0.7	9.1%
Total	27.5	26.2	24.6	23.6	22.9	22.8	23.3	-0.6%
Canada								
Motor gasoline and E85	1.4	1.3	1.2	1.1	1.0	1.0	1.0	-1.2%
Distillate fuel oil and bioDiesel	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.6%
Residual fuel oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.2%
Jet fuel	0.2	0.3	0.3	0.3	0.4	0.4	0.4	1.9%
Other liquid fuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Natural gas	0.1	0.1	0.0	0.0	0.0	0.0	0.0	-4.7%
Electricity	0.0	0.0	0.0	0.1	0.1	0.1	0.1	11.8%
Total	2.6	2.6	2.5	2.4	2.4	2.5	2.5	-0.1%
Mexico								
Motor gasoline and E85	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.0%
Distillate fuel oil and bioDiesel	0.5	0.5	0.5	0.4	0.4	0.4	0.5	-0.1%
Residual fuel oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-8.3%
Jet fuel	0.2	0.2	0.2	0.2	0.2	0.3	0.3	2.2%
Other liquid fuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5%
Natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8%
Electricity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5%
Total	2.1	2.1	2.1	2.1	2.1	2.2	2.2	0.3%
Brazil								

Natural gas	0.2	0.2	0.3	0.4	0.5	0.6	0.6	4.8%
Electricity	0.1	0.1	0.2	0.2	0.2	0.3	0.4	3.8%
Total	5.1	5.7	7.0	8.6	10.1	11.6	12.7	3.3%
Other Asia Pacific								
Motor gasoline and E85	3.8	4.0	4.4	4.9	5.3	5.8	6.2	1.8%
Distillate fuel oil and bioDiesel	3.6	3.9	4.1	4.3	4.5	4.7	4.8	1.0%
Residual fuel oil	2.4	2.6	2.7	2.7	2.6	2.5	2.2	-0.2%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-7.0%
Jet fuel	0.9	1.5	1.8	2.0	2.2	2.4	2.6	3.8%
Other liquid fuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2%
Natural gas	0.2	0.2	0.2	0.3	0.3	0.4	0.6	4.2%
Electricity	0.0	0.0	0.0	0.1	0.1	0.2	0.2	11.6%
Total	10.9	12.3	13.3	14.2	15.1	15.9	16.6	1.5%
Africa and Middle East								
Motor gasoline and E85	5.6	5.8	6.1	6.6	7.0	7.6	8.2	1.4%
Distillate fuel oil and bioDiesel	5.0	5.2	5.3	5.5	5.8	6.1	6.5	1.0%
Residual fuel oil	1.2	1.3	1.4	1.4	1.4	1.3	1.2	0.1%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-14.1%
Jet fuel	1.1	1.4	1.6	1.8	2.1	2.3	2.6	3.1%
Other liquid fuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3%
Natural gas	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.5%
Electricity	0.0	0.0	0.1	0.1	0.1	0.1	0.2	5.7%
Total	13.4	14.3	15.0	15.9	16.8	17.9	19.2	1.3%
Africa								
Motor gasoline and E85	2.4	2.6	3.0	3.3	3.7	4.2	4.8	2.5%
Distillate fuel oil and bioDiesel	2.6	2.8	3.0	3.2	3.4	3.7	4.1	1.5%
Residual fuel oil	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.3%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-30.4%
Jet fuel	0.3	0.4	0.5	0.6	0.6	0.7	0.8	3.0%
Other liquid fuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3%
Natural gas	0.1	0.1	0.2	0.2	0.2	0.2	0.2	1.9%
Electricity	0.0	0.0	0.0	0.0	0.1	0.1	0.1	3.4%
Total	5.7	6.3	6.8	7.5	8.2	9.1	10.1	2.1%
Middle East								
Motor gasoline and E85	3.2	3.2	3.2	3.2	3.2	3.3	3.4	0.3%
Distillate fuel oil and bioDiesel	2.3	2.3	2.3	2.3	2.4	2.4	2.4	0.1%
Residual fuel oil	1.0	1.2	1.2	1.2	1.2	1.1	1.1	0.1%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-11.3%
Jet fuel	0.8	1.0	1.1	1.3	1.4	1.6	1.8	3.1%
Other liquid fuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1%
Natural gas	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-0.2%
Electricity	0.0	0.0	0.0	0.0	0.1	0.1	0.1	9.0%
Total	7.7	8.0	8.2	8.4	8.6	8.8	9.1	0.6%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run Im_230821.151939 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

Note: Totals may not equal sum of components due to independent rounding. Quantities for the United States, Americas, and World include energy used for U.S. military transportation and the energy content of lubricants.

Table L2. Transportation sector passenger transport energy consumption by region and mode, Low Economic Growth case

quadrillion British thermal units

Region and mode	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas								
Light-duty vehicles	19.2	18.5	17.3	16.3	15.6	15.3	15.6	-0.8%
Air	3.7	4.0	4.1	4.3	4.5	4.7	5.0	1.1%
Buses	1.0	1.2	1.2	1.2	1.3	1.3	1.3	0.8%
Two- and three-wheeled vehicles	0.3	0.4	0.4	0.5	0.5	0.5	0.6	2.3%
Rail	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.9%
Total	24.3	24.1	23.1	22.3	21.8	21.9	22.5	-0.3%
Europe and Eurasia								
Light-duty vehicles	8.9	8.2	6.9	6.0	5.4	5.0	4.8	-2.2%
Air	2.5	3.1	3.4	3.6	3.8	3.9	4.1	1.8%
Buses	1.3	1.3	1.3	1.3	1.2	1.2	1.1	-0.5%
Two- and three-wheeled vehicles	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.7%
Rail	0.2	0.2	0.1	0.1	0.1	0.1	0.1	-1.3%
Total	13.0	12.9	11.8	11.1	10.6	10.4	10.3	-0.8%
Asia Pacific								
Light-duty vehicles	12.7	13.5	14.2	14.5	14.8	15.4	16.2	0.9%
Air	2.2	3.9	4.6	5.1	5.5	5.9	6.2	3.8%
Buses	2.5	2.5	2.5	2.6	2.5	2.5	2.4	-0.1%
Two- and three-wheeled vehicles	2.1	2.4	2.6	2.8	2.9	3.0	3.0	1.3%
Rail	0.3	0.3	0.3	0.2	0.2	0.2	0.2	-1.1%
Total	19.8	22.5	24.2	25.3	26.0	27.0	28.0	1.2%
Africa and Middle East								
Light-duty vehicles	4.5	4.5	4.6	4.7	4.8	5.1	5.4	0.7%
Air	1.0	1.3	1.5	1.7	1.9	2.2	2.4	3.4%
Buses	1.9	2.1	2.5	2.9	3.3	3.8	4.4	3.1%
Two- and three-wheeled vehicles	0.1	0.1	0.1	0.2	0.2	0.3	0.4	4.9%
Rail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3%
Total	7.4	8.1	8.8	9.5	10.4	11.4	12.6	1.9%
World								
Light-duty vehicles	45.4	44.7	43.0	41.6	40.6	40.8	41.9	-0.3%
Air	9.4	12.4	13.6	14.7	15.7	16.7	17.7	2.3%
Buses	6.7	7.1	7.5	7.9	8.3	8.7	9.2	1.2%
Two- and three-wheeled vehicles	2.6	2.9	3.2	3.5	3.8	4.0	4.1	1.6%
Rail	0.5	0.5	0.5	0.5	0.4	0.4	0.4	-0.7%
Total	64.5	67.6	67.9	68.2	68.8	70.6	73.3	0.5%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run Im_230821.151939 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

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

Table L3. Transportation sector freight transport energy consumption by region and mode, Low Economic Growth case

quadrillion British thermal units

Region and mode	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas								
Heavy-duty trucks	11.1	10.6	10.1	9.8	9.7	9.8	10.0	-0.4%
Rail	0.8	0.8	0.7	0.7	0.7	0.7	0.7	-0.3%
Marine vessels	1.9	1.9	1.9	1.9	1.9	1.9	1.8	-0.1%
Natural gas pipeline	1.0	0.8	0.6	0.6	0.6	0.7	0.7	-1.4%
Air freighter	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2%
Total	14.9	14.2	13.5	13.2	13.1	13.2	13.3	-0.4%
Europe and Eurasia								
Heavy-duty trucks	7.4	7.2	6.8	6.6	6.5	6.6	6.8	-0.3%
Rail	0.7	0.7	0.7	0.7	0.6	0.6	0.6	-0.6%
Marine vessels	2.1	2.4	2.5	2.5	2.5	2.4	2.3	0.4%
Natural gas pipeline	0.2	0.5	0.4	0.4	0.4	0.4	0.4	2.2%
Air freighter	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0%
Total	10.9	11.1	10.8	10.5	10.5	10.5	10.5	-0.1%
Asia Pacific								
Heavy-duty trucks	10.9	11.2	11.2	11.3	11.4	11.8	12.0	0.3%
Rail	0.9	1.0	1.0	1.0	1.0	0.9	0.9	-0.1%
Marine vessels	6.1	6.8	7.2	7.2	7.1	6.9	6.7	0.3%
Natural gas pipeline	0.0	0.1	0.1	0.1	0.1	0.1	0.1	3.6%
Air freighter	0.8	0.7	0.7	0.7	0.7	0.6	0.6	-0.8%
Total	18.7	19.7	20.1	20.2	20.2	20.4	20.3	0.3%
Africa and Middle East								
Heavy-duty trucks	4.2	4.3	4.3	4.4	4.5	4.6	4.8	0.4%
Rail	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3%
Marine vessels	1.4	1.6	1.7	1.7	1.7	1.6	1.6	0.4%
Natural gas pipeline	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.2%
Air freighter	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-0.4%
Total	6.0	6.2	6.3	6.4	6.4	6.5	6.6	0.4%
World								
Heavy-duty trucks	33.7	33.4	32.4	32.0	32.2	32.9	33.6	0.0%
Rail	2.5	2.5	2.4	2.4	2.4	2.3	2.3	-0.3%
Marine vessels	11.5	12.7	13.2	13.3	13.1	12.8	12.4	0.3%
Natural gas pipeline	1.4	1.4	1.3	1.2	1.2	1.2	1.2	-0.4%
Air freighter	1.4	1.3	1.3	1.3	1.3	1.3	1.3	-0.4%
Total	50.5	51.2	50.6	50.2	50.2	50.6	50.8	0.0%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run Im_230821.151939 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

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

Table L4. Aircraft efficiency, Low Economic Growth case

seat miles per gallon

Aircraft type and vintage	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Narrow body aircraft								
New	84.5	86.9	90.4	94.2	98.0	101.9	105.9	0.8%
Stock	77.3	79.3	82.1	85.5	89.2	93.1	96.9	0.8%
Wide body aircraft								
New	107.0	110.0	114.4	119.0	123.7	128.5	133.6	0.8%
Stock	98.9	102.0	104.6	108.0	112.1	117.1	122.4	0.8%
Regional jets								
New	54.6	56.9	59.6	62.3	64.9	67.5	70.1	0.9%
Stock	52.6	54.1	55.6	57.5	59.4	61.5	63.6	0.7%
Average aircraft								
New	87.6	91.8	95.7	99.7	103.8	108.1	112.4	0.9%
Stock	80.8	84.5	87.3	90.7	94.4	98.6	102.8	0.9%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run Im_230821.151939 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

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

Table L5. Revenue passenger air travel, Low Economic Growth case

billion revenue-passenger-miles

Region and type	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
United States								
Domestic	710	739	778	821	888	975	1,082	1.5%
International	243	401	433	468	516	576	648	3.6%
Total	953	1,139	1,210	1,290	1,404	1,550	1,729	2.2%
Canada								
Domestic	33	38	42	45	48	51	54	1.8%
International	45	91	105	118	133	149	166	4.8%
Total	78	130	146	163	181	200	220	3.8%
Mexico								
Domestic	36	39	46	54	63	73	84	3.1%
International	41	46	54	62	71	81	92	3.0%
Total	76	86	100	116	135	154	176	3.0%
Brazil								
Domestic	56	60	64	67	69	71	72	0.9%
International	30	45	48	49	50	50	50	1.9%
Total	86	105	112	116	119	121	123	1.3%
Other Americas								
Domestic	54	71	80	90	101	112	125	3.0%
International	96	119	139	162	188	217	249	3.5%
Total	150	190	220	252	289	329	374	3.3%
Western Europe								
Domestic	524	695	769	848	934	1,027	1,126	2.8%
International	370	668	734	805	881	963	1,049	3.8%
Total	894	1,363	1,503	1,653	1,816	1,990	2,175	3.2%
Russia								
Domestic	103	107	113	116	121	126	131	0.9%
International	37	61	86	93	101	109	119	4.3%
Total	140	169	199	210	222	235	249	2.1%
Eastern Europe and Eurasia								
Domestic	10	11	13	15	17	19	22	3.0%
International	36	47	55	64	75	86	99	3.7%
Total	46	58	68	79	92	106	121	3.5%
Japan								
Domestic	47	62	64	65	66	67	68	1.4%
International	24	99	111	107	104	101	99	5.3%
Total	70	161	175	173	171	169	167	3.1%
South Korea								
Domestic	8	8	9	9	9	9	9	0.2%
International	18	76	93	94	89	85	83	5.7%
Total	26	84	102	103	98	94	91	4.6%
Australia and New Zealand								
Domestic	44	61	70	78	85	93	100	3.0%
International	32	86	107	123	141	161	183	6.5%
Total	75	147	177	201	227	254	283	4.8%
China								
Domestic	241	552	688	810	903	991	1,046	5.4%
International	22	156	206	251	296	345	392	10.9%
Total	263	708	894	1,061	1,198	1,335	1,438	6.3%
India								
Domestic	73	99	139	179	216	251	279	4.9%
International	28	74	102	128	154	179	200	7.3%

Total	101	173	241	307	370	430	479	5.7%
Other Asia Pacific								
Domestic	97	208	260	313	370	429	487	5.9%
International	88	315	407	484	570	664	763	8.0%
Total	184	523	668	797	940	1,092	1,250	7.1%
Africa								
Domestic	37	54	66	80	96	113	133	4.7%
International	68	116	140	165	192	221	252	4.8%
Total	105	170	206	245	287	334	385	4.8%
Middle East								
Domestic	42	53	62	73	83	95	107	3.4%
International	192	284	348	422	507	606	719	4.8%
Total	234	337	411	495	591	701	826	4.6%
World								
Domestic	2,114	2,858	3,263	3,664	4,069	4,502	4,925	3.1%
International	1,367	2,684	3,167	3,597	4,068	4,593	5,163	4.9%
Total	3,481	5,542	6,431	7,261	8,137	9,095	10,088	3.9%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run Im_230821.151939 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

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

Table L6. Revenue freight air transport, Low Economic Growth case

billion revenue-ton-miles

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	58.3	57.2	60.4	64.7	70.4	77.4	85.6	1.4%
United States	47.4	46.3	49.0	52.5	57.3	63.2	70.1	1.4%
Canada	2.1	2.0	1.9	1.8	1.8	1.8	1.8	-0.5%
Mexico	1.5	1.5	1.6	1.7	1.8	1.8	1.9	1.0%
Brazil	2.5	2.4	2.3	2.3	2.3	2.3	2.3	-0.3%
Other Americas	4.8	5.0	5.6	6.4	7.3	8.3	9.5	2.5%
Europe and Eurasia	39.9	42.3	45.7	48.4	51.3	54.1	56.6	1.3%
Western Europe	38.6	41.2	44.7	47.5	50.4	53.2	55.8	1.3%
Russia	1.1	1.0	0.8	0.8	0.7	0.7	0.7	-1.6%
Eastern Europe and Eurasia	0.2	0.2	0.1	0.1	0.1	0.1	0.1	-0.9%
Asia Pacific	65.2	66.6	69.6	72.3	74.4	76.3	77.6	0.6%
Japan	6.8	7.1	7.3	7.4	7.4	7.3	7.3	0.2%
South Korea	10.8	10.1	9.5	9.3	9.2	9.1	9.0	-0.7%
Australia and New Zealand	2.0	2.3	2.7	2.9	3.1	3.2	3.3	1.9%
China	19.8	20.3	21.7	23.2	24.2	25.2	25.7	0.9%
India	2.5	3.1	4.0	4.7	5.3	5.9	6.4	3.3%
Other Asia Pacific	23.3	23.7	24.3	24.8	25.2	25.6	25.9	0.4%
Africa and Middle East	10.9	10.5	10.6	11.1	11.9	12.7	13.6	0.8%
Africa	5.0	5.3	6.0	6.7	7.6	8.4	9.2	2.2%
Middle East	5.8	5.2	4.6	4.4	4.3	4.3	4.3	-1.0%
World	174.2	176.6	186.3	196.5	207.9	220.5	233.4	1.1%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run Im_230821.151939 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

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

Table L7. Passenger aircraft capacity, Low Economic Growth case

billion seat miles

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	1,685	1,967	2,129	2,304	2,528	2,796	3,112	2.2%
United States	1,173	1,352	1,433	1,525	1,658	1,829	2,039	2.0%
Canada	99	154	174	194	215	237	261	3.5%
Mexico	94	105	123	142	164	188	214	3.0%
Brazil	118	126	134	139	141	144	146	0.8%
Other Americas	201	230	266	305	349	398	452	2.9%
Europe and Eurasia	1,403	1,933	2,152	2,361	2,588	2,833	3,093	2.9%
Western Europe	1,167	1,658	1,828	2,010	2,206	2,418	2,642	3.0%
Russia	176	203	239	252	267	283	300	1.9%
Eastern Europe and Eurasia	60	73	85	99	115	132	151	3.4%
Asia Pacific	1,098	2,207	2,763	3,229	3,668	4,120	4,530	5.2%
Japan	126	208	225	222	220	217	215	1.9%
South Korea	37	103	124	125	119	115	111	4.0%
Australia and New Zealand	136	184	221	252	283	317	354	3.5%
China	406	841	1,059	1,255	1,416	1,578	1,699	5.2%
India	130	203	282	360	432	502	559	5.4%
Other Asia Pacific	263	667	851	1,016	1,197	1,391	1,592	6.6%
Africa and Middle East	459	675	821	984	1,168	1,376	1,609	4.6%
Africa	143	227	274	325	382	443	511	4.7%
Middle East	316	448	547	659	786	933	1,099	4.6%
World	4,645	6,782	7,865	8,878	9,952	11,125	12,343	3.6%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run Im_230821.151939 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

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

Table L8. Total commercial jet fuel use, Low Economic Growth case

quadrillion British thermal units

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	3.8	4.1	4.3	4.4	4.6	4.8	5.1	1.1%
United States	2.8	3.0	3.0	3.0	3.2	3.3	3.5	0.9%
Canada	0.2	0.3	0.3	0.3	0.4	0.4	0.4	1.9%
Mexico	0.2	0.2	0.2	0.2	0.2	0.3	0.3	2.2%
Brazil	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0%
Other Americas	0.4	0.4	0.5	0.5	0.6	0.6	0.7	1.8%
Europe and Eurasia	2.9	3.5	3.8	4.0	4.2	4.3	4.5	1.6%
Western Europe	2.4	3.0	3.1	3.3	3.5	3.7	3.8	1.7%
Russia	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.8%
Eastern Europe and Eurasia	0.1	0.1	0.1	0.1	0.1	0.1	0.2	1.6%
Asia Pacific	3.0	4.6	5.3	5.8	6.2	6.6	6.8	3.0%
Japan	0.3	0.4	0.5	0.4	0.4	0.4	0.4	0.6%
South Korea	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.4%
Australia and New Zealand	0.3	0.3	0.4	0.4	0.5	0.5	0.5	2.5%
China	1.0	1.6	1.8	2.0	2.2	2.3	2.3	3.0%
India	0.3	0.4	0.5	0.6	0.7	0.7	0.8	4.1%
Other Asia Pacific	0.9	1.5	1.8	2.0	2.2	2.4	2.6	3.8%
Africa and Middle East	1.1	1.4	1.6	1.8	2.1	2.3	2.6	3.1%
Africa	0.3	0.4	0.5	0.6	0.6	0.7	0.8	3.0%
Middle East	0.8	1.0	1.1	1.3	1.4	1.6	1.8	3.1%
World	10.8	13.6	14.9	16.0	17.0	18.0	19.0	2.0%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run Im_230821.151939 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

Note: Totals may not equal sum of components due to independent rounding. Quantities for the United States, Americas, and World do not include energy used for U.S. military transportation and the energy content of lubricants.

Table L9. New light duty vehicle sales by technology, Low Economic Growth case

thousand vehicles

Region and technology	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas								
Electric	802.8	1,044.9	1,883.9	2,209.1	2,462.6	2,665.6	2,885.3	4.7%
Hydrogen	2.4	1.8	2.6	3.0	3.0	2.8	2.8	0.5%
Liquefied petroleum gas	4.0	2.5	2.1	1.9	1.9	2.0	2.2	-2.0%
Natural gas	258.6	201.4	188.3	152.8	100.2	78.5	64.5	-4.8%
Diesel	435.8	503.4	602.5	576.5	555.0	571.3	614.4	1.2%
Motor gasoline	19,714.0	18,411.5	17,751.8	17,223.6	17,286.7	17,491.1	17,972.9	-0.3%
Plug-in hybrid	205.5	397.6	695.0	1,104.8	1,392.3	1,636.1	1,644.1	7.7%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	21,423.1	20,563.1	21,126.1	21,271.8	21,801.6	22,447.3	23,186.2	0.3%
United States								
Electric	678.2	826.7	1,468.7	1,716.6	1,851.3	1,933.8	1,989.8	3.9%
Hydrogen	2.4	1.8	2.6	3.0	3.0	2.8	2.8	0.5%
Liquefied petroleum gas	0.4	0.8	0.9	0.9	1.1	1.4	1.8	5.1%
Natural gas	0.4	0.6	0.5	0.5	0.5	0.5	0.6	1.1%
Diesel	72.8	95.6	106.6	103.1	111.1	115.8	122.4	1.9%
Motor gasoline	13,194.8	12,615.7	11,737.0	11,288.4	11,745.9	11,733.7	11,925.7	-0.4%
Plug-in hybrid	182.4	314.7	455.7	517.0	550.2	571.9	588.2	4.3%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	14,131.5	13,855.9	13,771.9	13,629.4	14,263.2	14,359.9	14,631.3	0.1%
Canada								
Electric	112.4	173.3	286.9	296.9	363.6	428.4	529.6	5.7%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5%
Liquefied petroleum gas	0.3	0.2	0.1	0.1	0.1	0.1	0.1	-5.0%
Natural gas	1.7	0.7	0.0	0.1	0.1	0.1	0.1	-9.4%
Diesel	117.2	110.4	143.2	152.6	151.4	149.0	141.5	0.7%
Motor gasoline	1,499.9	1,360.0	1,268.3	1,279.8	1,238.4	1,209.6	1,142.6	-1.0%
Plug-in hybrid	16.6	43.0	69.3	125.8	185.1	265.1	329.1	11.3%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	1,748.1	1,687.5	1,767.8	1,855.3	1,938.8	2,052.2	2,143.0	0.7%
Mexico								
Electric	7.4	22.2	50.8	72.6	88.6	107.0	128.6	10.7%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.4%
Liquefied petroleum gas	3.2	1.5	1.2	0.9	0.7	0.5	0.4	-7.4%
Natural gas	4.5	1.8	2.0	1.9	1.5	1.2	0.9	-5.6%
Diesel	7.1	6.0	5.4	5.6	5.9	6.2	6.2	-0.5%
Motor gasoline	1,823.0	1,405.8	1,253.1	1,276.8	1,346.7	1,415.2	1,420.5	-0.9%
Plug-in hybrid	1.5	15.4	32.0	82.4	147.0	186.2	173.8	18.5%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	1,846.7	1,452.8	1,344.4	1,440.1	1,590.3	1,716.2	1,730.4	-0.2%
Brazil								
Electric	2.7	6.6	29.0	50.1	61.2	72.6	90.9	13.4%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.6%
Natural gas	125.8	78.7	86.3	83.1	52.9	41.0	33.7	-4.6%
Diesel	85.0	111.2	140.4	106.4	85.2	81.8	106.1	0.8%
Motor gasoline	2,230.0	1,947.6	2,229.9	2,146.3	1,778.0	1,831.5	2,045.5	-0.3%
Plug-in hybrid	4.0	18.6	108.5	299.2	394.8	471.6	441.1	18.3%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	2,447.5	2,162.7	2,594.1	2,685.2	2,372.1	2,498.4	2,717.3	0.4%
Other Americas								

Total	34,418.2	35,564.6	39,694.0	43,766.5	45,296.8	46,355.7	47,205.1	1.1%
Japan								
Electric	66.0	104.9	199.0	216.5	290.3	371.6	482.7	7.4%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.6%
Liquefied petroleum gas	5.9	4.3	4.8	4.1	4.2	3.1	2.6	-2.9%
Natural gas	1.4	0.9	0.7	0.6	0.9	0.9	0.9	-1.7%
Diesel	141.1	136.3	128.3	127.3	115.5	116.4	112.9	-0.8%
Motor gasoline	3,144.5	3,032.4	2,881.5	2,559.7	2,262.5	2,098.5	1,865.5	-1.8%
Plug-in hybrid	44.8	122.4	137.5	184.5	197.2	198.8	180.1	5.1%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	3,403.6	3,401.3	3,351.8	3,092.7	2,870.7	2,789.3	2,644.7	-0.9%
South Korea								
Electric	75.3	74.8	296.9	520.0	753.6	895.7	968.4	9.6%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3%
Liquefied petroleum gas	50.3	24.9	34.6	30.8	20.7	14.0	9.7	-5.7%
Natural gas	49.3	23.8	30.8	30.3	15.2	7.8	4.0	-8.5%
Diesel	191.0	168.7	156.3	131.2	105.8	105.7	126.9	-1.5%
Motor gasoline	1,069.5	1,128.3	942.3	733.2	519.2	408.8	314.4	-4.3%
Plug-in hybrid	14.5	81.4	164.5	211.0	165.2	121.9	87.9	6.7%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	1,449.9	1,502.0	1,625.4	1,656.5	1,579.7	1,553.8	1,511.4	0.1%
Australia and New Zealand								
Electric	34.4	37.6	65.9	77.3	116.7	154.0	205.9	6.6%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6%
Liquefied petroleum gas	0.4	0.0	2.5	1.9	1.5	1.3	1.1	3.7%
Natural gas	2.4	0.1	0.2	0.1	0.0	0.0	0.0	-18.6%
Diesel	110.9	125.1	110.1	99.9	86.8	75.8	63.7	-2.0%
Motor gasoline	873.1	922.9	864.3	805.9	720.1	653.7	577.1	-1.5%
Plug-in hybrid	8.3	19.6	75.4	169.8	275.7	373.1	425.4	15.1%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	1,029.5	1,105.4	1,118.5	1,154.9	1,200.8	1,257.9	1,273.1	0.8%
China								
Electric	4,681.2	5,206.0	6,526.2	8,607.6	9,192.7	9,424.8	9,751.9	2.7%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2%
Liquefied petroleum gas	66.6	62.9	27.8	28.7	20.9	12.2	6.2	-8.1%
Natural gas	990.1	655.7	304.4	543.6	647.8	607.7	394.3	-3.2%
Diesel	43.9	37.4	22.0	61.1	55.1	43.8	33.0	-1.0%
Motor gasoline	13,210.0	11,329.7	8,584.2	8,353.5	7,534.0	6,179.7	5,118.7	-3.3%
Plug-in hybrid	1,006.8	1,778.2	3,733.9	2,950.6	2,892.2	2,252.9	1,793.8	2.1%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	19,998.6	19,070.0	19,198.5	20,545.0	20,342.7	18,521.0	17,097.9	-0.6%
India								
Electric	17.1	35.1	60.6	140.1	405.9	914.8	1,364.3	16.9%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3%
Liquefied petroleum gas	132.2	70.1	112.5	138.0	156.3	174.3	191.8	1.3%
Natural gas	139.1	194.0	208.2	188.3	133.7	102.1	77.9	-2.0%
Diesel	1,855.3	2,422.0	3,446.3	4,131.4	4,302.2	4,537.3	4,712.0	3.4%
Motor gasoline	2,182.8	2,910.2	4,378.6	5,438.9	5,742.1	6,122.8	6,395.8	3.9%
Plug-in hybrid	4.0	19.4	221.6	417.4	906.9	1,362.5	1,724.7	24.2%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	4,330.4	5,650.7	8,427.9	10,454.0	11,647.1	13,213.7	14,466.4	4.4%
Other Asia								
Electric	24.5	140.7	213.7	400.4	599.0	848.7	1,069.2	14.4%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4%
Natural gas	120.7	16.5	39.1	33.0	27.3	25.5	24.1	-5.6%
Diesel	1,040.2	1,236.7	1,373.0	1,391.8	1,417.6	1,570.3	1,751.4	1.9%
Motor gasoline	3,016.6	3,370.8	4,180.8	4,672.1	5,042.7	5,840.1	6,743.8	2.9%

Plug-in hybrid	4.3	70.7	165.3	366.1	569.2	735.4	623.1	19.5%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	4,206.2	4,835.3	5,971.9	6,863.4	7,655.8	9,019.9	10,211.6	3.2%
Africa and Middle East								
Electric	31.1	105.0	143.3	215.0	279.8	359.5	455.4	10.1%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8%
Liquefied petroleum gas	8.9	7.8	1.3	0.3	0.1	0.1	0.0	-17.6%
Natural gas	102.6	42.0	50.7	34.0	23.0	18.6	15.8	-6.5%
Diesel	102.6	117.7	149.2	161.5	165.0	195.9	227.2	2.9%
Motor gasoline	3,315.5	3,848.2	4,452.9	4,584.5	4,576.7	5,230.8	6,022.6	2.2%
Plug-in hybrid	10.0	45.8	158.7	398.7	595.4	738.4	620.3	15.9%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	3,570.7	4,166.5	4,956.0	5,394.0	5,640.0	6,543.2	7,341.4	2.6%
Africa								
Electric	2.3	10.5	35.2	63.8	82.1	99.5	140.3	15.9%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.9%
Natural gas	9.1	8.7	8.2	4.8	2.8	2.0	1.4	-6.4%
Diesel	75.9	87.0	117.1	135.3	145.3	179.7	213.7	3.8%
Motor gasoline	683.7	842.3	1,082.1	1,234.1	1,339.4	1,643.7	1,936.0	3.8%
Plug-in hybrid	1.0	5.1	20.3	41.2	64.9	78.7	73.0	16.4%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	771.9	953.6	1,262.8	1,479.2	1,634.4	2,003.5	2,364.4	4.1%
Middle East								
Electric	28.9	94.6	108.0	151.2	197.7	260.0	315.1	8.9%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9%
Liquefied petroleum gas	8.9	7.8	1.3	0.3	0.1	0.1	0.0	-17.7%
Natural gas	93.5	33.3	42.6	29.2	20.2	16.6	14.4	-6.5%
Diesel	26.7	30.7	32.2	26.2	19.7	16.2	13.5	-2.4%
Motor gasoline	2,631.8	3,005.9	3,370.8	3,350.3	3,237.4	3,587.2	4,086.6	1.6%
Plug-in hybrid	9.0	40.7	138.4	357.5	530.5	659.7	547.3	15.8%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	2,798.8	3,213.0	3,693.2	3,914.8	4,005.6	4,539.8	4,976.9	2.1%
World								
Electric	7,742.7	8,976.2	14,225.4	21,087.6	23,641.4	26,930.1	29,771.4	4.9%
Hydrogen	2.4	1.8	2.6	3.0	3.0	2.8	2.8	0.5%
Liquefied petroleum gas	534.9	293.0	489.4	469.7	497.1	479.8	479.0	-0.4%
Natural gas	2,146.3	1,513.6	1,040.5	1,137.3	1,081.5	971.8	722.3	-3.8%
Diesel	8,503.8	9,284.0	11,063.9	9,282.1	9,949.8	10,358.1	10,233.7	0.7%
Motor gasoline	58,681.5	56,343.9	51,890.7	50,130.6	50,097.1	49,378.4	50,063.5	-0.6%
Plug-in hybrid	2,319.1	4,803.0	7,579.1	8,832.4	8,639.6	9,008.8	8,313.1	4.7%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	79,930.7	81,215.5	86,291.4	90,942.8	93,909.5	97,129.7	99,585.8	0.8%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run Im_230821.151939 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

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

Table L10. Light-duty vehicle stocks by technology, Low Economic Growth case

million vehicles

Region and technology	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas								
Electric	3.1	5.9	13.7	22.9	31.6	39.1	45.1	10.0%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9%
Liquefied petroleum gas	0.1	0.1	0.1	0.1	0.1	0.0	0.0	-4.3%
Natural gas	5.0	5.7	6.4	6.3	5.2	3.6	2.7	-2.2%
Diesel	7.0	7.8	9.4	11.0	12.0	12.7	12.9	2.2%
Motor gasoline	389.3	389.6	387.0	377.9	370.4	369.0	369.9	-0.2%
Plug-in hybrid	1.3	2.3	5.3	9.9	15.7	22.2	27.7	11.7%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	405.8	411.4	422.0	428.0	435.1	446.7	458.4	0.4%
United States								
Electric	2.7	4.9	10.9	17.9	24.2	29.3	32.8	9.3%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7%
Natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.7%
Diesel	1.4	1.5	1.8	2.0	2.2	2.4	2.6	2.3%
Motor gasoline	270.4	268.3	262.8	253.7	247.4	246.5	248.0	-0.3%
Plug-in hybrid	1.1	1.9	3.9	6.0	8.0	9.6	10.8	8.5%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	275.6	276.7	279.4	279.6	281.9	287.9	294.4	0.2%
Canada								
Electric	0.4	0.9	2.1	3.3	4.4	5.4	6.4	10.8%
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	20.7	19.8	18.9	-0.7%
Plug-in hybrid	0.1	0.2	0.6	1.1	1.7	2.7	3.7	12.9%
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	0.6	1.1	1.5	1.9	17.3%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7%
Liquefied petroleum gas	0.1	0.1	0.1	0.0	0.0	0.0	0.0	-7.1%
Natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Diesel	0.4	0.3	0.1	0.1	0.1	0.1	0.1	-3.9%
Motor gasoline	22.3	23.4	25.2	26.6	27.1	27.3	27.2	0.7%
Plug-in hybrid	0.0	0.1	0.2	0.5	1.2	2.1	2.8	23.1%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	22.8	23.9	26.0	28.0	29.6	31.0	32.0	1.2%
Brazil								
Electric	0.0	0.0	0.1	0.4	0.7	1.0	1.3	19.7%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9%
Natural gas	2.1	2.3	2.7	2.9	2.4	1.4	1.2	-2.1%
Diesel	0.7	1.0	1.5	1.9	2.1	2.1	2.0	4.0%
Motor gasoline	45.3	45.4	45.5	43.9	42.2	41.2	40.5	-0.4%
Plug-in hybrid	0.0	0.1	0.5	1.7	3.6	5.8	7.6	24.9%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	48.1	48.8	50.3	50.8	50.9	51.5	52.6	0.3%
Other Americas								

Total	544.9	609.0	703.7	777.0	827.0	870.0	909.3	1.8%
Japan								
Electric	0.3	0.6	1.4	2.3	3.4	4.6	6.0	11.1%
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	-2.7%
Natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5%
Diesel	1.7	2.0	2.3	2.3	2.1	2.1	2.0	0.6%
Motor gasoline	63.8	60.0	54.2	49.2	44.9	41.2	37.6	-1.9%
Plug-in hybrid	0.3	0.6	1.2	2.0	2.6	3.1	3.3	9.4%
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	1.7	3.7	6.8	9.8	12.2	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	1.9	1.7	-4.6%
Motor gasoline	13.5	15.0	16.3	15.5	12.8	9.7	7.2	-2.2%
Plug-in hybrid	0.1	0.3	1.1	2.0	2.6	2.5	2.1	13.2%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	23.0	24.2	25.4	25.7	25.3	24.6	23.6	0.1%
Australia and New Zealand								
Electric	0.1	0.2	0.5	0.9	1.3	1.9	2.6	11.6%
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	0.1%
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	30.6	59.0	95.9	136.8	167.2	187.3	9.3%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-78.6%
Liquefied petroleum gas	1.2	1.4	1.4	1.4	1.0	0.7	0.4	-3.5%
Natural gas	16.7	18.2	18.0	16.7	14.5	12.6	11.6	-1.3%
Diesel	3.3	3.1	2.5	1.8	1.1	1.1	1.0	-4.0%
Motor gasoline	284.8	307.4	314.7	288.2	233.6	185.8	158.1	-2.1%
Plug-in hybrid	3.7	8.7	24.8	37.8	50.2	57.0	55.6	10.1%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	325.5	369.4	420.4	441.8	437.3	424.3	414.0	0.9%
India								
Electric	0.1	0.2	0.5	1.0	2.7	6.4	12.5	20.8%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.8%
Liquefied petroleum gas	2.2	2.0	1.9	2.2	2.5	2.8	3.3	1.3%
Natural gas	1.5	2.0	2.8	3.4	3.6	3.4	2.8	2.2%
Diesel	21.1	27.2	40.3	54.8	68.3	80.3	88.4	5.3%
Motor gasoline	24.7	31.2	47.2	67.2	87.4	105.3	117.8	5.7%
Plug-in hybrid	0.0	0.1	0.7	2.6	6.9	12.9	20.4	32.3%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	49.6	62.7	93.3	131.2	171.3	211.1	245.1	5.9%
Other Asia Pacific								
Electric	0.1	0.5	1.5	3.3	5.8	9.2	12.9	19.9%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.4%
Liquefied petroleum gas	0.2	0.2	0.1	0.0	0.0	0.0	0.0	-22.2%
Natural gas	2.0	1.8	1.5	1.1	0.7	0.6	0.5	-4.7%
Diesel	14.9	17.2	20.6	23.5	25.4	26.9	28.1	2.3%
Motor gasoline	46.5	51.6	61.3	71.2	80.8	91.0	101.2	2.8%

Plug-in hybrid	0.1	0.3	1.0	2.5	5.0	8.2	10.4	17.7%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	63.8	71.5	86.0	101.6	117.8	135.8	153.2	3.2%
Africa and Middle East								
Electric	0.1	0.4	1.2	2.6	4.3	6.3	8.3	17.6%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.3%
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	1.4	1.0	0.7	-5.9%
Diesel	4.0	4.4	5.0	5.4	5.8	6.2	6.7	1.9%
Motor gasoline	88.4	96.9	109.5	118.0	123.7	130.8	138.8	1.6%
Plug-in hybrid	0.0	0.2	0.9	2.9	6.2	10.4	13.7	22.6%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	96.7	106.1	120.3	131.4	141.6	154.7	168.2	2.0%
Africa								
Electric	0.0	0.0	0.2	0.8	1.6	2.4	3.3	24.8%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.1%
Liquefied petroleum gas	0.3	0.3	0.2	0.1	0.0	0.0	0.0	-28.5%
Natural gas	0.3	0.3	0.4	0.4	0.4	0.3	0.2	-1.9%
Diesel	3.7	4.0	4.5	4.8	5.2	5.7	6.3	1.9%
Motor gasoline	32.7	35.7	40.4	44.2	47.6	52.2	57.5	2.0%
Plug-in hybrid	0.0	0.0	0.1	0.4	1.0	1.7	2.3	26.2%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	37.0	40.4	45.9	50.8	55.7	62.2	69.5	2.3%
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	10.6%
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	-6.6%
Diesel	0.2	0.3	0.5	0.6	0.6	0.6	0.5	2.4%
Motor gasoline	55.7	61.2	69.0	73.8	76.1	78.7	81.3	1.4%
Plug-in hybrid	0.0	0.2	0.8	2.5	5.2	8.7	11.4	22.1%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	59.7	65.7	74.4	80.6	85.9	92.6	98.7	1.8%
World								
Electric	26.8	52.5	112.3	202.9	305.7	398.3	476.6	10.8%
Hydrogen	0.1	0.1	0.1	0.1	0.1	0.0	0.0	-0.4%
Liquefied petroleum gas	9.6	7.9	7.2	8.1	8.6	8.8	9.1	-0.2%
Natural gas	35.7	38.8	39.4	36.0	30.3	24.4	20.9	-1.9%
Diesel	178.4	182.3	189.1	190.1	189.9	196.4	198.5	0.4%
Motor gasoline	1,158.1	1,193.3	1,213.5	1,181.1	1,120.0	1,072.6	1,050.4	-0.3%
Plug-in hybrid	10.0	23.7	58.9	96.7	134.1	161.8	174.5	10.7%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	1,418.7	1,498.6	1,620.4	1,714.9	1,788.7	1,862.4	1,930.1	1.1%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run Im_230821.151939 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

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