

Table L1. Transportation sector energy consumption by region and fuel, High 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	46.8	47.5	47.1	46.9	47.6	49.5	52.5	0.4%
Distillate fuel oil and bioDiesel	42.9	44.3	45.7	47.7	50.4	54.0	57.6	1.1%
Residual fuel oil	8.0	8.8	9.6	10.2	10.6	10.9	10.9	1.1%
Liquefied petroleum gas	0.5	0.4	0.3	0.3	0.3	0.3	0.4	-1.1%
Jet fuel	11.1	14.2	16.3	18.4	20.8	23.4	26.2	3.1%
Other liquid fuels	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.8%
Natural gas	4.2	4.6	4.9	5.4	6.1	7.1	8.5	2.6%
Electricity	1.9	2.2	2.9	3.7	4.7	5.7	6.4	4.4%
Total	115.9	122.4	127.2	133.1	141.0	151.4	163.1	1.2%
Americas								
Motor gasoline and E85	21.9	21.9	20.9	19.9	19.6	19.9	20.8	-0.2%
Distillate fuel oil and bioDiesel	11.1	11.4	11.6	11.9	12.3	12.9	13.4	0.7%
Residual fuel oil	1.3	1.2	1.2	1.3	1.3	1.3	1.3	0.2%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5%
Jet fuel	4.1	4.6	4.9	5.3	5.7	6.2	6.8	1.8%
Other liquid fuels	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3%
Natural gas	1.4	1.3	1.2	1.3	1.4	1.4	1.6	0.4%
Electricity	0.1	0.2	0.4	0.6	0.8	1.0	1.2	9.3%
Total	40.1	40.6	40.3	40.4	41.4	43.0	45.3	0.4%
United States								
Motor gasoline and E85	16.0	16.0	15.1	14.1	13.5	13.3	13.8	-0.5%
Distillate fuel oil and bioDiesel	6.7	6.7	6.6	6.6	6.6	6.8	6.9	0.1%
Residual fuel oil	0.7	0.5	0.5	0.5	0.5	0.5	0.4	-1.6%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5%
Jet fuel	3.1	3.4	3.6	3.8	4.1	4.5	4.8	1.6%
Other liquid fuels	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2%
Natural gas	1.0	0.9	0.8	0.8	0.8	0.9	1.0	0.1%
Electricity	0.1	0.1	0.3	0.5	0.6	0.8	0.9	10.2%
Total	27.7	27.8	27.0	26.3	26.3	26.9	28.1	0.0%
Canada								
Motor gasoline and E85	1.4	1.3	1.2	1.0	1.0	0.9	0.9	-1.7%
Distillate fuel oil and bioDiesel	0.8	0.8	0.9	0.9	1.0	1.1	1.2	1.3%
Residual fuel oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.6%
Jet fuel	0.2	0.3	0.3	0.3	0.4	0.4	0.4	2.0%
Other liquid fuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0%
Natural gas	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-0.3%
Electricity	0.0	0.0	0.0	0.1	0.1	0.1	0.1	11.5%
Total	2.6	2.6	2.5	2.5	2.6	2.6	2.7	0.2%
Mexico								
Motor gasoline and E85	1.4	1.4	1.4	1.5	1.6	1.7	1.7	0.6%
Distillate fuel oil and bioDiesel	0.5	0.5	0.5	0.5	0.5	0.6	0.6	1.1%
Residual fuel oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-7.1%
Jet fuel	0.2	0.2	0.2	0.2	0.3	0.3	0.4	2.9%
Other liquid fuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3%
Natural gas	0.0	0.0	0.0	0.0	0.0	0.1	0.1	13.1%
Electricity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.6%
Total	2.1	2.1	2.1	2.3	2.4	2.6	2.8	1.1%
Brazil								

Motor gasoline and E85	1.5	1.5	1.5	1.6	1.7	1.8	1.9	0.8%
Distillate fuel oil and bioDiesel	1.6	1.7	1.8	2.0	2.1	2.2	2.3	1.3%
Residual fuel oil	0.2	0.3	0.3	0.3	0.3	0.3	0.3	1.5%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6%
Jet fuel	0.2	0.2	0.3	0.3	0.3	0.3	0.4	1.7%
Other liquid fuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5%
Natural gas	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-1.0%
Electricity	0.0	0.0	0.0	0.0	0.1	0.1	0.1	4.1%
Total	3.7	3.9	4.0	4.3	4.5	4.8	5.1	1.1%
Other Americas								
Motor gasoline and E85	1.6	1.6	1.7	1.8	2.0	2.2	2.5	1.7%
Distillate fuel oil and bioDiesel	1.5	1.6	1.8	1.9	2.0	2.2	2.4	1.6%
Residual fuel oil	0.3	0.4	0.4	0.5	0.5	0.5	0.5	1.6%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6%
Jet fuel	0.4	0.4	0.5	0.6	0.6	0.7	0.8	2.6%
Other liquid fuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6%
Natural gas	0.2	0.2	0.3	0.3	0.3	0.3	0.3	1.0%
Electricity	0.0	0.0	0.0	0.0	0.0	0.0	0.1	12.4%
Total	4.0	4.3	4.7	5.0	5.5	6.0	6.6	1.8%
Europe and Eurasia								
Motor gasoline and E85	5.6	5.2	4.5	3.9	3.4	3.0	2.8	-2.5%
Distillate fuel oil and bioDiesel	12.1	11.8	11.1	10.8	10.8	11.3	11.8	-0.1%
Residual fuel oil	1.7	1.9	2.1	2.3	2.4	2.4	2.5	1.4%
Liquefied petroleum gas	0.3	0.1	0.1	0.1	0.1	0.2	0.2	-0.8%
Jet fuel	2.9	3.6	3.9	4.3	4.6	5.0	5.4	2.2%
Other liquid fuels	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.4%
Natural gas	0.5	0.8	1.0	1.1	1.2	1.4	1.6	4.0%
Electricity	0.8	0.8	0.9	1.2	1.5	1.8	2.0	3.4%
Total	23.9	24.4	23.8	23.7	24.2	25.2	26.3	0.3%
Western Europe								
Motor gasoline and E85	3.6	3.3	2.7	2.1	1.6	1.2	0.9	-4.9%
Distillate fuel oil and bioDiesel	10.5	10.1	9.3	8.8	8.7	8.9	9.3	-0.5%
Residual fuel oil	1.6	1.8	2.1	2.2	2.3	2.3	2.4	1.5%
Liquefied petroleum gas	0.3	0.1	0.1	0.1	0.1	0.2	0.2	-0.8%
Jet fuel	2.4	3.0	3.3	3.6	3.9	4.2	4.5	2.3%
Other liquid fuels	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.4%
Natural gas	0.1	0.2	0.2	0.3	0.4	0.6	0.9	7.1%
Electricity	0.3	0.4	0.5	0.8	1.0	1.3	1.5	5.5%
Total	18.9	19.1	18.3	18.0	18.2	18.8	19.7	0.1%
Russia								
Motor gasoline and E85	1.5	1.5	1.4	1.3	1.3	1.2	1.2	-0.9%
Distillate fuel oil and bioDiesel	1.1	1.1	1.1	1.2	1.3	1.3	1.4	1.0%
Residual fuel oil	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.4%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2%
Jet fuel	0.4	0.5	0.5	0.6	0.6	0.6	0.7	1.6%
Other liquid fuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9%
Natural gas	0.2	0.3	0.3	0.3	0.4	0.5	0.4	2.2%
Electricity	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-0.7%
Total	3.6	3.7	3.8	3.8	3.9	4.0	4.0	0.4%
Eastern Europe and Eurasia								
Motor gasoline and E85	0.5	0.5	0.5	0.5	0.5	0.6	0.7	1.4%
Distillate fuel oil and bioDiesel	0.5	0.5	0.6	0.7	0.9	1.0	1.2	3.1%
Residual fuel oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.6%
Jet fuel	0.1	0.1	0.1	0.1	0.1	0.2	0.2	2.3%
Other liquid fuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1%
Natural gas	0.2	0.4	0.4	0.4	0.4	0.4	0.3	2.1%
Electricity	0.1	0.1	0.1	0.2	0.2	0.2	0.2	2.6%

Natural gas	0.2	0.2	0.3	0.5	0.7	1.0	1.2	7.4%
Electricity	0.1	0.1	0.2	0.2	0.3	0.4	0.5	5.0%
Total	5.1	5.8	7.8	10.4	13.2	15.9	18.6	4.7%
Other Asia Pacific								
Motor gasoline and E85	3.8	4.1	4.6	5.4	6.3	7.3	8.4	2.9%
Distillate fuel oil and bioDiesel	3.6	4.0	4.4	4.9	5.5	6.1	6.7	2.2%
Residual fuel oil	2.4	2.7	3.0	3.1	3.2	3.3	3.2	1.1%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-6.7%
Jet fuel	0.9	1.5	1.9	2.2	2.6	3.0	3.5	4.9%
Other liquid fuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1%
Natural gas	0.2	0.2	0.2	0.3	0.4	0.6	0.8	5.4%
Electricity	0.0	0.0	0.0	0.1	0.1	0.2	0.3	12.3%
Total	10.9	12.5	14.2	16.1	18.2	20.5	23.0	2.7%
Africa and Middle East								
Motor gasoline and E85	5.6	5.8	6.3	6.9	7.7	8.6	9.8	2.1%
Distillate fuel oil and bioDiesel	5.0	5.2	5.6	6.0	6.6	7.2	8.0	1.7%
Residual fuel oil	1.2	1.4	1.5	1.6	1.7	1.7	1.7	1.4%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-14.0%
Jet fuel	1.1	1.4	1.7	2.0	2.3	2.7	3.1	3.7%
Other liquid fuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5%
Natural gas	0.5	0.5	0.5	0.5	0.6	0.7	0.9	2.5%
Electricity	0.0	0.0	0.1	0.1	0.1	0.2	0.2	6.1%
Total	13.4	14.4	15.7	17.2	19.0	21.2	23.7	2.1%
Africa								
Motor gasoline and E85	2.4	2.6	3.1	3.6	4.3	5.2	6.2	3.5%
Distillate fuel oil and bioDiesel	2.6	2.9	3.2	3.6	4.1	4.6	5.3	2.5%
Residual fuel oil	0.1	0.2	0.2	0.2	0.2	0.2	0.2	1.5%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-30.1%
Jet fuel	0.3	0.4	0.5	0.7	0.8	1.0	1.2	4.5%
Other liquid fuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5%
Natural gas	0.1	0.1	0.2	0.2	0.3	0.4	0.5	5.3%
Electricity	0.0	0.0	0.0	0.0	0.1	0.1	0.1	4.0%
Total	5.7	6.3	7.3	8.4	9.8	11.5	13.5	3.1%
Middle East								
Motor gasoline and E85	3.2	3.2	3.2	3.3	3.3	3.5	3.6	0.5%
Distillate fuel oil and bioDiesel	2.3	2.4	2.4	2.4	2.5	2.6	2.7	0.5%
Residual fuel oil	1.0	1.2	1.4	1.4	1.5	1.5	1.5	1.4%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-11.2%
Jet fuel	0.8	1.0	1.1	1.3	1.5	1.7	1.9	3.3%
Other liquid fuels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4%
Natural gas	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.7%
Electricity	0.0	0.0	0.0	0.0	0.1	0.1	0.1	9.2%
Total	7.7	8.1	8.4	8.8	9.2	9.7	10.3	1.1%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hm_230821.151836 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, High 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	19.4	19.6	18.7	17.8	17.5	17.6	18.3	-0.2%
Air	3.7	4.1	4.5	4.8	5.2	5.7	6.2	1.9%
Buses	1.0	1.2	1.2	1.3	1.4	1.4	1.5	1.3%
Two- and three-wheeled vehicles	0.3	0.4	0.6	0.7	0.9	1.1	1.3	5.5%
Rail	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.4%
Total	24.4	25.4	25.0	24.7	25.0	25.9	27.4	0.4%
Europe and Eurasia								
Light-duty vehicles	8.9	8.2	6.9	6.1	5.5	5.2	5.1	-2.0%
Air	2.5	3.2	3.5	3.7	4.0	4.3	4.5	2.2%
Buses	1.3	1.3	1.3	1.3	1.2	1.1	1.1	-0.7%
Two- and three-wheeled vehicles	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2%
Rail	0.2	0.2	0.1	0.1	0.1	0.1	0.1	-0.9%
Total	13.0	13.0	12.0	11.3	11.0	10.9	10.9	-0.6%
Asia Pacific								
Light-duty vehicles	12.7	13.5	14.6	15.6	16.8	18.4	20.1	1.6%
Air	2.2	3.9	5.0	6.2	7.4	8.7	10.2	5.6%
Buses	2.5	2.5	2.7	2.8	2.8	2.9	3.0	0.7%
Two- and three-wheeled vehicles	2.1	2.4	2.8	3.2	3.5	3.9	4.2	2.4%
Rail	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0%
Total	19.8	22.7	25.3	28.1	30.8	34.1	37.6	2.3%
Africa and Middle East								
Light-duty vehicles	4.5	4.6	4.7	4.8	5.1	5.4	5.9	1.0%
Air	1.0	1.3	1.5	1.8	2.2	2.5	2.9	4.0%
Buses	1.9	2.1	2.6	3.2	4.0	4.8	5.8	4.2%
Two- and three-wheeled vehicles	0.1	0.1	0.2	0.2	0.3	0.5	0.7	7.4%
Rail	0.0	0.0	0.0	0.0	0.0	0.0	0.1	5.9%
Total	7.4	8.1	9.0	10.2	11.5	13.3	15.4	2.7%
World								
Light-duty vehicles	45.5	45.9	44.9	44.3	44.9	46.6	49.4	0.3%
Air	9.4	12.6	14.5	16.5	18.7	21.2	23.8	3.4%
Buses	6.7	7.2	7.8	8.6	9.4	10.3	11.3	1.9%
Two- and three-wheeled vehicles	2.6	3.0	3.6	4.2	4.9	5.5	6.3	3.2%
Rail	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2%
Total	64.6	69.2	71.3	74.2	78.4	84.2	91.3	1.2%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hm_230821.151836 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, High 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	11.1	11.1	11.3	11.7	12.4	13.0	0.6%
Rail	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.6%
Marine vessels	1.9	1.9	2.0	2.1	2.1	2.2	2.2	0.6%
Natural gas pipeline	1.0	0.8	0.7	0.7	0.7	0.8	0.8	-1.0%
Air freighter	0.1	0.1	0.1	0.1	0.2	0.2	0.2	2.1%
Total	14.9	14.7	14.8	15.1	15.7	16.4	17.2	0.5%
Europe and Eurasia								
Heavy-duty trucks	7.4	7.4	7.4	7.7	8.3	9.0	9.9	1.0%
Rail	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.5%
Marine vessels	2.1	2.4	2.7	2.9	3.0	3.2	3.3	1.6%
Natural gas pipeline	0.2	0.5	0.5	0.5	0.5	0.6	0.6	3.3%
Air freighter	0.4	0.4	0.5	0.5	0.6	0.7	0.8	2.4%
Total	10.9	11.4	11.8	12.4	13.2	14.3	15.4	1.2%
Asia Pacific								
Heavy-duty trucks	10.9	11.5	12.4	13.5	14.8	16.5	18.2	1.8%
Rail	0.9	1.0	1.1	1.2	1.2	1.3	1.4	1.5%
Marine vessels	6.1	7.0	7.8	8.4	8.8	9.3	9.6	1.7%
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	0.8	0.8	0.0%
Total	18.7	20.3	22.1	23.8	25.7	27.9	30.1	1.7%
Africa and Middle East								
Heavy-duty trucks	4.2	4.4	4.5	4.7	5.0	5.4	5.7	1.1%
Rail	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.2%
Marine vessels	1.4	1.6	1.8	2.0	2.1	2.2	2.3	1.7%
Natural gas pipeline	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3%
Air freighter	0.1	0.1	0.1	0.1	0.1	0.2	0.2	1.1%
Total	6.0	6.3	6.6	7.0	7.4	7.9	8.4	1.2%
World								
Heavy-duty trucks	33.7	34.4	35.5	37.2	39.8	43.2	46.8	1.2%
Rail	2.5	2.5	2.7	2.8	2.9	3.1	3.2	0.9%
Marine vessels	11.5	13.0	14.4	15.3	16.1	16.8	17.4	1.5%
Natural gas pipeline	1.4	1.5	1.4	1.4	1.5	1.5	1.5	0.3%
Air freighter	1.4	1.3	1.4	1.5	1.7	1.8	2.0	1.2%
Total	50.5	52.7	55.3	58.3	62.0	66.5	71.0	1.2%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hm_230821.151836 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, High 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	90.6	94.5	98.6	102.7	107.0	0.8%
Stock	77.3	79.4	82.7	86.6	90.7	94.8	98.7	0.9%
Wide body aircraft								
New	107.0	110.0	114.4	119.0	123.7	128.7	133.9	0.8%
Stock	98.9	101.4	104.5	108.7	113.0	118.0	123.3	0.8%
Regional jets								
New	54.6	56.9	59.8	62.8	65.7	68.7	71.7	1.0%
Stock	52.6	54.2	56.1	58.5	60.8	63.3	65.8	0.8%
Average aircraft								
New	87.6	91.7	95.5	99.5	103.6	107.8	112.1	0.9%
Stock	80.8	84.4	87.5	91.2	95.1	99.2	103.4	0.9%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hm_230821.151836 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, High 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	762	849	939	1,067	1,219	1,390	2.4%
International	243	401	454	512	590	683	788	4.3%
Total	953	1,163	1,303	1,451	1,658	1,902	2,178	3.0%
Canada								
Domestic	33	38	42	46	50	54	59	2.0%
International	45	91	105	119	134	151	169	4.9%
Total	78	130	147	165	184	205	227	3.9%
Mexico								
Domestic	36	40	49	60	72	87	104	3.9%
International	41	46	55	65	75	87	101	3.3%
Total	76	86	104	124	148	175	205	3.6%
Brazil								
Domestic	56	62	72	82	91	100	108	2.4%
International	30	46	57	68	77	86	95	4.2%
Total	86	108	130	150	168	186	203	3.1%
Other Americas								
Domestic	54	73	85	100	116	134	154	3.8%
International	96	119	142	168	197	230	266	3.7%
Total	150	192	227	267	312	364	421	3.7%
Western Europe								
Domestic	524	697	784	878	983	1,099	1,226	3.1%
International	370	669	739	815	898	986	1,081	3.9%
Total	894	1,365	1,523	1,694	1,881	2,085	2,307	3.4%
Russia								
Domestic	103	109	121	132	145	159	175	1.9%
International	37	61	87	97	109	121	136	4.8%
Total	140	171	208	229	253	281	311	2.9%
Eastern Europe and Eurasia								
Domestic	10	11	13	16	20	24	28	4.0%
International	36	47	57	69	82	99	117	4.3%
Total	46	58	70	85	102	122	145	4.2%
Japan								
Domestic	47	62	65	68	70	73	75	1.7%
International	24	99	116	122	128	135	143	6.6%
Total	70	161	182	190	199	207	218	4.1%
South Korea								
Domestic	8	9	10	10	11	11	12	1.3%
International	18	76	103	126	143	164	189	8.9%
Total	26	85	113	136	154	175	201	7.6%
Australia and New Zealand								
Domestic	44	62	74	85	97	110	124	3.8%
International	32	86	107	125	145	167	191	6.6%
Total	75	147	181	210	242	277	315	5.2%
China								
Domestic	241	566	813	1,108	1,429	1,814	2,215	8.2%
International	22	156	216	284	361	455	560	12.3%
Total	263	722	1,029	1,391	1,790	2,270	2,774	8.8%
India								
Domestic	73	104	171	258	364	493	645	8.1%
International	28	74	112	159	214	279	354	9.5%

Total	101	178	283	417	578	772	998	8.5%
Other Asia Pacific								
Domestic	97	208	287	381	498	638	802	7.8%
International	88	315	417	517	634	769	922	8.8%
Total	184	523	704	898	1,132	1,407	1,724	8.3%
Africa								
Domestic	37	54	71	92	118	150	188	6.0%
International	68	116	152	194	246	307	380	6.3%
Total	105	171	223	287	364	457	568	6.2%
Middle East								
Domestic	42	53	66	82	100	119	139	4.4%
International	192	284	349	425	514	617	735	4.9%
Total	234	337	416	508	614	736	875	4.8%
World								
Domestic	2,114	2,910	3,572	4,338	5,232	6,284	7,443	4.6%
International	1,367	2,687	3,269	3,865	4,548	5,336	6,227	5.6%
Total	3,481	5,597	6,841	8,203	9,780	11,620	13,670	5.0%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hm_230821.151836 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, High Economic Growth case

billion revenue-ton-miles

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	59.4	62.0	69.2	77.9	89.5	103.3	119.3	2.5%
United States	48.5	50.7	56.0	62.5	71.1	81.2	92.8	2.3%
Canada	2.1	2.0	1.9	1.8	1.8	1.8	1.9	-0.4%
Mexico	1.5	1.6	1.9	2.3	2.7	3.2	3.7	3.4%
Brazil	2.5	2.4	2.5	2.7	2.9	3.1	3.3	1.0%
Other Americas	4.8	5.4	6.8	8.6	11.0	13.9	17.6	4.7%
Europe and Eurasia	39.9	44.3	54.1	64.7	77.2	92.1	109.8	3.7%
Western Europe	38.6	43.2	53.0	63.5	75.9	90.6	108.1	3.7%
Russia	1.1	1.0	1.0	1.0	1.1	1.3	1.5	1.1%
Eastern Europe and Eurasia	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.3%
Asia Pacific	65.2	67.6	73.6	80.2	86.7	93.5	100.0	1.5%
Japan	6.8	7.1	7.4	7.6	7.7	7.8	7.9	0.5%
South Korea	10.8	10.3	10.2	10.7	11.1	11.7	12.3	0.4%
Australia and New Zealand	2.0	2.3	2.8	3.1	3.4	3.6	3.8	2.4%
China	19.8	20.9	24.1	27.9	31.6	35.7	39.4	2.5%
India	2.5	3.2	4.4	5.5	6.6	7.8	9.1	4.6%
Other Asia Pacific	23.3	23.8	24.7	25.5	26.2	26.9	27.6	0.6%
Africa and Middle East	10.9	10.7	11.5	13.2	15.3	17.9	20.9	2.4%
Africa	5.0	5.5	6.8	8.6	10.7	13.2	16.1	4.2%
Middle East	5.8	5.2	4.7	4.6	4.6	4.7	4.7	-0.7%
World	175.3	184.6	208.4	236.0	268.7	306.7	349.9	2.5%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hm_230821.151836 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, High Economic Growth case

billion seat miles

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	1,685	2,001	2,274	2,564	2,933	3,358	3,834	3.0%
United States	1,173	1,380	1,542	1,714	1,957	2,242	2,566	2.8%
Canada	99	154	175	196	219	243	269	3.7%
Mexico	94	106	127	152	180	212	249	3.5%
Brazil	118	129	155	179	200	221	241	2.6%
Other Americas	201	233	275	323	378	440	509	3.4%
Europe and Eurasia	1,403	1,939	2,190	2,440	2,716	3,021	3,353	3.2%
Western Europe	1,167	1,661	1,851	2,058	2,284	2,531	2,799	3.2%
Russia	176	205	250	276	304	337	373	2.7%
Eastern Europe and Eurasia	60	73	88	106	128	153	181	4.0%
Asia Pacific	1,098	2,230	3,043	3,947	4,971	6,188	7,535	7.1%
Japan	126	208	234	244	255	266	279	2.9%
South Korea	37	103	138	166	188	214	245	7.0%
Australia and New Zealand	136	184	226	263	302	345	392	3.9%
China	406	858	1,217	1,642	2,109	2,669	3,258	7.7%
India	130	209	331	486	672	896	1,157	8.1%
Other Asia Pacific	263	667	898	1,147	1,445	1,797	2,203	7.9%
Africa and Middle East	459	677	851	1,058	1,302	1,588	1,918	5.2%
Africa	143	228	297	382	484	607	754	6.1%
Middle East	316	450	554	676	818	980	1,164	4.8%
World	4,645	6,847	8,357	10,009	11,923	14,155	16,640	4.7%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hm_230821.151836 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/ao

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

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

quadrillion British thermal units

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas	3.8	4.2	4.6	4.9	5.4	5.9	6.4	1.9%
United States	2.8	3.1	3.3	3.5	3.8	4.1	4.5	1.7%
Canada	0.2	0.3	0.3	0.3	0.4	0.4	0.4	2.0%
Mexico	0.2	0.2	0.2	0.2	0.3	0.3	0.4	2.9%
Brazil	0.2	0.2	0.3	0.3	0.3	0.3	0.4	1.7%
Other Americas	0.4	0.4	0.5	0.6	0.6	0.7	0.8	2.6%
Europe and Eurasia	2.9	3.6	3.9	4.3	4.6	5.0	5.4	2.2%
Western Europe	2.4	3.0	3.3	3.6	3.9	4.2	4.5	2.3%
Russia	0.4	0.5	0.5	0.6	0.6	0.6	0.7	1.6%
Eastern Europe and Eurasia	0.1	0.1	0.1	0.1	0.1	0.2	0.2	2.3%
Asia Pacific	3.0	4.6	5.7	6.9	8.1	9.5	10.9	4.8%
Japan	0.3	0.4	0.5	0.5	0.5	0.5	0.5	1.3%
South Korea	0.2	0.3	0.3	0.4	0.4	0.4	0.4	2.6%
Australia and New Zealand	0.3	0.3	0.4	0.5	0.5	0.5	0.6	2.9%
China	1.0	1.6	2.1	2.6	3.2	3.8	4.4	5.4%
India	0.3	0.4	0.5	0.8	1.0	1.3	1.6	6.7%
Other Asia Pacific	0.9	1.5	1.9	2.2	2.6	3.0	3.5	4.9%
Africa and Middle East	1.1	1.4	1.7	2.0	2.3	2.7	3.1	3.7%
Africa	0.3	0.4	0.5	0.7	0.8	1.0	1.2	4.5%
Middle East	0.8	1.0	1.1	1.3	1.5	1.7	1.9	3.3%
World	10.8	13.9	15.9	18.1	20.4	23.0	25.8	3.2%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hm_230821.151836 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, High Economic Growth case

thousand vehicles

Region and technology	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
Americas								
Electric	820.9	1,326.8	2,383.9	2,773.9	3,133.9	3,384.4	3,615.0	5.4%
Hydrogen	2.4	2.3	3.3	4.1	4.7	4.5	4.4	2.2%
Liquefied petroleum gas	4.0	2.7	2.5	2.4	2.3	2.4	2.6	-1.5%
Natural gas	258.6	204.9	187.2	147.9	98.7	78.2	64.4	-4.8%
Diesel	437.3	535.8	650.9	628.0	611.2	628.1	685.5	1.6%
Motor gasoline	19,938.5	21,398.9	20,335.5	20,215.8	20,312.0	21,000.3	21,925.4	0.3%
Plug-in hybrid	209.7	488.7	833.7	1,335.5	1,709.2	2,034.7	2,070.3	8.5%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	21,671.4	23,960.2	24,397.0	25,107.6	25,872.0	27,132.5	28,367.7	1.0%
United States								
Electric	695.9	1,106.4	1,955.1	2,254.4	2,499.5	2,649.4	2,761.1	5.0%
Hydrogen	2.4	2.3	3.3	4.1	4.7	4.5	4.4	2.2%
Liquefied petroleum gas	0.5	1.0	1.0	1.1	1.3	1.6	2.0	5.5%
Natural gas	0.4	0.7	0.6	0.6	0.6	0.6	0.7	1.4%
Diesel	74.4	120.2	131.6	128.5	143.0	148.9	164.2	2.9%
Motor gasoline	13,419.8	15,368.8	13,675.8	13,340.2	13,770.6	14,185.8	14,813.1	0.4%
Plug-in hybrid	186.5	403.4	569.9	649.1	694.4	744.2	791.9	5.3%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	14,379.9	17,002.7	16,337.4	16,377.9	17,114.1	17,735.1	18,537.5	0.9%
Canada								
Electric	112.8	173.5	283.3	284.9	339.3	392.8	476.0	5.3%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5%
Liquefied petroleum gas	0.3	0.2	0.0	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	117.3	109.8	143.3	153.0	153.3	152.2	146.1	0.8%
Motor gasoline	1,499.4	1,360.4	1,271.9	1,292.1	1,260.6	1,237.7	1,181.3	-0.8%
Plug-in hybrid	16.6	43.0	69.4	125.0	185.3	269.4	339.4	11.4%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	1,748.1	1,687.6	1,767.9	1,855.3	1,938.7	2,052.3	2,143.0	0.7%
Mexico								
Electric	7.4	23.7	62.7	98.4	122.2	144.5	159.6	11.6%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.5%
Liquefied petroleum gas	3.2	1.6	1.4	1.2	1.0	0.7	0.5	-6.4%
Natural gas	4.5	1.9	2.4	2.9	2.5	2.0	1.4	-4.1%
Diesel	7.1	6.4	6.5	7.2	7.8	8.2	8.0	0.4%
Motor gasoline	1,823.0	1,493.4	1,511.7	1,684.7	1,810.4	1,892.0	1,779.2	-0.1%
Plug-in hybrid	1.5	16.4	38.5	107.4	194.9	247.3	219.6	19.5%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	1,846.7	1,543.5	1,623.2	1,901.8	2,138.8	2,294.7	2,168.3	0.6%
Brazil								
Electric	2.7	7.1	34.7	66.9	87.1	100.2	121.1	14.6%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6%
Natural gas	125.8	82.5	86.8	80.2	54.1	43.4	36.8	-4.3%
Diesel	85.0	119.3	162.4	132.8	112.3	110.0	145.8	1.9%
Motor gasoline	2,230.0	2,093.8	2,627.3	2,721.2	2,377.4	2,493.1	2,865.9	0.9%
Plug-in hybrid	4.0	19.9	126.6	376.4	526.5	642.8	618.2	19.7%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	2,447.5	2,322.6	3,037.8	3,377.4	3,157.4	3,389.4	3,787.8	1.6%
Other Americas								

Total	34,418.2	36,290.9	43,238.1	49,104.0	51,426.3	53,112.1	55,530.2	1.7%
Japan								
Electric	66.0	105.1	202.4	218.6	289.3	358.1	439.9	7.0%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5%
Liquefied petroleum gas	5.9	4.3	4.9	4.2	4.3	3.2	2.8	-2.7%
Natural gas	1.4	0.9	0.7	0.6	0.9	0.8	0.6	-2.9%
Diesel	141.1	136.3	128.8	128.5	117.3	119.1	117.2	-0.7%
Motor gasoline	3,144.4	3,034.6	2,890.9	2,576.9	2,286.4	2,137.6	1,934.9	-1.7%
Plug-in hybrid	44.8	122.4	138.0	185.8	199.6	203.1	187.4	5.2%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	3,403.6	3,403.7	3,365.7	3,114.6	2,897.8	2,821.9	2,682.8	-0.8%
South Korea								
Electric	75.3	74.1	284.2	493.5	723.3	860.3	921.3	9.4%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.3%
Liquefied petroleum gas	50.4	24.8	34.6	31.5	21.2	14.2	10.1	-5.6%
Natural gas	49.3	23.7	30.4	30.0	15.1	7.8	4.0	-8.5%
Diesel	191.0	168.1	155.3	130.7	104.9	104.2	126.7	-1.5%
Motor gasoline	1,069.4	1,124.1	935.2	730.2	514.7	402.3	311.3	-4.3%
Plug-in hybrid	14.4	81.1	163.3	210.1	164.3	120.6	87.5	6.6%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	1,449.9	1,496.0	1,602.9	1,625.9	1,543.4	1,509.4	1,461.0	0.0%
Australia and New Zealand								
Electric	34.4	37.5	65.8	77.6	114.9	149.9	198.4	6.5%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5%
Liquefied petroleum gas	0.4	0.0	2.5	1.8	1.5	1.3	1.0	3.6%
Natural gas	2.4	0.1	0.2	0.1	0.0	0.0	0.0	-18.7%
Diesel	110.9	124.7	109.1	98.2	84.0	73.4	62.3	-2.0%
Motor gasoline	873.1	922.1	859.2	797.1	711.5	644.5	567.0	-1.5%
Plug-in hybrid	8.3	19.6	75.1	168.4	273.2	368.5	418.1	15.0%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	1,029.5	1,104.1	1,111.9	1,143.2	1,185.1	1,237.6	1,246.9	0.7%
China								
Electric	4,681.9	5,262.8	6,618.9	8,278.9	8,755.8	9,135.4	9,516.3	2.6%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4%
Liquefied petroleum gas	66.7	63.9	28.6	29.8	21.8	12.7	6.6	-7.9%
Natural gas	990.8	672.5	311.1	552.1	659.4	627.8	429.5	-2.9%
Diesel	43.9	37.7	22.4	63.0	57.0	45.1	34.2	-0.9%
Motor gasoline	13,208.6	11,435.0	8,729.7	8,601.1	7,778.9	6,348.6	5,291.5	-3.2%
Plug-in hybrid	1,006.8	1,796.3	3,814.1	3,047.3	2,996.9	2,324.3	1,864.3	2.2%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	19,998.6	19,268.2	19,524.7	20,572.2	20,269.8	18,493.9	17,142.5	-0.5%
India								
Electric	17.1	37.4	75.8	173.5	434.7	827.8	1,172.8	16.3%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0%
Liquefied petroleum gas	132.5	74.6	141.3	183.0	199.7	211.3	232.4	2.0%
Natural gas	140.6	208.6	254.4	240.4	165.4	124.3	95.7	-1.4%
Diesel	1,854.8	2,571.2	4,318.8	5,412.9	5,468.2	5,466.0	5,663.5	4.1%
Motor gasoline	2,181.4	3,088.4	5,486.8	7,111.2	7,297.1	7,376.5	7,695.6	4.6%
Plug-in hybrid	4.0	20.5	277.7	547.0	1,153.0	1,642.8	2,078.9	25.1%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	4,330.4	6,000.8	10,554.8	13,668.0	14,718.2	15,648.7	16,938.8	5.0%
Other Asia								
Electric	24.5	146.1	249.2	486.6	727.4	855.0	842.3	13.5%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.8%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1%
Natural gas	120.7	17.0	45.9	43.6	40.3	39.6	39.4	-3.9%
Diesel	1,040.1	1,283.3	1,633.8	1,868.3	2,065.2	2,449.9	2,942.3	3.8%
Motor gasoline	3,016.6	3,498.3	4,952.2	6,094.2	7,149.7	8,909.6	11,181.1	4.8%

Plug-in hybrid	4.3	73.4	197.2	487.4	829.4	1,146.5	1,053.2	21.7%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	4,206.2	5,018.2	7,078.2	8,980.1	10,812.0	13,400.7	16,058.3	4.9%
Africa and Middle East								
Electric	31.1	106.9	141.0	214.5	276.1	353.1	427.0	9.8%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0%
Liquefied petroleum gas	8.9	7.8	1.3	0.3	0.1	0.1	0.0	-17.4%
Natural gas	102.6	41.8	50.9	34.4	24.9	20.8	17.9	-6.0%
Diesel	102.6	118.3	148.7	162.9	170.3	207.4	251.5	3.3%
Motor gasoline	3,315.5	3,895.5	4,533.7	4,740.4	4,786.5	5,535.1	6,447.4	2.4%
Plug-in hybrid	10.0	46.5	161.8	414.1	620.3	772.4	650.4	16.1%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	3,570.7	4,216.9	5,037.3	5,566.7	5,878.2	6,888.8	7,794.2	2.8%
Africa								
Electric	2.3	10.3	29.8	55.7	72.1	93.2	129.4	15.5%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.4%
Natural gas	9.1	8.8	8.4	5.0	2.9	2.1	1.5	-6.3%
Diesel	75.9	87.1	115.9	135.8	149.7	190.3	237.5	4.2%
Motor gasoline	683.7	846.4	1,103.7	1,274.1	1,406.2	1,771.4	2,174.5	4.2%
Plug-in hybrid	1.0	5.1	20.4	41.8	66.9	83.7	81.4	16.9%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	771.9	957.7	1,278.3	1,512.4	1,697.9	2,140.7	2,624.4	4.5%
Middle East								
Electric	28.9	96.6	111.1	158.8	204.0	259.9	297.6	8.7%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0%
Liquefied petroleum gas	8.9	7.8	1.3	0.3	0.1	0.1	0.0	-17.5%
Natural gas	93.5	33.1	42.4	29.4	21.9	18.8	16.5	-6.0%
Diesel	26.7	31.2	32.8	27.1	20.5	17.1	14.0	-2.3%
Motor gasoline	2,631.8	3,049.0	3,429.9	3,466.3	3,380.3	3,763.6	4,272.8	1.7%
Plug-in hybrid	9.0	41.4	141.4	372.4	553.4	688.7	569.0	16.0%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	2,798.8	3,259.2	3,759.0	4,054.3	4,180.3	4,748.1	5,169.9	2.2%
World								
Electric	7,761.6	9,340.4	15,053.1	21,814.0	24,391.8	27,360.6	30,000.9	4.9%
Hydrogen	2.4	2.3	3.3	4.1	4.7	4.5	4.4	2.2%
Liquefied petroleum gas	535.2	299.3	525.2	527.4	571.3	559.9	571.7	0.2%
Natural gas	2,148.1	1,551.4	1,110.4	1,217.0	1,152.1	1,044.5	805.0	-3.4%
Diesel	8,504.1	9,549.2	12,355.1	11,186.0	11,976.5	12,566.4	12,796.1	1.5%
Motor gasoline	58,904.2	59,905.3	56,862.8	56,913.3	57,649.2	58,338.0	61,152.4	0.1%
Plug-in hybrid	2,323.3	4,935.0	7,945.0	9,535.1	9,676.6	10,344.9	9,755.8	5.3%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	80,179.1	85,582.9	93,855.0	101,196.9	105,422.3	110,218.7	115,086.3	1.3%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hm_230821.151836 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, High 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	6.9	16.9	28.1	39.4	48.8	56.5	10.9%
Hydrogen	0.0	0.0	0.0	0.0	0.1	0.1	0.1	5.3%
Liquefied petroleum gas	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-3.6%
Natural gas	5.0	5.7	6.5	6.5	5.5	3.8	3.0	-1.8%
Diesel	7.0	8.0	9.8	11.7	13.3	14.4	15.2	2.8%
Motor gasoline	389.8	399.8	405.1	406.2	409.9	418.2	429.9	0.4%
Plug-in hybrid	1.3	2.6	6.3	11.7	18.8	27.0	34.4	12.5%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	406.3	423.1	444.6	464.3	486.9	512.4	539.2	1.0%
United States								
Electric	2.7	5.9	14.0	22.9	31.5	38.4	43.5	10.4%
Hydrogen	0.0	0.0	0.0	0.0	0.1	0.1	0.1	5.4%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1%
Natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.5%
Diesel	1.4	1.6	2.0	2.3	2.6	2.9	3.1	3.0%
Motor gasoline	270.8	277.8	276.9	272.5	271.0	273.3	279.8	0.1%
Plug-in hybrid	1.1	2.2	4.7	7.3	9.8	11.8	13.5	9.3%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	276.1	287.6	297.6	305.1	315.0	326.5	340.0	0.7%
Canada								
Electric	0.4	0.9	2.1	3.2	4.3	5.1	5.9	10.5%
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	2.4	2.5%
Motor gasoline	22.9	22.9	22.3	21.6	20.8	20.1	19.3	-0.6%
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	0.8	1.4	2.0	2.6	18.7%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0%
Liquefied petroleum gas	0.1	0.1	0.1	0.0	0.0	0.0	0.0	-5.9%
Natural gas	0.0	0.0	0.0	0.0	0.1	0.1	0.0	1.8%
Diesel	0.4	0.3	0.1	0.1	0.1	0.2	0.2	-2.8%
Motor gasoline	22.3	23.6	26.6	30.0	32.9	35.5	37.6	1.9%
Plug-in hybrid	0.0	0.1	0.2	0.7	1.6	2.7	3.8	24.6%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	22.8	24.1	27.4	31.7	36.1	40.5	44.2	2.4%
Brazil								
Electric	0.0	0.0	0.2	0.4	0.9	1.3	1.8	21.0%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.2%
Liquefied petroleum gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0%
Natural gas	2.1	2.3	2.7	2.9	2.4	1.4	1.2	-2.1%
Diesel	0.7	1.0	1.6	2.1	2.5	2.5	2.6	5.0%
Motor gasoline	45.3	45.8	47.6	48.9	50.0	51.7	53.4	0.6%
Plug-in hybrid	0.0	0.1	0.6	2.1	4.6	7.6	10.2	26.2%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	48.1	49.3	52.7	56.4	60.3	64.5	69.1	1.3%
Other Americas								

Total	544.9	610.7	720.5	818.9	898.0	969.0	1,033.4	2.3%
Japan								
Electric	0.3	0.6	1.4	2.3	3.4	4.5	5.7	10.9%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-64.6%
Liquefied petroleum gas	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-2.6%
Natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.0%
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	41.3	37.9	-1.8%
Plug-in hybrid	0.3	0.6	1.2	2.0	2.6	3.1	3.3	9.5%
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	3.5	6.5	9.4	11.7	13.2%
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	-6.6%
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	16.2	15.4	12.7	9.6	7.1	-2.3%
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	25.3	25.4	24.9	24.1	23.0	0.0%
Australia and New Zealand								
Electric	0.1	0.2	0.5	0.9	1.3	1.9	2.6	11.5%
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	-14.3%
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	14.1	-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	30.8	59.6	95.5	134.0	162.7	181.7	9.1%
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	-3.3%
Natural gas	16.7	18.2	18.1	16.8	14.7	12.9	12.0	-1.2%
Diesel	3.3	3.1	2.5	1.8	1.1	1.1	1.1	-3.9%
Motor gasoline	284.8	307.6	315.9	290.5	237.1	189.9	162.4	-2.0%
Plug-in hybrid	3.7	8.8	25.2	38.5	51.6	58.6	57.4	10.3%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	325.5	369.9	422.8	444.6	439.6	425.9	415.0	0.9%
India								
Electric	0.1	0.2	0.5	1.2	3.1	6.5	11.7	20.5%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.6%
Liquefied petroleum gas	2.2	2.0	2.0	2.5	3.0	3.6	4.1	2.1%
Natural gas	1.5	2.1	3.1	3.9	4.3	4.1	3.5	2.9%
Diesel	21.0	27.5	44.2	65.0	84.3	100.2	110.0	6.1%
Motor gasoline	24.7	31.6	52.1	80.2	108.3	131.5	146.6	6.6%
Plug-in hybrid	0.0	0.1	0.9	3.4	8.8	16.1	25.1	33.3%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	49.6	63.4	102.9	156.2	211.8	262.0	300.8	6.6%
Other Asia Pacific								
Electric	0.1	0.5	1.6	3.8	6.9	10.5	13.1	20.0%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.1%
Liquefied petroleum gas	0.2	0.2	0.1	0.0	0.0	0.0	0.0	-21.2%
Natural gas	2.0	1.8	1.5	1.2	0.9	0.8	0.8	-3.5%
Diesel	14.9	17.3	21.8	26.8	31.7	36.8	42.2	3.8%
Motor gasoline	46.5	51.9	64.8	81.1	100.2	123.0	149.4	4.3%

Plug-in hybrid	0.1	0.3	1.1	3.1	6.7	11.7	15.9	19.5%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	63.8	71.9	90.9	116.0	146.5	182.7	221.3	4.5%
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	12.7%
Liquefied petroleum gas	0.4	0.4	0.4	0.3	0.1	0.0	0.0	-13.7%
Natural gas	3.8	3.8	3.4	2.2	1.5	1.0	0.7	-5.6%
Diesel	4.0	4.4	5.0	5.5	6.1	6.7	7.5	2.3%
Motor gasoline	88.4	97.0	110.4	120.8	129.1	139.7	152.0	2.0%
Plug-in hybrid	0.0	0.2	1.0	3.0	6.5	11.1	14.8	22.9%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	96.7	106.3	121.3	134.3	147.5	164.8	183.3	2.3%
Africa								
Electric	0.0	0.0	0.2	0.7	1.4	2.3	3.2	24.6%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.5%
Liquefied petroleum gas	0.3	0.3	0.2	0.1	0.0	0.0	0.0	-28.2%
Natural gas	0.3	0.3	0.4	0.4	0.4	0.3	0.2	-1.5%
Diesel	3.7	4.0	4.5	4.9	5.4	6.1	7.0	2.3%
Motor gasoline	32.7	35.7	40.9	45.7	50.6	57.3	65.5	2.5%
Plug-in hybrid	0.0	0.0	0.1	0.4	1.0	1.8	2.6	26.8%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	37.0	40.4	46.3	52.3	58.9	67.8	78.4	2.7%
Middle East								
Electric	0.1	0.4	0.9	1.9	2.9	4.0	5.1	16.0%
Hydrogen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.8%
Liquefied petroleum gas	0.1	0.2	0.2	0.2	0.1	0.0	0.0	-9.8%
Natural gas	3.5	3.5	3.0	1.8	1.1	0.7	0.6	-6.3%
Diesel	0.2	0.3	0.5	0.6	0.7	0.6	0.5	2.6%
Motor gasoline	55.7	61.4	69.5	75.1	78.5	82.4	86.6	1.6%
Plug-in hybrid	0.0	0.2	0.8	2.5	5.5	9.2	12.2	22.4%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	59.7	65.8	75.0	82.1	88.7	97.0	104.9	2.0%
World								
Electric	26.9	53.7	117.1	210.9	316.3	409.6	486.2	10.9%
Hydrogen	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.1%
Liquefied petroleum gas	9.6	7.9	7.4	8.5	9.4	9.9	10.5	0.3%
Natural gas	35.7	38.9	39.9	37.0	31.7	26.2	22.7	-1.6%
Diesel	178.4	183.0	195.3	205.6	215.5	231.3	241.2	1.1%
Motor gasoline	1,158.5	1,204.9	1,243.8	1,240.3	1,213.4	1,199.9	1,214.4	0.2%
Plug-in hybrid	10.0	24.1	60.9	101.5	143.8	177.5	196.4	11.2%
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Total	1,419.2	1,512.6	1,664.4	1,804.0	1,930.1	2,054.5	2,171.5	1.5%

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hm_230821.151836 and Annual Energy Outlook 2023 (March 2023), www.eia.gov/aeo

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