

**Table L3. Transportation sector freight transport energy consumption by region and mode, High Zero-carbon Technology Cost case**

quadrillion British thermal units

Region and mode	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
<b>Americas</b>								
Heavy-duty trucks	11.1	10.8	10.6	10.5	10.7	11.0	11.3	0.1%
Rail	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.2%
Marine vessels	1.9	1.9	2.0	2.0	2.0	2.0	2.0	0.3%
Natural gas pipeline	1.0	0.8	0.7	0.7	0.7	0.8	0.8	-0.9%
Air freighter	0.1	0.1	0.1	0.1	0.1	0.2	0.2	1.1%
<b>Total</b>	<b>14.9</b>	<b>14.5</b>	<b>14.2</b>	<b>14.1</b>	<b>14.3</b>	<b>14.7</b>	<b>15.1</b>	<b>0.0%</b>
<b>Europe and Eurasia</b>								
Heavy-duty trucks	7.4	7.3	7.1	7.1	7.3	7.7	8.1	0.3%
Rail	0.7	0.7	0.7	0.7	0.7	0.7	0.7	-0.1%
Marine vessels	2.1	2.4	2.6	2.7	2.7	2.7	2.7	0.9%
Natural gas pipeline	0.2	0.5	0.5	0.5	0.5	0.5	0.5	2.8%
Air freighter	0.4	0.4	0.4	0.5	0.5	0.5	0.6	1.2%
<b>Total</b>	<b>10.9</b>	<b>11.3</b>	<b>11.3</b>	<b>11.4</b>	<b>11.7</b>	<b>12.1</b>	<b>12.6</b>	<b>0.5%</b>
<b>Asia Pacific</b>								
Heavy-duty trucks	10.9	11.4	11.8	12.3	13.0	13.9	14.7	1.1%
Rail	0.9	1.0	1.0	1.1	1.1	1.1	1.1	0.6%
Marine vessels	6.1	6.9	7.5	7.8	7.9	8.0	7.9	0.9%
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	0.7	0.7	-0.4%
<b>Total</b>	<b>18.7</b>	<b>20.0</b>	<b>21.1</b>	<b>21.9</b>	<b>22.7</b>	<b>23.7</b>	<b>24.5</b>	<b>1.0%</b>
<b>Africa and Middle East</b>								
Heavy-duty trucks	4.2	4.3	4.4	4.5	4.7	4.9	5.2	0.7%
Rail	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.7%
Marine vessels	1.4	1.6	1.8	1.8	1.9	1.9	1.9	1.0%
Natural gas pipeline	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0%
Air freighter	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2%
<b>Total</b>	<b>6.0</b>	<b>6.3</b>	<b>6.4</b>	<b>6.6</b>	<b>6.9</b>	<b>7.1</b>	<b>7.4</b>	<b>0.7%</b>
<b>World</b>								
Heavy-duty trucks	33.7	33.9	33.9	34.5	35.7	37.4	39.3	0.5%
Rail	2.5	2.5	2.6	2.6	2.7	2.7	2.7	0.3%
Marine vessels	11.5	12.9	13.8	14.3	14.5	14.6	14.5	0.8%
Natural gas pipeline	1.4	1.5	1.4	1.4	1.4	1.4	1.5	0.2%
Air freighter	1.4	1.3	1.3	1.4	1.5	1.5	1.6	0.3%
<b>Total</b>	<b>50.5</b>	<b>52.0</b>	<b>53.0</b>	<b>54.1</b>	<b>55.7</b>	<b>57.7</b>	<b>59.5</b>	<b>0.6%</b>

Data source: U.S. Energy Information Administration, World Energy Projection System (2023), run hz\_230821.151430 and Annual Energy Outlook 2023 (March 2023), [www.eia.gov/aeo](http://www.eia.gov/aeo)

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