

**Table J1. World carbon dioxide intensity of energy use by region, High Economic Growth case**

metric tons per billion British thermal units

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
<b>Americas</b>	<b>45.8</b>	<b>44.5</b>	<b>40.8</b>	<b>39.5</b>	<b>39.0</b>	<b>38.4</b>	<b>37.8</b>	<b>-0.7%</b>
United States	49.0	47.0	42.1	40.3	39.4	38.7	37.9	-0.9%
Canada	37.4	36.9	33.1	32.6	32.3	31.7	31.2	-0.6%
Mexico	54.1	54.5	52.9	51.8	51.6	51.0	50.1	-0.3%
Brazil	29.3	29.9	29.5	28.2	28.4	27.2	27.0	-0.3%
Other Americas	45.4	45.4	44.8	45.6	46.3	46.1	45.4	0.0%
<b>Europe and Eurasia</b>	<b>48.9</b>	<b>48.3</b>	<b>46.5</b>	<b>45.2</b>	<b>45.3</b>	<b>45.0</b>	<b>44.3</b>	<b>-0.4%</b>
Western Europe	45.2	44.5	41.9	40.1	39.7	38.7	37.5	-0.7%
Russia	54.1	54.0	53.5	53.0	53.6	53.9	53.8	0.0%
Eastern Europe and Eurasia	60.3	59.2	58.3	57.2	57.6	57.7	57.8	-0.2%
<b>Asia Pacific</b>	<b>63.9</b>	<b>62.1</b>	<b>60.9</b>	<b>58.5</b>	<b>56.0</b>	<b>53.9</b>	<b>52.3</b>	<b>-0.7%</b>
Japan	55.9	54.9	50.1	49.5	48.4	48.8	48.3	-0.5%
South Korea	49.2	48.2	46.7	45.6	44.6	43.9	43.4	-0.5%
Australia and New Zealand	56.4	54.8	54.7	53.4	51.8	50.4	49.1	-0.5%
China	66.7	64.6	63.3	60.7	57.4	55.3	54.1	-0.7%
India	63.9	61.2	59.8	55.3	52.2	47.8	44.5	-1.3%
Other Asia Pacific	62.0	60.8	61.6	61.3	60.8	61.3	61.3	0.0%
<b>Africa and Middle East</b>	<b>57.7</b>	<b>56.4</b>	<b>54.5</b>	<b>53.5</b>	<b>52.7</b>	<b>52.0</b>	<b>51.4</b>	<b>-0.4%</b>
Africa	54.8	52.9	50.9	49.8	48.8	47.8	47.1	-0.5%
Middle East	59.5	58.7	57.2	56.5	56.2	56.0	55.9	-0.2%
<b>World</b>	<b>55.9</b>	<b>54.7</b>	<b>53.1</b>	<b>51.5</b>	<b>50.1</b>	<b>48.9</b>	<b>47.9</b>	<b>-0.5%</b>

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](http://www.eia.gov/aeo); Oxford Economics, Global Economic Model (February 2023), [www.oxfordeconomics.com](http://www.oxfordeconomics.com) (subscription site)

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

**Table J2. World energy intensity by region, High Economic Growth case**

thousand British thermal units per 2015 dollar of GDP (PPP)

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
<b>Americas</b>	<b>4.7</b>	<b>4.4</b>	<b>4.1</b>	<b>3.8</b>	<b>3.5</b>	<b>3.3</b>	<b>3.1</b>	<b>-1.5%</b>
United States	4.7	4.5	4.1	3.7	3.4	3.1	2.9	-1.7%
Canada	8.2	7.8	7.3	7.0	6.8	6.6	6.4	-0.9%
Mexico	3.3	3.1	3.0	2.8	2.7	2.6	2.5	-1.0%
Brazil	4.7	4.6	4.4	4.2	4.1	4.0	4.0	-0.6%
Other Americas	3.8	3.6	3.3	3.1	2.9	2.8	2.6	-1.4%
<b>Europe and Eurasia</b>	<b>4.1</b>	<b>4.0</b>	<b>3.7</b>	<b>3.5</b>	<b>3.3</b>	<b>3.2</b>	<b>3.0</b>	<b>-1.1%</b>
Western Europe	3.2	3.1	2.9	2.8	2.6	2.5	2.4	-1.0%
Russia	8.9	8.4	7.8	7.6	7.4	7.2	7.0	-0.9%
Eastern Europe and Eurasia	7.3	6.6	5.4	4.6	3.9	3.5	3.1	-3.0%
<b>Asia Pacific</b>	<b>5.0</b>	<b>4.6</b>	<b>4.0</b>	<b>3.5</b>	<b>3.2</b>	<b>2.9</b>	<b>2.7</b>	<b>-2.2%</b>
Japan	3.5	3.4	3.0	2.9	2.8	2.7	2.6	-1.1%
South Korea	5.7	5.5	5.2	5.0	4.9	4.7	4.6	-0.7%
Australia and New Zealand	4.7	4.4	4.0	3.7	3.5	3.3	3.2	-1.4%
China	6.6	5.9	4.9	4.2	3.7	3.3	2.9	-2.8%
India	3.8	3.6	3.3	3.1	2.9	2.8	2.6	-1.3%
Other Asia Pacific	3.3	3.1	2.8	2.6	2.4	2.2	2.1	-1.6%
<b>Africa and Middle East</b>	<b>4.9</b>	<b>4.7</b>	<b>4.3</b>	<b>4.0</b>	<b>3.8</b>	<b>3.8</b>	<b>3.7</b>	<b>-0.9%</b>
Africa	3.5	3.3	3.2	3.1	3.0	3.0	3.0	-0.5%
Middle East	6.6	6.4	5.8	5.4	5.1	5.0	5.0	-1.0%
<b>World</b>	<b>4.7</b>	<b>4.4</b>	<b>4.0</b>	<b>3.6</b>	<b>3.3</b>	<b>3.1</b>	<b>2.9</b>	<b>-1.7%</b>

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Note: Totals may not equal sum of components due to independent rounding. PPP=purchasing power parity.

**Table J3. Gross domestic product per capita expressed in purchasing power parity, High Economic Growth case**

2015 dollars per person (PPP)

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
<b>Americas</b>	<b>\$31,392</b>	<b>\$32,823</b>	<b>\$35,975</b>	<b>\$39,297</b>	<b>\$43,384</b>	<b>\$48,072</b>	<b>\$53,360</b>	<b>1.9%</b>
United States	\$62,777	\$65,388	\$70,387	\$75,470	\$82,333	\$90,137	\$98,686	1.6%
Canada	\$46,012	\$46,632	\$50,600	\$54,184	\$58,234	\$62,601	\$67,314	1.4%
Mexico	\$18,504	\$19,333	\$21,652	\$24,291	\$27,197	\$30,512	\$34,382	2.2%
Brazil	\$14,748	\$15,514	\$17,614	\$19,507	\$21,131	\$22,744	\$24,332	1.8%
Other Americas	\$13,336	\$14,386	\$16,473	\$18,874	\$21,742	\$25,106	\$29,018	2.8%
<b>Europe and Eurasia</b>	<b>\$34,500</b>	<b>\$36,475</b>	<b>\$40,700</b>	<b>\$45,217</b>	<b>\$50,390</b>	<b>\$56,298</b>	<b>\$63,132</b>	<b>2.2%</b>
Western Europe	\$41,487	\$43,480	\$48,019	\$52,723	\$58,002	\$63,900	\$70,571	1.9%
Russia	\$26,045	\$28,417	\$32,342	\$36,055	\$40,343	\$45,346	\$51,073	2.4%
Eastern Europe and Eurasia	\$11,953	\$13,540	\$17,145	\$21,967	\$27,885	\$35,004	\$43,730	4.7%
<b>Asia Pacific</b>	<b>\$13,694</b>	<b>\$15,648</b>	<b>\$19,819</b>	<b>\$24,373</b>	<b>\$29,250</b>	<b>\$34,805</b>	<b>\$40,759</b>	<b>4.0%</b>
Japan	\$42,134	\$44,574	\$48,415	\$51,304	\$54,535	\$57,960	\$61,921	1.4%
South Korea	\$44,198	\$47,484	\$53,079	\$58,303	\$63,008	\$68,369	\$74,528	1.9%
Australia and New Zealand	\$48,913	\$50,828	\$56,728	\$61,522	\$65,738	\$69,770	\$73,947	1.5%
China	\$18,438	\$21,683	\$28,353	\$35,804	\$43,554	\$52,540	\$61,888	4.4%
India	\$7,066	\$8,402	\$11,722	\$15,568	\$19,879	\$24,849	\$30,475	5.4%
Other Asia Pacific	\$10,768	\$12,166	\$15,145	\$18,344	\$21,986	\$26,058	\$30,521	3.8%
<b>Africa and Middle East</b>	<b>\$7,740</b>	<b>\$8,084</b>	<b>\$8,641</b>	<b>\$9,233</b>	<b>\$9,787</b>	<b>\$10,305</b>	<b>\$10,809</b>	<b>1.2%</b>
Africa	\$5,089	\$5,310	\$5,823	\$6,343	\$6,861	\$7,386	\$7,938	1.6%
Middle East	\$21,212	\$22,458	\$23,818	\$25,479	\$26,940	\$28,145	\$29,100	1.1%
<b>World</b>	<b>\$17,187</b>	<b>\$18,607</b>	<b>\$21,601</b>	<b>\$24,760</b>	<b>\$28,133</b>	<b>\$31,869</b>	<b>\$35,824</b>	<b>2.7%</b>

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**Table J4. World population by region, High Economic Growth case**

million persons

Region	2022	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2022–2050
<b>Americas</b>	<b>1,036</b>	<b>1,059</b>	<b>1,097</b>	<b>1,130</b>	<b>1,157</b>	<b>1,180</b>	<b>1,198</b>	<b>0.5%</b>
United States	333	340	352	364	375	385	396	0.6%
Canada	39	40	43	45	47	48	50	0.9%
Mexico	128	130	135	138	141	143	144	0.4%
Brazil	216	219	224	228	230	231	231	0.2%
Other Americas	320	330	343	355	364	372	378	0.6%
<b>Europe and Eurasia</b>	<b>920</b>	<b>923</b>	<b>929</b>	<b>932</b>	<b>934</b>	<b>935</b>	<b>933</b>	<b>0.1%</b>
Western Europe	633	636	639	641	642	641	638	0.0%
Russia	144	143	141	138	136	134	132	-0.3%
Eastern Europe and Eurasia	142	144	149	152	156	160	162	0.5%
<b>Asia Pacific</b>	<b>4,287</b>	<b>4,358</b>	<b>4,474</b>	<b>4,568</b>	<b>4,640</b>	<b>4,690</b>	<b>4,712</b>	<b>0.3%</b>
Japan	126	124	121	117	114	110	106	-0.6%
South Korea	52	52	51	51	49	48	46	-0.4%
Australia and New Zealand	31	33	35	37	39	40	42	1.1%
China	1,427	1,424	1,415	1,399	1,377	1,349	1,312	-0.3%
India	1,422	1,456	1,516	1,569	1,613	1,647	1,671	0.6%
Other Asia Pacific	1,229	1,270	1,335	1,396	1,449	1,496	1,535	0.8%
<b>Africa and Middle East</b>	<b>1,658</b>	<b>1,773</b>	<b>1,969</b>	<b>2,171</b>	<b>2,378</b>	<b>2,584</b>	<b>2,788</b>	<b>1.9%</b>
Africa	1,386	1,486	1,661	1,843	2,031	2,221	2,410	2.0%
Middle East	273	287	308	328	346	363	378	1.2%
<b>World</b>	<b>7,902</b>	<b>8,113</b>	<b>8,468</b>	<b>8,801</b>	<b>9,109</b>	<b>9,389</b>	<b>9,632</b>	<b>0.7%</b>

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