Table A1. World total primary energy consumption by region, Reference case

quadrillion British thermal units

Region	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
OECD								
OECD Americas	**118.2**	**126.0**	**127.5**	**130.9**	**134.6**	**139.7**	**145.2**	**0.7**
United States	92.9	98.4	98.6	100.0	101.9	105.0	108.7	0.5
Canada	14.6	15.4	16.1	16.8	17.5	18.3	19.0	0.9
Mexico and other OECD Americas	10.6	12.1	12.9	14.1	15.1	16.4	17.6	1.7
OECD Europe	**77.6**	**82.1**	**83.3**	**85.9**	**88.0**	**90.7**	**94.1**	**0.6**
OECD Asia	**37.2**	**39.9**	**40.5**	**41.0**	**41.2**	**41.5**	**42.0**	**0.4**
Japan	18.3	18.7	18.4	18.1	17.7	17.4	17.2	-0.2
South Korea	12.0	13.5	13.9	14.2	14.3	14.5	14.7	0.7
Australia and New Zealand	6.9	7.7	8.2	8.7	9.1	9.6	10.1	1.3
Total OECD	**232.9**	**248.0**	**251.3**	**257.7**	**263.8**	**272.0**	**281.3**	**0.6**
Non-OECD								
Non-OECD Europe and Eurasia	**52.6**	**54.8**	**56.9**	**59.5**	**61.9**	**64.1**	**66.0**	**0.8**
Russia	34.4	36.3	37.6	39.2	40.5	41.6	42.3	0.7
Other Europe and Eurasia	18.2	18.5	19.2	20.3	21.4	22.5	23.7	0.9
Non-OECD Asia	**230.3**	**267.2**	**292.8**	**320.8**	**349.4**	**378.5**	**402.8**	**1.9**
China	156.4	169.2	174.6	180.7	187.1	193.5	196.9	0.8
India	31.5	46.5	59.8	74.4	89.3	105.2	119.8	4.6
Other Asia	42.5	51.6	58.5	65.7	73.0	79.8	86.1	2.4
Middle East	**35.2**	**40.3**	**41.7**	**43.3**	**46.1**	**47.6**	**48.3**	**1.1**
Africa	**22.9**	**26.6**	**29.6**	**33.2**	**37.0**	**41.1**	**46.0**	**2.4**
Non-OECD Americas	**27.6**	**30.8**	**32.9**	**35.0**	**37.2**	**39.5**	**42.0**	**1.4**
Brazil	14.9	16.7	17.7	18.7	19.6	20.2	20.8	1.1
Other Non-OECD Americas	12.7	14.1	15.1	16.2	17.7	19.4	21.2	1.7
Total Non-OECD	**368.6**	**419.6**	**453.9**	**491.7**	**531.7**	**570.8**	**605.1**	**1.7**
Total World	**601.5**	**667.5**	**705.2**	**749.5**	**795.4**	**842.8**	**886.3**	**1.3**

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run r_210719.163829; and EIA, *Annual Energy Outlook 2021* , (February 2021), www.eia.gov/aeo

Notes:

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

Table A2. World total energy consumption by region and fuel, Reference case

quadrillion British thermal units

Region and fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
OECD								
OECD Americas								
Liquid fuels	42.4	47.0	46.9	47.4	48.2	49.5	51.0	0.6
Natural gas	39.7	41.0	41.8	43.1	45.2	47.3	49.0	0.7
Coal	10.1	8.8	8.4	7.9	7.6	7.5	7.5	-1.0
Nuclear	9.4	8.7	7.7	7.5	7.0	6.9	6.7	-1.1
Other	16.6	20.5	22.7	24.8	26.5	28.6	31.0	2.1
Total	**118.2**	**126.0**	**127.5**	**130.9**	**134.6**	**139.7**	**145.2**	**0.7**
OECD Europe								
Liquid fuels	26.0	28.6	27.8	27.3	27.0	27.1	27.4	0.2
Natural gas	19.5	20.6	20.9	20.9	20.8	21.3	22.0	0.4
Coal	8.1	7.1	6.2	6.3	6.6	6.5	6.7	-0.6
Nuclear	7.9	8.1	7.5	7.3	6.8	5.1	4.0	-2.2
Other	16.1	17.7	20.9	24.1	26.8	30.7	34.0	2.5
Total	**77.6**	**82.1**	**83.3**	**85.9**	**88.0**	**90.7**	**94.1**	**0.6**
OECD Asia								
Liquid fuels	13.9	14.6	14.2	13.9	13.7	13.5	13.4	-0.1
Natural gas	8.7	8.5	8.5	8.1	7.7	7.3	7.4	-0.5
Coal	8.5	8.5	8.5	8.8	8.9	8.5	8.1	-0.2
Nuclear	2.1	3.7	4.0	4.0	3.5	3.1	3.1	1.3
Other	4.0	4.6	5.2	6.1	7.4	9.0	9.9	3.1
Total	**37.2**	**39.9**	**40.5**	**41.0**	**41.2**	**41.5**	**42.0**	**0.4**
Total OECD								
Liquid fuels	82.3	90.2	89.0	88.7	88.9	90.2	91.9	0.4
Natural gas	68.0	70.0	71.2	72.1	73.8	75.9	78.4	0.5
Coal	26.7	24.4	23.1	23.1	23.1	22.5	22.3	-0.6
Nuclear	19.3	20.5	19.2	18.8	17.2	15.1	13.8	-1.1
Other	36.7	42.8	48.8	55.1	60.8	68.3	74.9	2.4
Total	**232.9**	**248.0**	**251.3**	**257.7**	**263.8**	**272.0**	**281.3**	**0.6**
Non-OECD								
Non-OECD Europe and Eurasia								
Liquid fuels	11.1	12.3	12.5	13.0	13.5	13.9	14.3	0.8
Natural gas	25.0	25.8	27.0	27.7	28.4	29.2	29.9	0.6
Coal	9.6	9.2	9.3	10.1	10.5	10.9	11.3	0.5
Nuclear	3.4	3.9	4.1	4.2	4.2	4.2	4.2	0.7
Other	3.5	3.6	4.0	4.6	5.3	5.9	6.3	2.0
Total	**52.6**	**54.8**	**56.9**	**59.5**	**61.9**	**64.1**	**66.0**	**0.8**
Non-OECD Asia								
Liquid fuels	54.2	66.5	73.5	79.5	84.5	89.0	92.4	1.8
Natural gas	23.8	28.7	32.6	35.1	38.0	40.9	44.1	2.1
Coal	114.6	118.9	117.7	123.0	128.1	134.3	136.7	0.6
Nuclear	4.3	5.6	7.1	8.6	10.2	11.6	12.9	3.7
Other	33.4	47.7	61.9	74.7	88.6	102.6	116.7	4.3
Total	**230.3**	**267.2**	**292.8**	**320.8**	**349.4**	**378.5**	**402.8**	**1.9**
Middle East								
Liquid fuels	15.5	17.3	16.6	16.7	17.1	17.4	17.5	0.4
Natural gas	19.2	21.8	22.9	22.8	23.7	24.2	24.5	0.8
Coal	0.1	0.1	0.2	0.2	0.3	0.5	0.4	4.2
Nuclear	0.1	0.4	0.6	0.8	0.9	0.9	0.9	9.0

Other	0.2	0.6	1.3	2.8	4.1	4.7	5.0	11.0
Total	**35.2**	**40.3**	**41.7**	**43.3**	**46.1**	**47.6**	**48.3**	**1.1**
Africa								
Liquid fuels	8.4	9.9	10.5	11.5	12.7	14.1	15.7	2.1
Natural gas	5.7	6.2	6.8	7.6	8.0	8.3	9.2	1.6
Coal	3.9	4.3	4.6	5.0	5.2	5.0	5.0	0.9
Nuclear	0.1	0.1	0.3	0.5	0.6	0.6	0.6	5.4
Other	4.8	6.1	7.3	8.6	10.6	13.1	15.5	4.0
Total	**22.9**	**26.6**	**29.6**	**33.2**	**37.0**	**41.1**	**46.0**	**2.4**
Non-OECD Americas								
Liquid fuels	10.9	12.7	13.4	14.1	14.9	15.9	16.8	1.5
Natural gas	5.7	5.9	6.0	6.2	6.4	6.6	7.1	0.8
Coal	0.7	0.9	0.9	0.9	1.1	1.2	1.0	1.2
Nuclear	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.6
Other	10.1	11.0	12.2	13.4	14.5	15.6	16.7	1.7
Total	**27.6**	**30.8**	**32.9**	**35.0**	**37.2**	**39.5**	**42.0**	**1.4**
Total Non-OECD								
Liquid fuels	100.1	118.6	126.6	134.7	142.7	150.4	156.7	1.5
Natural gas	79.3	88.4	95.3	99.3	104.4	109.1	114.8	1.2
Coal	128.9	133.4	132.7	139.2	145.2	151.9	154.4	0.6
Nuclear	8.2	10.3	12.5	14.4	16.2	17.6	18.9	2.8
Other	52.1	68.9	86.8	104.1	123.1	141.8	160.2	3.8
Total	**368.6**	**419.6**	**453.9**	**491.7**	**531.7**	**570.8**	**605.1**	**1.7**
World								
Liquid fuels	182.4	208.8	215.6	223.4	231.6	240.5	248.5	1.0
Natural gas	147.3	158.4	166.5	171.4	178.1	185.1	193.2	0.9
Coal	155.6	157.8	155.8	162.3	168.3	174.4	176.7	0.4
Nuclear	27.5	30.9	31.7	33.2	33.5	32.7	32.7	0.6
Other	88.7	111.7	135.6	159.3	183.9	210.1	235.2	3.3
Total	**601.5**	**667.5**	**705.2**	**749.5**	**795.4**	**842.8**	**886.3**	**1.3**

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run r_210719.163829; and EIA, *Annual Energy Outlook 2021* , (February 2021), www.eia.gov/aeo

Notes:

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

* Electricity generation from renewable sources such as hydroelectric, wind, or solar is converted to British thermal units at a rate of 8,124 British thermal units per kilowatthour, which reflects the average projected conversion efficiency of the U.S. fossil-fueled generating fleet in the Annual Energy Outlook 2021.

Table A3. World gross domestic product (GDP) by region expressed in purchasing power parity, Reference case

billion 2015 dollars

Region	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
OECD								
OECD Americas	**$23,951**	**$27,994**	**$30,790**	**$34,133**	**$37,482**	**$41,282**	**$45,187**	**2.1**
United States	$19,014	$22,176	$24,369	$27,041	$29,687	$32,770	$35,959	2.1
Canada	$1,638	$1,894	$2,059	$2,248	$2,448	$2,664	$2,890	1.9
Mexico and other OECD Americas	$3,298	$3,924	$4,362	$4,844	$5,348	$5,848	$6,338	2.2
OECD Europe	**$22,771**	**$26,253**	**$27,979**	**$29,708**	**$31,542**	**$33,542**	**$35,696**	**1.5**
OECD Asia	**$8,568**	**$9,506**	**$10,035**	**$10,393**	**$10,695**	**$11,011**	**$11,343**	**0.9**
Japan	$5,043	$5,471	$5,589	$5,609	$5,623	$5,642	$5,684	0.4
South Korea	$2,136	$2,437	$2,633	$2,749	$2,825	$2,912	$2,983	1.1
Australia and New Zealand	$1,389	$1,598	$1,813	$2,035	$2,246	$2,457	$2,676	2.2
Total OECD	**$55,289**	**$63,754**	**$68,804**	**$74,234**	**$79,719**	**$85,835**	**$92,227**	**1.7**
Non-OECD								
Non-OECD Europe and Eurasia	**$6,489**	**$7,595**	**$8,458**	**$9,575**	**$10,710**	**$11,866**	**$13,075**	**2.4**
Russia	$3,600	$4,005	$4,272	$4,649	$4,968	$5,244	$5,496	1.4
Other Europe and Eurasia	$2,889	$3,589	$4,187	$4,926	$5,742	$6,622	$7,579	3.3
Non-OECD Asia	**$44,263**	**$59,052**	**$74,329**	**$90,422**	**$106,873**	**$124,280**	**$141,476**	**3.9**
China	$23,672	$31,150	$37,826	$44,462	$50,759	$57,124	$62,859	3.3
India	$8,634	$12,487	$17,411	$22,854	$28,614	$34,905	$41,422	5.4
Other Asia	$11,957	$15,415	$19,093	$23,106	$27,501	$32,251	$37,195	3.9
Middle East	**$4,659**	**$5,567**	**$6,305**	**$6,992**	**$7,688**	**$8,372**	**$9,043**	**2.2**
Africa	**$6,270**	**$7,614**	**$9,068**	**$10,682**	**$12,491**	**$14,492**	**$16,719**	**3.3**
Non-OECD Americas	**$5,470**	**$6,516**	**$7,390**	**$8,195**	**$8,973**	**$9,817**	**$10,693**	**2.3**
Brazil	$2,912	$3,302	$3,598	$3,848	$4,020	$4,144	$4,233	1.3
Other Non-OECD Americas	$2,558	$3,214	$3,792	$4,346	$4,954	$5,673	$6,460	3.1
Total Non-OECD	**$67,151**	**$86,344**	**$105,551**	**$125,866**	**$146,734**	**$168,827**	**$191,006**	**3.5**
Total World	**$122,440**	**$150,097**	**$174,355**	**$200,100**	**$226,453**	**$254,662**	**$283,233**	**2.8**

Sources: Table by the U.S. Energy Information Administration (EIA), based on the Oxford Global Economic Model, (February 2021), www.oxfordeconomics.com (subscription site); EIA, World Energy Projection System (2021), run r_210719.163829; and EIA, *Annual Energy Outlook 2021* , (February 2021), www.eia.gov/aeo

Notes:

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

Table A4. World gross domestic product (GDP) by region expressed in market exchange rates, Reference case

billion 2015 dollars

Region	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
OECD								
OECD Americas	**$22,393**	**$26,140**	**$28,726**	**$31,835**	**$34,938**	**$38,494**	**$42,162**	**2.1**
United States	$19,014	$22,176	$24,369	$27,041	$29,687	$32,770	$35,959	2.1
Canada	$1,599	$1,849	$2,009	$2,194	$2,389	$2,600	$2,821	1.9
Mexico and other OECD Americas	$1,780	$2,115	$2,348	$2,600	$2,863	$3,125	$3,382	2.2
OECD Europe	**$18,705**	**$21,514**	**$22,832**	**$24,146**	**$25,555**	**$27,120**	**$28,792**	**1.4**
OECD Asia	**$7,505**	**$8,334**	**$8,820**	**$9,170**	**$9,472**	**$9,785**	**$10,116**	**1.0**
Japan	$4,363	$4,733	$4,835	$4,853	$4,865	$4,881	$4,917	0.4
South Korea	$1,619	$1,847	$1,997	$2,084	$2,142	$2,207	$2,262	1.1
Australia and New Zealand	$1,523	$1,753	$1,989	$2,233	$2,465	$2,696	$2,937	2.2
Total OECD	**$48,604**	**$55,987**	**$60,379**	**$65,151**	**$69,965**	**$75,400**	**$81,070**	**1.7**
Non-OECD								
Non-OECD Europe and Eurasia	**$2,482**	**$2,909**	**$3,244**	**$3,676**	**$4,117**	**$4,566**	**$5,035**	**2.4**
Russia	$1,393	$1,550	$1,653	$1,799	$1,923	$2,029	$2,127	1.4
Other Europe and Eurasia	$1,088	$1,359	$1,591	$1,877	$2,194	$2,536	$2,909	3.3
Non-OECD Asia	**$21,669**	**$28,664**	**$35,506**	**$42,575**	**$49,645**	**$57,020**	**$64,122**	**3.7**
China	$14,503	$19,085	$23,175	$27,241	$31,099	$34,999	$38,513	3.3
India	$2,522	$3,640	$5,075	$6,662	$8,341	$10,175	$12,075	5.4
Other Asia	$4,644	$5,940	$7,256	$8,672	$10,205	$11,846	$13,534	3.6
Middle East	**$2,076**	**$2,479**	**$2,808**	**$3,110**	**$3,412**	**$3,704**	**$3,983**	**2.2**
Africa	**$2,379**	**$2,905**	**$3,453**	**$4,056**	**$4,729**	**$5,474**	**$6,303**	**3.3**
Non-OECD Americas	**$3,279**	**$3,881**	**$4,371**	**$4,836**	**$5,280**	**$5,758**	**$6,251**	**2.2**
Brazil	$1,739	$1,972	$2,148	$2,298	$2,400	$2,474	$2,527	1.3
Other Non-OECD Americas	$1,541	$1,909	$2,222	$2,538	$2,880	$3,284	$3,723	3.0
Total Non-OECD	**$31,885**	**$40,839**	**$49,381**	**$58,253**	**$67,183**	**$76,522**	**$85,694**	**3.4**
Total World	**$80,489**	**$96,826**	**$109,760**	**$123,404**	**$137,148**	**$151,922**	**$166,764**	**2.5**

Sources: Table by the U.S. Energy Information Administration (EIA), based on the Oxford Global Economic Model, (February 2021), www.oxfordeconomics.com (subscription site); EIA, World Energy Projection System (2021), run r_210719.163829; and EIA, *Annual Energy Outlook 2021* , (February 2021), www.eia.gov/aeo

Notes:

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

Table A5. World liquids consumption by region, Reference case

million barrels per day

Region	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
OECD								
OECD Americas	**22.5**	**25.2**	**25.3**	**25.6**	**26.0**	**26.8**	**27.6**	**0.7**
United States	18.1	20.2	20.3	20.5	20.6	21.1	21.6	0.6
Canada	2.1	2.4	2.4	2.4	2.5	2.5	2.6	0.7
Mexico and other OECD Americas	2.3	2.6	2.7	2.8	2.9	3.2	3.4	1.3
OECD Europe	**12.7**	**13.9**	**13.6**	**13.3**	**13.2**	**13.2**	**13.4**	**0.2**
OECD Asia	**6.9**	**7.2**	**7.0**	**6.9**	**6.7**	**6.7**	**6.6**	**-0.1**
Japan	3.3	3.2	3.0	2.7	2.6	2.4	2.3	-1.1
South Korea	2.4	2.6	2.6	2.6	2.5	2.5	2.5	0.1
Australia and New Zealand	1.2	1.4	1.5	1.5	1.6	1.7	1.8	1.4
Total OECD	**42.0**	**46.3**	**45.9**	**45.8**	**45.9**	**46.6**	**47.5**	**0.4**
Non-OECD								
Non-OECD Europe and Eurasia	**5.7**	**6.3**	**6.4**	**6.6**	**6.9**	**7.1**	**7.3**	**0.8**
Russia	3.7	4.2	4.2	4.3	4.5	4.6	4.6	0.7
Other Europe and Eurasia	1.9	2.1	2.2	2.3	2.4	2.5	2.6	1.1
Non-OECD Asia	**27.1**	**33.2**	**36.7**	**39.7**	**42.2**	**44.5**	**46.1**	**1.8**
China	14.3	16.7	17.6	17.8	17.6	17.3	16.8	0.5
India	4.4	6.1	7.9	9.6	11.3	12.9	14.1	4.0
Other Asia	8.4	10.3	11.2	12.2	13.3	14.3	15.2	2.0
Middle East	**7.8**	**8.6**	**8.3**	**8.3**	**8.5**	**8.7**	**8.7**	**0.4**
Africa	**4.1**	**4.9**	**5.2**	**5.7**	**6.3**	**7.0**	**7.8**	**2.1**
Non-OECD Americas	**5.5**	**6.4**	**6.7**	**7.1**	**7.5**	**8.0**	**8.5**	**1.5**
Brazil	2.9	3.3	3.5	3.6	3.7	3.8	3.9	1.0
Other Non-OECD Americas	2.6	3.1	3.3	3.5	3.8	4.2	4.6	1.9
Total Non-OECD	**50.1**	**59.4**	**63.4**	**67.4**	**71.4**	**75.2**	**78.4**	**1.5**
Total World	**92.1**	**105.7**	**109.2**	**113.2**	**117.3**	**121.8**	**125.9**	**1.0**

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run r_210719.163829; and EIA, *Annual Energy Outlook 2021* , (February 2021), www.eia.gov/aeo
; and *EIA, Short-Term Energy Outlook* , (April 2021),

Notes:

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

* *Liquid fuels* includes motor gasoline, distillate, residual, kerosene, jet fuel, liquid petroleum gases, sequestered petroleum, other petroleum, petroleum coke, crude oil (including lease and plant condensate), ethanol, and other biofuels across all demand sectors. Refer to EIA's glossary for descriptions of individual liquids components.

Table A6. World natural gas consumption by region, Reference case

trillion cubic feet

Region	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
OECD								
OECD Americas	**38.4**	**39.6**	**40.4**	**41.8**	**43.8**	**45.8**	**47.4**	**0.7**
United States	30.8	30.8	31.0	31.4	32.7	34.1	35.4	0.5
Canada	4.3	4.6	4.9	5.4	5.9	6.3	6.6	1.5
Mexico and other OECD Americas	3.4	4.2	4.5	5.0	5.2	5.4	5.4	1.5
OECD Europe	**19.0**	**20.0**	**20.3**	**20.2**	**20.2**	**20.7**	**21.3**	**0.4**
OECD Asia	**7.8**	**7.7**	**7.7**	**7.3**	**7.0**	**6.7**	**6.7**	**-0.5**
Japan	3.8	3.5	3.5	3.2	2.9	2.8	2.7	-1.1
South Korea	2.2	2.2	2.3	2.2	2.1	2.0	2.0	-0.3
Australia and New Zealand	1.8	1.9	2.0	2.0	2.0	1.9	2.0	0.3
Total OECD	**65.2**	**67.3**	**68.4**	**69.3**	**71.0**	**73.1**	**75.5**	**0.5**
Non-OECD								
Non-OECD Europe and Eurasia	**24.4**	**25.2**	**26.3**	**27.0**	**27.7**	**28.4**	**29.2**	**0.6**
Russia	17.6	18.0	18.9	19.4	20.1	20.7	21.2	0.6
Other Europe and Eurasia	6.8	7.2	7.4	7.5	7.6	7.8	8.0	0.6
Non-OECD Asia	**23.0**	**27.7**	**31.5**	**33.8**	**36.6**	**39.4**	**42.5**	**2.1**
China	11.0	14.0	16.2	17.4	18.6	19.9	21.0	2.2
India	2.0	2.7	3.5	4.3	5.1	6.0	7.0	4.3
Other Asia	10.1	11.0	11.7	12.2	12.8	13.5	14.5	1.2
Middle East	**18.3**	**20.8**	**21.7**	**21.7**	**22.5**	**23.0**	**23.3**	**0.8**
Africa	**5.4**	**5.8**	**6.5**	**7.2**	**7.6**	**7.8**	**8.7**	**1.6**
Non-OECD Americas	**5.4**	**5.7**	**5.7**	**5.9**	**6.1**	**6.3**	**6.8**	**0.8**
Brazil	1.3	1.7	1.6	1.5	1.5	1.4	1.5	0.6
Other Non-OECD Americas	4.2	4.0	4.1	4.4	4.6	4.9	5.3	0.8
Total Non-OECD	**76.5**	**85.2**	**91.8**	**95.6**	**100.5**	**105.0**	**110.5**	**1.2**
Total World	**141.7**	**152.4**	**160.2**	**164.9**	**171.4**	**178.1**	**186.0**	**0.9**

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run r_210719.163829; and EIA, *Annual Energy Outlook 2021* , (February 2021), www.eia.gov/aeo

Notes:

* Totals may not equal sum of components due to independent rounding.
* Natural gas consumption excludes non-hydrocarbon gases.

Table A7. World coal consumption by region, Reference case

million short tons

Region	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
OECD								
OECD Americas	**520**	**451**	**435**	**406**	**385**	**371**	**375**	**-1.1**
United States	464	402	398	374	351	335	336	-1.1
Canada	26	25	12	7	7	8	8	-3.9
Mexico and other OECD Americas	30	23	24	26	27	29	30	0.1
OECD Europe	**528**	**440**	**368**	**373**	**392**	**386**	**395**	**-1.0**
OECD Asia	**421**	**407**	**398**	**410**	**412**	**391**	**371**	**-0.4**
Japan	186	206	199	207	207	188	166	-0.4
South Korea	126	125	134	138	144	145	149	0.6
Australia and New Zealand	109	75	66	64	61	58	57	-2.2
Total OECD	**1,468**	**1,297**	**1,201**	**1,190**	**1,189**	**1,149**	**1,141**	**-0.8**
Non-OECD								
Non-OECD Europe and Eurasia	**518**	**471**	**474**	**517**	**539**	**558**	**573**	**0.3**
Russia	244	251	256	286	293	298	299	0.7
Other Europe and Eurasia	274	220	218	231	245	260	275	0.0
Non-OECD Asia	**5,730**	**5,990**	**5,957**	**6,292**	**6,619**	**6,996**	**7,134**	**0.7**
China	4,382	4,227	3,948	3,894	3,845	3,809	3,779	-0.5
India	892	1,172	1,297	1,580	1,865	2,145	2,206	3.1
Other Asia	456	591	712	818	909	1,042	1,149	3.1
Middle East	**5**	**6**	**10**	**6**	**10**	**19**	**19**	**4.2**
Africa	**190**	**210**	**226**	**246**	**253**	**246**	**244**	**0.8**
Non-OECD Americas	**30**	**38**	**36**	**39**	**44**	**47**	**40**	**1.0**
Brazil	23	28	27	28	25	27	27	0.5
Other Non-OECD Americas	7	11	10	10	19	20	13	2.2
Total Non-OECD	**6,473**	**6,716**	**6,703**	**7,099**	**7,466**	**7,866**	**8,011**	**0.7**
Total World	**7,942**	**8,013**	**7,905**	**8,289**	**8,655**	**9,015**	**9,152**	**0.5**

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run r_210719.163829; and EIA, *Annual Energy Outlook 2021* , (February 2021), www.eia.gov/aeo

Notes:

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

Table A8. World nuclear energy consumption by region (net nuclear electricity generation), Reference case

billion kilowatthours

Region	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
OECD								
OECD Americas	**883**	**827**	**727**	**710**	**669**	**656**	**638**	**-1.1**
United States	785	745	630	609	595	599	594	-0.9
Canada	87	71	77	72	51	39	28	-3.7
Mexico and other OECD Americas	11	11	20	28	23	17	17	1.3
OECD Europe	**741**	**728**	**674**	**658**	**608**	**459**	**363**	**-2.3**
OECD Asia	**236**	**343**	**367**	**365**	**317**	**289**	**285**	**0.6**
Japan	58	115	139	139	121	102	102	1.9
South Korea	178	228	228	226	196	186	183	0.1
Australia and New Zealand	0	0	0	0	0	0	0	0.0
Total OECD	**1,859**	**1,898**	**1,768**	**1,733**	**1,594**	**1,403**	**1,286**	**-1.2**
Non-OECD								
Non-OECD Europe and Eurasia	**321**	**355**	**374**	**380**	**380**	**380**	**383**	**0.6**
Russia	204	229	234	234	234	234	227	0.4
Other Europe and Eurasia	118	126	140	146	146	146	156	0.9
Non-OECD Asia	**405**	**504**	**643**	**786**	**937**	**1,068**	**1,188**	**3.7**
China	331	416	538	674	795	905	1,002	3.8
India	36	52	69	76	106	128	151	4.9
Other Asia	37	36	36	36	36	36	36	-0.1
Middle East	**6**	**41**	**58**	**73**	**83**	**83**	**83**	**9.2**
Africa	**13**	**13**	**30**	**43**	**52**	**52**	**52**	**4.8**
Non-OECD Americas	**26**	**26**	**41**	**38**	**38**	**33**	**33**	**0.8**
Brazil	14	14	23	23	23	18	18	0.9
Other Non-OECD Americas	12	12	18	15	15	15	15	0.8
Total Non-OECD	**771**	**939**	**1,146**	**1,320**	**1,490**	**1,617**	**1,739**	**2.7**
Total World	**2,630**	**2,836**	**2,914**	**3,053**	**3,084**	**3,020**	**3,025**	**0.5**

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run r_210719.163829; and EIA, *Annual Energy Outlook 2021* , (February 2021), www.eia.gov/aeo

Notes:

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

Table A9. World consumption of hydroelectricity and other renewable energy by region, Reference case

quadrillion British thermal units

Region	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
OECD								
OECD Americas	**16.6**	**20.5**	**22.7**	**24.8**	**26.5**	**28.6**	**31.0**	**2.1**
United States	10.3	13.9	15.4	16.8	17.7	18.7	20.1	2.3
Canada	4.4	4.6	4.9	5.3	5.6	5.9	6.2	1.2
Mexico and other OECD Americas	1.8	2.0	2.4	2.7	3.2	4.0	4.7	3.2
OECD Europe	**16.1**	**17.7**	**20.9**	**24.1**	**26.8**	**30.7**	**34.0**	**2.5**
OECD Asia	**4.0**	**4.6**	**5.2**	**6.1**	**7.4**	**9.0**	**9.9**	**3.1**
Japan	2.5	2.3	2.4	2.6	3.1	3.8	4.4	1.8
South Korea	0.4	0.5	0.7	1.0	1.4	1.9	2.0	5.8
Australia and New Zealand	1.1	1.8	2.2	2.6	2.9	3.3	3.5	4.0
Total OECD	**36.7**	**42.8**	**48.8**	**55.1**	**60.8**	**68.3**	**74.9**	**2.4**
Non-OECD								
Non-OECD Europe and Eurasia	**3.5**	**3.6**	**4.0**	**4.6**	**5.3**	**5.9**	**6.3**	**2.0**
Russia	2.0	2.0	2.1	2.4	2.6	2.7	2.8	1.2
Other Europe and Eurasia	1.5	1.6	1.9	2.3	2.7	3.2	3.5	2.8
Non-OECD Asia	**33.4**	**47.7**	**61.9**	**74.7**	**88.6**	**102.6**	**116.7**	**4.3**
China	22.1	29.0	34.8	39.3	44.8	50.3	53.3	3.0
India	5.2	10.9	17.4	22.8	28.4	35.4	45.2	7.5
Other Asia	6.2	7.8	9.8	12.5	15.3	16.9	18.3	3.7
Middle East	**0.2**	**0.6**	**1.3**	**2.8**	**4.1**	**4.7**	**5.0**	**11.0**
Africa	**4.8**	**6.1**	**7.3**	**8.6**	**10.6**	**13.1**	**15.5**	**4.0**
Non-OECD Americas	**10.1**	**11.0**	**12.2**	**13.4**	**14.5**	**15.6**	**16.7**	**1.7**
Brazil	7.2	7.6	8.3	9.2	9.9	10.3	10.7	1.3
Other Non-OECD Americas	2.9	3.3	3.9	4.2	4.6	5.3	6.1	2.5
Total Non-OECD	**52.1**	**68.9**	**86.8**	**104.1**	**123.1**	**141.8**	**160.2**	**3.8**
Total World	**88.7**	**111.7**	**135.6**	**159.3**	**183.9**	**210.1**	**235.2**	**3.3**

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run r_210719.163829; and EIA, *Annual Energy Outlook 2021* , (February 2021), www.eia.gov/aeo

Notes:

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

Table A10. World carbon dioxide emissions by region, Reference case

million metric tons carbon dioxide

Region	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
OECD								
OECD Americas	**5,651**	**5,838**	**5,817**	**5,850**	**5,965**	**6,134**	**6,312**	**0.4**
United States	4,552	4,612	4,573	4,542	4,585	4,680	4,796	0.2
Canada	547	596	597	616	650	682	710	0.9
Mexico and other OECD Americas	552	629	647	692	730	772	806	1.3
OECD Europe	**3,593**	**3,731**	**3,606**	**3,572**	**3,576**	**3,602**	**3,671**	**0.1**
OECD Asia	**2,252**	**2,293**	**2,264**	**2,250**	**2,217**	**2,149**	**2,104**	**-0.2**
Japan	1,089	1,108	1,059	1,034	995	926	864	-0.8
South Korea	756	786	807	808	808	803	807	0.2
Australia and New Zealand	407	399	398	408	415	421	432	0.2
Total OECD	**11,496**	**11,863**	**11,687**	**11,672**	**11,757**	**11,885**	**12,087**	**0.2**
Non-OECD								
Non-OECD Europe and Eurasia	**2,930**	**3,001**	**3,086**	**3,220**	**3,325**	**3,425**	**3,509**	**0.6**
Russia	1,861	1,949	2,013	2,099	2,157	2,203	2,232	0.6
Other Europe and Eurasia	1,068	1,052	1,074	1,120	1,168	1,221	1,277	0.6
Non-OECD Asia	**15,534**	**16,982**	**17,528**	**18,547**	**19,516**	**20,561**	**21,169**	**1.0**
China	10,911	11,071	10,760	10,705	10,628	10,569	10,497	-0.1
India	2,136	2,872	3,358	4,086	4,800	5,495	5,809	3.4
Other Asia	2,488	3,038	3,410	3,756	4,088	4,497	4,863	2.3
Middle East	**2,027**	**2,270**	**2,277**	**2,261**	**2,340**	**2,403**	**2,428**	**0.6**
Africa	**1,250**	**1,418**	**1,528**	**1,668**	**1,787**	**1,889**	**2,046**	**1.7**
Non-OECD Americas	**1,106**	**1,265**	**1,307**	**1,369**	**1,447**	**1,527**	**1,600**	**1.2**
Brazil	503	593	607	620	627	643	656	0.9
Other Non-OECD Americas	603	672	700	749	820	884	944	1.5
Total Non-OECD	**22,847**	**24,935**	**25,727**	**27,064**	**28,415**	**29,805**	**30,752**	**1.0**
Total World	**34,343**	**36,797**	**37,414**	**38,736**	**40,172**	**41,690**	**42,839**	**0.7**

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run r_210719.163829; and EIA, *Annual Energy Outlook 2021* , (February 2021), www.eia.gov/aeo

Notes:

* Values presented are gross CO2 emissions; CO2 captured by CCS, accounting for less than 0.2% of the 2050 world total, is not subtracted

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

Table A11. World carbon dioxide emissions from liquids use by region, Reference case

million metric tons carbon dioxide

Region	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
OECD								
OECD Americas	**2,590**	**2,840**	**2,814**	**2,824**	**2,861**	**2,937**	**3,022**	**0.5**
United States	2,016	2,188	2,158	2,149	2,158	2,195	2,241	0.4
Canada	261	292	295	299	304	311	320	0.7
Mexico and other OECD Americas	313	360	361	375	400	430	461	1.3
OECD Europe	**1,790**	**1,968**	**1,911**	**1,870**	**1,848**	**1,855**	**1,872**	**0.1**
OECD Asia	**991**	**1,040**	**1,011**	**988**	**969**	**958**	**949**	**-0.1**
Japan	464	456	419	388	363	345	329	-1.1
South Korea	368	395	393	389	384	382	377	0.1
Australia and New Zealand	160	190	200	211	221	232	243	1.4
Total OECD	**5,372**	**5,849**	**5,737**	**5,682**	**5,679**	**5,750**	**5,843**	**0.3**
Non-OECD								
Non-OECD Europe and Eurasia	**696**	**764**	**775**	**798**	**822**	**843**	**857**	**0.7**
Russia	435	478	477	486	491	497	497	0.5
Other Europe and Eurasia	262	287	298	313	330	347	359	1.1
Non-OECD Asia	**3,372**	**4,140**	**4,577**	**4,945**	**5,259**	**5,542**	**5,746**	**1.8**
China	1,723	2,015	2,126	2,149	2,125	2,083	2,029	0.5
India	564	787	1,004	1,223	1,433	1,627	1,776	3.9
Other Asia	1,085	1,338	1,447	1,573	1,701	1,832	1,942	2.0
Middle East	**994**	**1,096**	**1,040**	**1,035**	**1,057**	**1,074**	**1,085**	**0.3**
Africa	**584**	**688**	**731**	**793**	**875**	**976**	**1,086**	**2.1**
Non-OECD Americas	**734**	**859**	**901**	**946**	**1,000**	**1,061**	**1,122**	**1.4**
Brazil	382	440	454	470	484	498	508	1.0
Other Non-OECD Americas	352	419	446	477	515	563	615	1.9
Total Non-OECD	**6,381**	**7,547**	**8,023**	**8,517**	**9,013**	**9,496**	**9,896**	**1.5**
Total World	**11,752**	**13,396**	**13,760**	**14,199**	**14,691**	**15,246**	**15,739**	**1.0**

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run r_210719.163829; and EIA, *Annual Energy Outlook 2021* , (February 2021), www.eia.gov/aeo

Notes:

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

Table A12. World carbon dioxide emissions from natural gas use by region, Reference case

million metric tons carbon dioxide

Region	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
OECD								
OECD Americas	**2,091**	**2,154**	**2,195**	**2,267**	**2,376**	**2,487**	**2,574**	**0.7**
United States	1,675	1,676	1,683	1,705	1,774	1,854	1,924	0.5
Canada	237	257	275	298	327	350	369	1.5
Mexico and other OECD Americas	179	221	237	264	275	282	281	1.5
OECD Europe	**1,037**	**1,091**	**1,108**	**1,106**	**1,105**	**1,130**	**1,166**	**0.4**
OECD Asia	**461**	**451**	**453**	**429**	**409**	**390**	**394**	**-0.5**
Japan	232	215	213	194	179	168	167	-1.1
South Korea	130	131	134	128	123	116	119	-0.3
Australia and New Zealand	99	105	106	107	107	106	109	0.3
Total OECD	**3,589**	**3,697**	**3,756**	**3,802**	**3,891**	**4,007**	**4,134**	**0.5**
Non-OECD								
Non-OECD Europe and Eurasia	**1,326**	**1,370**	**1,432**	**1,467**	**1,507**	**1,548**	**1,589**	**0.6**
Russia	956	979	1,031	1,058	1,095	1,127	1,152	0.6
Other Europe and Eurasia	370	391	401	409	412	421	437	0.6
Non-OECD Asia	**1,261**	**1,521**	**1,730**	**1,860**	**2,014**	**2,171**	**2,341**	**2.1**
China	610	778	898	962	1,034	1,105	1,165	2.2
India	110	153	200	244	290	342	394	4.3
Other Asia	541	590	632	654	690	724	782	1.2
Middle East	**1,020**	**1,159**	**1,214**	**1,211**	**1,257**	**1,282**	**1,299**	**0.8**
Africa	**300**	**326**	**363**	**403**	**423**	**438**	**488**	**1.6**
Non-OECD Americas	**301**	**314**	**317**	**327**	**337**	**350**	**377**	**0.8**
Brazil	65	86	85	78	76	75	78	0.6
Other Non-OECD Americas	236	228	231	249	261	275	300	0.8
Total Non-OECD	**4,209**	**4,690**	**5,055**	**5,268**	**5,538**	**5,789**	**6,093**	**1.2**
Total World	**7,797**	**8,386**	**8,811**	**9,070**	**9,429**	**9,796**	**10,228**	**0.9**

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run r_210719.163829; and EIA, *Annual Energy Outlook 2021* , (February 2021), www.eia.gov/aeo

Notes:

* Values presented are gross CO2 emissions; CO2 captured by CCS, accounting for less than 0.2% of the 2050 world total, is not subtracted

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

Table A13. World carbon dioxide emissions from coal use by region, Reference case

million metric tons carbon dioxide

Region	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
OECD								
OECD Americas	**969**	**843**	**808**	**759**	**727**	**710**	**716**	**-1.0**
United States	861	749	731	688	653	630	631	-1.0
Canada	48	47	26	18	19	20	21	-2.8
Mexico and other OECD Americas	60	48	50	53	56	60	64	0.2
OECD Europe	**766**	**672**	**586**	**596**	**622**	**618**	**633**	**-0.6**
OECD Asia	**800**	**802**	**800**	**832**	**839**	**801**	**760**	**-0.2**
Japan	393	437	427	452	452	413	368	-0.2
South Korea	259	261	280	290	301	305	311	0.6
Australia and New Zealand	148	104	93	90	86	83	81	-2.0
Total OECD	**2,536**	**2,317**	**2,194**	**2,187**	**2,188**	**2,129**	**2,110**	**-0.6**
Non-OECD								
Non-OECD Europe and Eurasia	**908**	**866**	**879**	**954**	**996**	**1,034**	**1,064**	**0.5**
Russia	471	493	504	556	571	580	583	0.7
Other Europe and Eurasia	437	374	375	398	426	453	481	0.3
Non-OECD Asia	**10,901**	**11,321**	**11,222**	**11,742**	**12,244**	**12,848**	**13,082**	**0.6**
China	8,578	8,279	7,736	7,594	7,469	7,380	7,304	-0.5
India	1,461	1,932	2,155	2,620	3,077	3,527	3,639	3.1
Other Asia	862	1,110	1,332	1,528	1,698	1,941	2,139	3.1
Middle East	**13**	**15**	**24**	**16**	**25**	**47**	**45**	**4.2**
Africa	**365**	**404**	**434**	**473**	**488**	**475**	**473**	**0.9**
Non-OECD Americas	**71**	**92**	**90**	**95**	**110**	**116**	**100**	**1.2**
Brazil	55	67	68	72	66	71	70	0.8
Other Non-OECD Americas	15	25	22	23	44	45	30	2.2
Total Non-OECD	**12,258**	**12,698**	**12,649**	**13,279**	**13,864**	**14,520**	**14,764**	**0.6**
Total World	**14,794**	**15,015**	**14,843**	**15,466**	**16,052**	**16,649**	**16,873**	**0.4**

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run r_210719.163829; and EIA, *Annual Energy Outlook 2021* , (February 2021), www.eia.gov/aeo

Notes:

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

Table A14. World population by region, Reference case

million persons

Region	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
OECD								
OECD Americas	**570**	**591**	**611**	**629**	**644**	**657**	**669**	**0.5**
United States	330	342	353	362	371	379	386	0.5
Canada	38	40	42	44	46	47	49	0.8
Mexico and other OECD Americas	202	210	217	223	228	232	234	0.5
OECD Europe	**590**	**597**	**602**	**607**	**611**	**613**	**613**	**0.1**
OECD Asia	**208**	**208**	**207**	**205**	**202**	**199**	**195**	**-0.2**
Japan	126	124	121	117	114	110	106	-0.6
South Korea	51	51	51	51	50	48	47	-0.3
Australia and New Zealand	31	32	34	37	39	41	42	1.1
Total OECD	**1,369**	**1,396**	**1,420**	**1,441**	**1,457**	**1,469**	**1,478**	**0.3**
Non-OECD								
Non-OECD Europe and Eurasia	**342**	**344**	**343**	**343**	**343**	**342**	**341**	**0.0**
Russia	146	145	143	141	139	137	136	-0.2
Other Europe and Eurasia	196	199	200	202	204	205	206	0.2
Non-OECD Asia	**3,972**	**4,120**	**4,242**	**4,339**	**4,409**	**4,453**	**4,473**	**0.4**
China	1,440	1,458	1,464	1,461	1,449	1,429	1,402	-0.1
India	1,382	1,447	1,505	1,555	1,594	1,621	1,640	0.6
Other Asia	1,151	1,215	1,273	1,323	1,367	1,403	1,432	0.7
Middle East	**287**	**316**	**342**	**364**	**385**	**404**	**422**	**1.3**
Africa	**1,302**	**1,465**	**1,638**	**1,822**	**2,014**	**2,212**	**2,413**	**2.1**
Non-OECD Americas	**452**	**472**	**489**	**503**	**514**	**522**	**528**	**0.5**
Brazil	213	219	224	227	229	230	229	0.2
Other Non-OECD Americas	239	253	265	276	285	292	299	0.7
Total Non-OECD	**6,354**	**6,716**	**7,055**	**7,371**	**7,665**	**7,934**	**8,177**	**0.8**
Total World	**7,723**	**8,112**	**8,475**	**8,812**	**9,122**	**9,403**	**9,655**	**0.7**

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run r_210719.163829; and EIA, *Annual Energy Outlook 2021* , (February 2021), www.eia.gov/aeo

Notes:

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

Table A15. Gross output by region and sector, Reference case

billion 2015 dollars

Region and sector	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
OECD								
United States								
Energy-intensive manufacturing	$2,575	$3,000	$3,253	$3,539	$3,810	$4,128	$4,454	1.8
Non-energy-intensive manufacturing	$3,666	$4,588	$5,061	$5,690	$6,332	$7,117	$7,949	2.6
Nonmanufacturing	$2,456	$2,891	$3,170	$3,493	$3,811	$4,191	$4,594	2.1
Services	$25,509	$30,567	$33,577	$37,271	$40,916	$45,131	$49,451	2.2
Total	**$34,206**	**$41,047**	**$45,061**	**$49,994**	**$54,868**	**$60,567**	**$66,447**	**2.2**
Canada								
Energy-intensive manufacturing	$245	$299	$331	$368	$406	$448	$490	2.3
Non-energy-intensive manufacturing	$311	$398	$433	$475	$519	$568	$618	2.3
Nonmanufacturing	$458	$520	$568	$620	$668	$715	$765	1.7
Services	$1,577	$1,986	$2,149	$2,335	$2,537	$2,756	$2,983	2.1
Total	**$2,590**	**$3,203**	**$3,481**	**$3,797**	**$4,129**	**$4,486**	**$4,856**	**2.1**
Mexico and other OECD Americas								
Energy-intensive manufacturing	$811	$937	$1,033	$1,140	$1,246	$1,359	$1,477	2.0
Non-energy-intensive manufacturing	$926	$1,168	$1,278	$1,412	$1,565	$1,747	$1,961	2.5
Nonmanufacturing	$755	$879	$975	$1,081	$1,191	$1,287	$1,364	2.0
Services	$2,888	$3,570	$4,001	$4,479	$4,979	$5,475	$5,960	2.4
Total	**$5,380**	**$6,554**	**$7,287**	**$8,112**	**$8,980**	**$9,868**	**$10,762**	**2.3**
OECD Europe								
Energy-intensive manufacturing	$4,488	$5,018	$5,256	$5,511	$5,760	$6,020	$6,309	1.1
Non-energy-intensive manufacturing	$7,156	$8,690	$9,305	$10,032	$10,798	$11,646	$12,559	1.9
Nonmanufacturing	$4,159	$4,783	$5,069	$5,328	$5,577	$5,832	$6,091	1.3
Services	$27,308	$31,496	$33,635	$35,734	$37,970	$40,407	$43,042	1.5
Total	**$43,111**	**$49,987**	**$53,264**	**$56,605**	**$60,104**	**$63,905**	**$68,000**	**1.5**
Japan								
Energy-intensive manufacturing	$1,013	$1,107	$1,095	$1,067	$1,039	$1,016	$998	0.0
Non-energy-intensive manufacturing	$2,584	$3,121	$3,206	$3,249	$3,286	$3,325	$3,372	0.9
Nonmanufacturing	$630	$676	$666	$653	$641	$628	$615	-0.1
Services	$5,566	$5,976	$6,116	$6,135	$6,149	$6,168	$6,214	0.4
Total	**$9,793**	**$10,881**	**$11,083**	**$11,105**	**$11,116**	**$11,137**	**$11,199**	**0.4**
South Korea								
Energy-intensive manufacturing	$1,084	$1,215	$1,291	$1,338	$1,369	$1,402	$1,432	0.9
Non-energy-intensive manufacturing	$1,508	$1,830	$1,998	$2,102	$2,172	$2,255	$2,328	1.5
Nonmanufacturing	$372	$423	$457	$487	$509	$532	$553	1.3
Services	$2,345	$2,654	$2,869	$2,992	$3,073	$3,164	$3,239	1.1
Total	**$5,309**	**$6,122**	**$6,615**	**$6,919**	**$7,122**	**$7,353**	**$7,552**	**1.2**
Australia and New Zealand								
Energy-intensive manufacturing	$175	$182	$194	$206	$218	$228	$238	1.0
Non-energy-intensive manufacturing	$123	$133	$142	$152	$162	$171	$179	1.3
Nonmanufacturing	$527	$637	$718	$813	$897	$981	$1,062	2.4
Services	$1,801	$2,073	$2,337	$2,604	$2,858	$3,109	$3,377	2.1
Total	**$2,626**	**$3,025**	**$3,391**	**$3,775**	**$4,135**	**$4,489**	**$4,856**	**2.1**
Total OECD								
Energy-intensive manufacturing	$10,390	$11,759	$12,452	$13,169	$13,847	$14,600	$15,398	1.3
Non-energy-intensive manufacturing	$16,274	$19,927	$21,423	$23,113	$24,832	$26,828	$28,966	1.9
Nonmanufacturing	$9,358	$10,809	$11,623	$12,475	$13,293	$14,167	$15,045	1.6
Services	$66,994	$78,322	$84,684	$91,550	$98,482	$106,211	$114,264	1.8
Total	**$103,015**	**$120,818**	**$130,182**	**$140,307**	**$150,455**	**$161,806**	**$173,673**	**1.8**
Non-OECD								
Russia								

Energy-intensive manufacturing	$721	$845	$910	$978	$1,037	$1,086	$1,117	1.5
Non-energy-intensive manufacturing	$578	$705	$742	$798	$853	$903	$951	1.7
Nonmanufacturing	$1,192	$1,393	$1,466	$1,525	$1,560	$1,581	$1,591	1.0
Services	$3,553	$4,144	$4,194	$4,361	$4,448	$4,476	$4,469	0.8
Total	**$6,044**	**$7,087**	**$7,311**	**$7,661**	**$7,898**	**$8,045**	**$8,128**	**1.0**
Other Europe and Eurasia								
Energy-intensive manufacturing	$584	$669	$729	$815	$907	$996	$1,084	2.1
Non-energy-intensive manufacturing	$460	$552	$602	$667	$736	$804	$872	2.2
Nonmanufacturing	$996	$1,149	$1,284	$1,423	$1,560	$1,694	$1,824	2.0
Services	$2,672	$3,278	$3,667	$4,119	$4,564	$4,993	$5,420	2.4
Total	**$4,712**	**$5,648**	**$6,282**	**$7,024**	**$7,767**	**$8,486**	**$9,200**	**2.3**
China								
Energy-intensive manufacturing	$13,218	$16,128	$17,835	$19,089	$19,964	$20,665	$21,104	1.6
Non-energy-intensive manufacturing	$23,190	$30,159	$35,154	$39,903	$43,729	$47,052	$49,315	2.5
Nonmanufacturing	$10,745	$12,933	$14,432	$15,674	$16,611	$17,408	$18,186	1.8
Services	$29,694	$41,438	$52,516	$64,041	$75,581	$87,631	$98,862	4.1
Total	**$76,846**	**$100,658**	**$119,938**	**$138,707**	**$155,885**	**$172,757**	**$187,467**	**3.0**
India								
Energy-intensive manufacturing	$3,311	$4,850	$6,949	$9,325	$11,818	$14,520	$17,233	5.7
Non-energy-intensive manufacturing	$2,526	$4,087	$5,957	$8,070	$10,418	$13,077	$15,962	6.3
Nonmanufacturing	$3,750	$5,326	$6,981	$8,733	$10,599	$12,591	$14,448	4.6
Services	$6,692	$9,853	$14,135	$18,897	$23,952	$29,492	$35,373	5.7
Total	**$16,278**	**$24,116**	**$34,023**	**$45,025**	**$56,786**	**$69,680**	**$83,016**	**5.6**
Other Asia								
Energy-intensive manufacturing	$3,226	$4,053	$4,866	$5,833	$6,901	$8,045	$9,241	3.6
Non-energy-intensive manufacturing	$6,062	$7,778	$9,273	$10,828	$12,373	$13,892	$15,377	3.2
Nonmanufacturing	$4,109	$5,176	$6,353	$7,666	$9,143	$10,743	$12,415	3.8
Services	$11,758	$15,155	$18,724	$22,447	$26,403	$30,576	$34,788	3.7
Total	**$25,156**	**$32,162**	**$39,216**	**$46,773**	**$54,821**	**$63,256**	**$71,820**	**3.6**
Middle East								
Energy-intensive manufacturing	$1,392	$1,691	$1,875	$2,040	$2,179	$2,275	$2,345	1.8
Non-energy-intensive manufacturing	$383	$497	$568	$623	$672	$709	$738	2.2
Nonmanufacturing	$2,435	$2,802	$3,059	$3,292	$3,533	$3,776	$4,017	1.7
Services	$4,545	$5,670	$6,636	$7,550	$8,456	$9,364	$10,251	2.7
Total	**$8,755**	**$10,660**	**$12,139**	**$13,505**	**$14,841**	**$16,123**	**$17,350**	**2.3**
Africa								
Energy-intensive manufacturing	$1,256	$1,483	$1,769	$2,100	$2,464	$2,860	$3,289	3.3
Non-energy-intensive manufacturing	$921	$1,143	$1,359	$1,601	$1,864	$2,141	$2,430	3.3
Nonmanufacturing	$3,114	$3,581	$4,155	$4,754	$5,394	$6,073	$6,795	2.6
Services	$6,095	$7,241	$8,566	$9,993	$11,587	$13,281	$15,078	3.1
Total	**$11,386**	**$13,449**	**$15,849**	**$18,448**	**$21,309**	**$24,355**	**$27,592**	**3.0**
Brazil								
Energy-intensive manufacturing	$777	$899	$993	$1,061	$1,097	$1,114	$1,119	1.2
Non-energy-intensive manufacturing	$481	$630	$696	$747	$780	$803	$820	1.8
Nonmanufacturing	$668	$777	$845	$911	$971	$1,028	$1,080	1.6
Services	$2,997	$3,368	$3,659	$3,910	$4,077	$4,192	$4,268	1.2
Total	**$4,922**	**$5,674**	**$6,194**	**$6,630**	**$6,925**	**$7,137**	**$7,287**	**1.3**
Other Non-OECD Americas								
Energy-intensive manufacturing	$449	$522	$601	$662	$726	$795	$867	2.2
Non-energy-intensive manufacturing	$473	$581	$669	$749	$837	$942	$1,062	2.7
Nonmanufacturing	$677	$808	$914	$1,004	$1,097	$1,196	$1,299	2.2
Services	$2,295	$2,804	$3,272	$3,652	$4,057	$4,494	$4,959	2.6
Total	**$3,895**	**$4,715**	**$5,457**	**$6,066**	**$6,717**	**$7,428**	**$8,187**	**2.5**
Total Non-OECD								
Energy-intensive manufacturing	$24,934	$31,141	$36,528	$41,903	$47,093	$52,357	$57,399	2.8
Non-energy-intensive manufacturing	$35,074	$46,133	$55,021	$63,986	$72,262	$80,323	$87,526	3.1
Nonmanufacturing	$27,685	$33,945	$39,489	$44,982	$50,468	$56,090	$61,655	2.7
Services	$70,300	$92,951	$115,370	$138,970	$163,126	$188,498	$213,468	3.8

Total	**$157,994**	**$204,169**	**$246,409**	**$289,840**	**$332,949**	**$377,267**	**$420,047**	**3.3**
World								
Energy-intensive manufacturing	$35,323	$42,900	$48,980	$55,072	$60,940	$66,957	$72,797	2.4
Non-energy-intensive manufacturing	$51,348	$66,060	$76,445	$87,098	$97,094	$107,151	$116,492	2.8
Nonmanufacturing	$37,043	$44,754	$51,112	$57,457	$63,762	$70,256	$76,699	2.5
Services	$137,294	$171,273	$200,054	$230,520	$261,608	$294,709	$327,732	2.9
Total	**$261,009**	**$324,987**	**$376,591**	**$430,147**	**$483,404**	**$539,073**	**$593,720**	**2.8**

Sources: Table by the U.S. Energy Information Administration (EIA), based on Oxford Global Industry Model, (March 2021), www.oxfordeconomics.com (subscription site); EIA, World Energy Projection System (2021), run r_210719.163829; and EIA, *Annual Energy Outlook 2021* , (February 2021), www.eia.gov/aeo

Notes:

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

* *Gross output* is sales or revenue, including final and intermediate goods and services, measured in purchasing power parity (PPP).