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Statistical Review of World Energy

2021 | 70th edition



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Reviewing world energy
data for 70 years

Electricity generation*

	Growth rate per annum											Share 2020		
Terawatt-hours	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020	2009-19	
Canada	607.0	638.3	636.5	655.7	647.6	659.3	663.7	660.1	655.8	648.7	643.9	-1.0%	0.6%	2.4%
Mexico	275.6	292.1	296.4	297.1	303.3	310.3	319.4	325.1	335.1	322.6	313.2	-3.2%	1.9%	1.2%
US	4394.3	4363.4	4310.6	4330.3	4363.3	4348.7	4347.9	4302.5	4461.6	4411.2	4286.6	-3.1%	0.5%	16.0%
Total North America	5276.8	5293.8	5243.5	5283.1	5314.2	5318.4	5331.1	5287.7	5452.5	5382.4	5243.6	-2.8%	0.6%	19.5%
Argentina	126.0	129.5	136.0	139.4	138.6	145.4	147.2	145.6	146.8	139.5	142.5	1.9%	1.3%	0.5%
Brazil	515.8	531.8	552.5	570.8	590.5	581.2	578.9	589.3	601.4	626.3	620.1	-1.3%	3.0%	2.3%
Chile	61.3	65.2	69.7	73.0	71.6	74.5	77.7	78.6	82.3	83.6	84.3	0.5%	3.4%	0.3%
Colombia	64.7	66.2	67.7	69.8	72.7	75.0	74.4	75.1	78.3	80.0	75.0	-6.5%	2.4%	0.3%
Ecuador	19.5	20.5	22.8	23.3	24.3	26.0	27.3	28.0	29.7	32.9	32.0	-2.7%	6.0%	0.1%
Peru	35.9	38.8	41.0	43.3	45.5	48.3	51.7	52.7	54.9	57.0	52.7	-7.7%	5.6%	0.2%
Trinidad & Tobago	8.5	8.8	9.1	9.5	9.9	10.3	10.0	9.9	9.2	9.7	9.0	-7.0%	2.2%	♦
Venezuela	116.7	122.9	127.9	130.0	128.3	123.8	113.8	109.4	105.1	89.8	58.4	-35.1%	-3.2%	0.2%
Other S. & Cent. America	192.1	197.5	204.6	208.4	205.7	212.1	224.5	218.1	223.2	220.3	208.7	-5.5%	1.6%	0.8%
Total S. & Cent. America	1140.5	1181.1	1231.4	1267.6	1287.3	1296.6	1305.6	1306.8	1330.9	1339.0	1282.8	-4.5%	2.1%	4.8%
Austria	71.1	65.9	72.4	68.0	65.1	64.9	68.3	71.3	68.6	74.2	71.7	-3.6%	0.7%	0.3%
Belgium	95.2	90.2	82.9	83.5	72.6	69.8	85.8	86.8	75.1	93.7	90.4	-3.8%	0.3%	0.3%
Czech Republic	85.9	87.6	87.6	87.1	86.0	83.9	83.3	87.0	88.0	87.0	81.4	-6.6%	0.6%	0.3%
Finland	81.1	73.7	70.5	71.4	68.2	69.2	67.9	70.6	69.0	68.8	-0.6%	-0.5%	0.3%	
France	569.3	565.0	565.2	575.5	564.9	571.8	556.2	554.0	574.0	562.8	524.9	-7.0%	0.5%	2.0%
Germany	633.1	613.1	630.1	638.7	627.8	647.6	649.7	652.9	642.9	609.4	571.9	-6.4%	0.2%	2.1%
Greece	57.4	59.4	61.0	57.2	50.5	51.9	54.4	55.3	53.3	45.5	42.6	-6.6%	-3.0%	0.2%
Hungary	37.4	36.0	34.6	30.3	29.4	30.4	31.9	32.9	32.0	34.2	34.6	1.1%	-0.5%	0.1%
Italy	302.1	302.6	299.3	289.8	279.8	283.0	289.8	295.8	289.7	293.9	282.7	-4.0%	♦	1.1%
Netherlands	118.1	113.0	102.5	100.9	103.4	110.1	115.2	117.3	114.1	121.1	122.4	0.8%	0.6%	0.5%
Norway	123.6	127.6	147.7	134.0	142.0	144.5	149.0	149.4	147.1	134.9	154.5	14.2%	0.2%	0.6%
Poland	157.7	163.5	162.1	164.6	159.1	164.9	166.6	170.5	170.0	164.0	157.8	-4.0%	0.8%	0.6%
Portugal	54.1	52.5	46.6	51.7	52.8	52.4	60.3	59.4	59.6	53.2	54.1	1.5%	0.6%	0.2%
Romania	61.0	62.2	59.0	58.9	63.3	66.3	65.1	64.3	64.8	59.5	56.2	-5.7%	0.3%	0.2%
Spain	300.4	291.8	297.6	285.3	278.8	281.0	274.6	275.6	274.5	267.5	255.8	-4.7%	-1.0%	1.0%
Sweden	148.3	151.2	166.3	153.2	153.7	162.1	156.1	164.3	163.4	168.4	169.2	0.2%	2.1%	0.6%
Switzerland	68.0	64.8	70.0	70.4	72.0	66.3	61.9	61.8	67.6	72.1	70.4	-2.5%	0.5%	0.3%
Turkey	211.2	229.4	239.5	240.2	252.0	261.8	274.4	297.3	304.8	303.9	305.4	0.2%	4.5%	1.1%
Ukraine	188.8	194.9	198.9	194.4	182.8	163.7	164.6	156.0	159.9	154.1	149.0	-3.6%	-1.2%	0.6%
United Kingdom	382.1	368.0	363.9	358.3	338.1	338.9	339.2	338.2	332.8	324.8	312.8	-4.0%	-1.5%	1.2%
Other Europe	320.0	307.1	295.4	309.2	297.2	298.2	305.9	303.2	312.8	299.0	294.7	-1.7%	-0.2%	1.1%
Total Europe	4065.8	4019.4	4053.1	4022.2	3939.2	3982.7	4021.4	4061.3	4065.5	3992.1	3871.3	-3.3%	0.2%	14.4%
Azerbaijan	18.7	20.3	23.0	23.4	24.7	24.7	25.0	24.3	25.2	26.1	22.8	-12.7%	3.3%	0.1%
Belarus	34.9	32.2	30.8	31.5	34.7	34.2	33.6	34.5	38.9	40.5	38.7	-4.6%	2.9%	0.1%
Kazakhstan	82.6	86.6	90.6	92.6	94.6	91.6	94.6	103.1	107.3	106.5	109.2	2.2%	3.1%	0.4%
Russian Federation	1038.0	1054.9	1069.3	1059.1	1064.2	1067.5	1091.0	1091.2	1109.2	1118.1	1085.4	-3.2%	1.2%	4.0%
Turkmenistan	16.7	17.2	17.8	18.9	20.1	21.5	22.6	22.8	24.2	25.4	26.6	4.4%	4.7%	0.1%
Uzbekistan	51.9	52.8	53.0	54.9	55.4	57.3	59.1	60.8	62.9	63.1	65.0	2.7%	2.3%	0.2%
Other CIS	41.1	44.6	46.0	43.3	44.1	44.0	43.5	46.3	48.6	49.2	49.4	0.3%	2.3%	0.2%
Total CIS	1284.0	1308.5	1330.4	1323.7	1337.9	1340.9	1369.3	1383.0	1416.4	1428.8	1397.1	-2.5%	1.5%	5.2%
Iran	235.7	235.6	248.8	258.9	273.5	279.5	286.1	305.2	314.4	318.7	331.6	3.8%	3.7%	1.2%
Iraq	41.7	42.2	47.8	62.1	71.2	75.3	86.3	93.6	100.2	131.9	131.3	-0.7%	12.3%	0.5%
Israel	58.5	59.3	63.0	61.4	61.3	64.3	67.4	67.7	69.3	72.3	74.3	2.4%	2.7%	0.3%
Kuwait	57.1	57.5	62.7	61.0	65.1	68.3	70.1	72.9	74.2	75.2	74.9	-0.7%	3.5%	0.3%
Oman	19.8	21.9	25.0	26.2	29.1	32.8	34.2	36.1	37.7	38.3	38.9	1.1%	7.6%	0.1%
Qatar	28.1	30.7	34.8	34.7	38.7	41.5	42.3	45.6	47.9	49.9	50.5	1.1%	7.5%	0.2%
Saudi Arabia	240.1	250.1	272.1	284.5	312.3	338.8	345.5	349.5	344.0	343.7	340.9	-1.1%	4.7%	1.3%
United Arab Emirates	93.9	99.1	106.2	110.0	116.5	127.4	129.6	134.6	136.0	138.5	138.4	-0.3%	4.9%	0.5%
Other Middle East	98.7	93.4	88.3	83.7	83.5	81.8	82.1	85.4	83.7	85.2	84.4	-1.2%	-0.6%	0.3%
Total Middle East	873.7	889.7	948.6	982.4	1051.4	1109.7	1143.7	1190.5	1207.4	1253.6	1265.2	0.6%	4.5%	4.7%
Algeria	45.7	53.1	57.4	59.9	64.2	68.8	71.0	76.0	76.7	81.5	78.8	-3.6%	6.6%	0.3%
Egypt	144.4	149.6	162.8	165.1	171.2	181.8	188.2	193.2	199.4	200.6	198.6	-1.2%	4.1%	0.7%
Morocco	23.7	25.4	27.7	28.1	29.3	30.3	30.7	31.6	34.4	40.1	38.2	-5.2%	6.4%	0.1%
South Africa	259.6	262.5	257.9	256.1	254.8	250.1	252.7	255.1	256.3	252.6	239.5	-5.5%	0.1%	0.9%
Other Africa	198.8	198.9	215.3	234.8	248.4	257.3	253.9	268.9	280.3	288.6	288.9	-0.2%	4.9%	1.1%
Total Africa	672.3	689.4	721.1	744.0	767.9	788.4	796.5	824.8	847.2	863.4	843.9	-2.5%	3.2%	3.1%
Australia	251.0	256.3	250.7	249.6	247.6	254.0	258.2	259.0	262.6	265.9	265.2	-0.5%	0.6%	1.0%
Bangladesh	40.8	44.2	48.7	54.4	57.4	61.8	70.0	73.4	81.1	89.7	89.1	-0.9%	9.2%	0.3%
China	4207.2	4713.0	4987.6	5431.6	5794.5	5814.6	6133.2	6604.4	7166.1	7503.4	7779.1	3.4%	7.3%	29.0%
China Hong Kong SAR	38.3	39.1	38.8	39.1	39.8	38.0	38.2	37.0	36.5	36.9	35.2	-4.8%	-0.5%	0.1%
India	937.5	1034.0	1091.8	1146.1	1262.2	1317.3	1401.7	1471.3	1579.2	1603.7	1560.9	-2.9%	6.2%	5.8%
Indonesia	169.8	183.4	200.3	216.2	228.6	234.0	247.9	254.7	267.1	278.9	275.2	-1.6%	5.9%	1.0%
Japan	1156.0	1104.2	1106.9	1087.8	1062.7	1030.1	1035.1	1042.1	1053.2	1030.3	1004.8	-2.7%	-0.8%	3.7%
Malaysia	125.0	127.1	134.1	141.0	147.5	150.1	156.7	160.6	170.6	171.5	159.6	-7.2%	4.0%	0.6%
New Zealand	44.9	44.4	44.2	43.3	43.7	44.4	43.8	43.2	44.4	44.8	44.2	-1.7%	0.3%	0.2%
Pakistan	99.4	100.6	99.5	101.0	106.3	110.5	116.0	127.7	138.3	138.6	137.8	-0.9%	3.4%	0.5%
Philippines	67.7	69.2	72.9	75.3	77.3	82.4	90.8	94.4	99.8	106.0	101.8	-4.3%	5.5%	0.4%
Singapore														

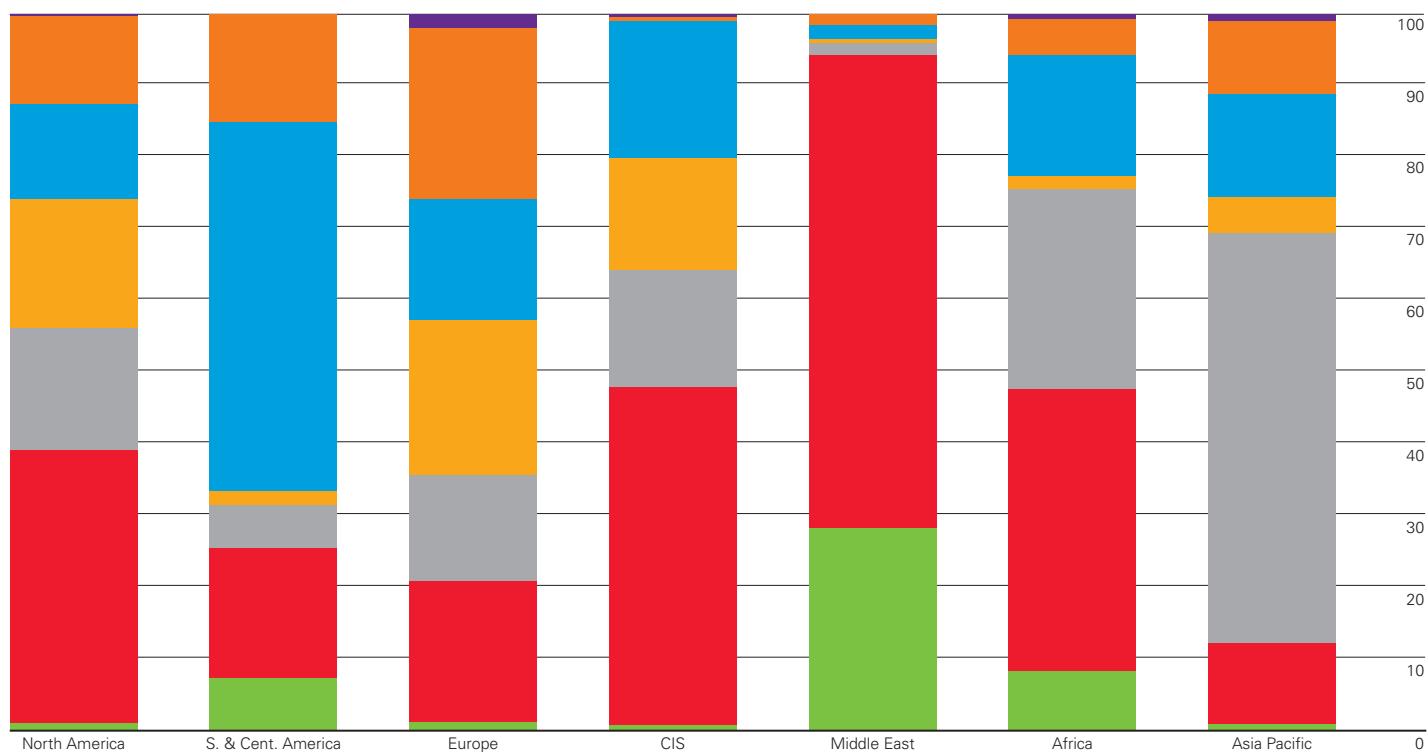
Regional electricity generation by fuel 2020

Percentage

- Oil
- Natural gas
- Coal

- Nuclear
- Hydroelectricity
- Renewables

- Other (includes sources not specified elsewhere
e.g. pumped hydro, non-renewable waste and
statistical differences)



Natural gas is the dominant fuel used for power generation in North America, CIS, the Middle East and Africa. More than half of the power in South and Central America is hydroelectricity, while in Asia, coal comprises 57% of the generation mix – a far higher share than any other region. In Europe, renewables (including biopower) are the largest source of power generation with 23.8% for the first time, overtaking nuclear on 21.6%. Generation in Europe is spread fairly evenly between renewables, nuclear, gas (19.6%) and hydro (16.9%).

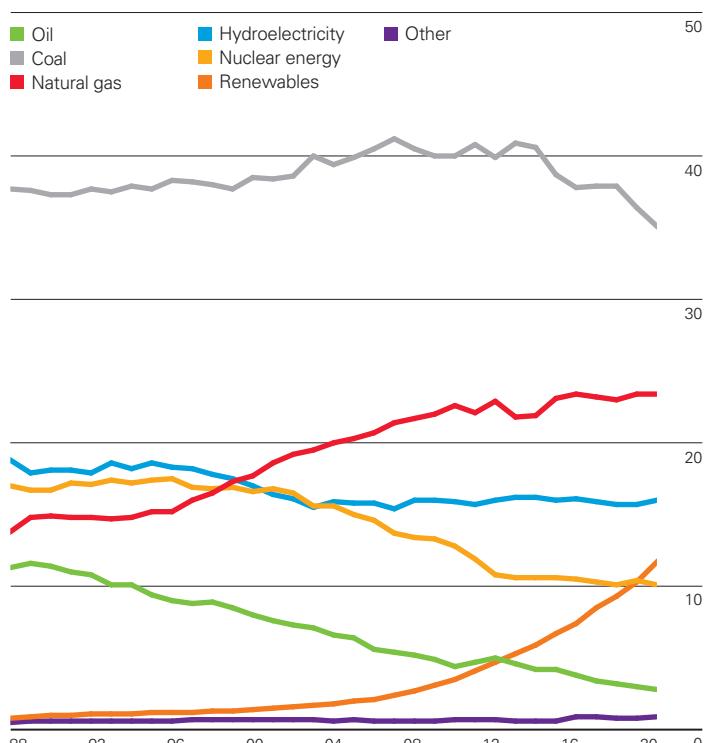
Share of global electricity generation by fuel

Percentage

- Oil
- Coal
- Natural gas

- Hydroelectricity
- Nuclear energy
- Renewables

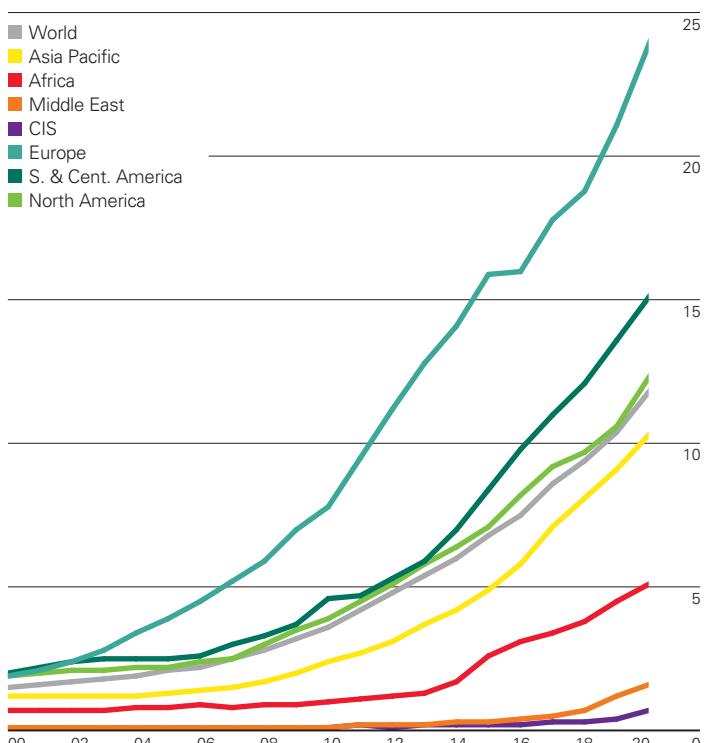
- Other



Renewables share of power generation by region

Percentage

- World
- Asia Pacific
- Africa
- Middle East
- CIS
- Europe
- S. & Cent. America
- North America



At a global level, coal is the dominant fuel for power generation, however its share fell 1.3 percentage points to 35.1% in 2020, the lowest level in our data series. The share of renewables rose to record levels last year (11.7%), with the combined share of renewables and gas-fired power (35.1%) equaling coal for the first time. Europe's share of renewables in power generation reached 23.8%, surpassing nuclear energy and making Europe the first region where renewables are the dominant source of power generation.

Electricity generation by fuel*

Terawatt-hours	2019							2020								
	Oil	Natural Gas	Coal	Nuclear energy	Hydro electric	Renewables	Other‡	Total	Oil	Natural Gas	Coal	Nuclear energy	Hydro electric	Renewables	Other‡	Total
Canada	3.2	69.5	47.9	100.5	379.7	47.1	0.7	648.7	3.3	70.9	35.6	97.5	384.7	51.2	0.7	643.9
Mexico	34.8	187.7	32.7	11.4	23.6	32.3	—	322.6	33.7	183.1	18.9	11.4	26.8	39.2	—	313.2
US	19.7	1705.2	1051.1	852.0	285.5	483.7	14.0	4411.2	18.8	1738.4	844.1	831.5	288.7	551.7	13.4	4286.6
Total North America	57.8	1962.4	1131.7	963.9	688.7	563.1	14.7	5382.4	55.8	1992.4	898.6	940.4	700.2	642.1	14.1	5243.6
Argentina	3.0	82.9	1.1	8.4	37.1	6.4	0.5	139.5	7.4	79.8	2.5	10.7	30.5	11.2	0.4	142.5
Brazil	9.9	60.4	24.5	16.1	397.9	117.6	—	626.3	7.5	56.3	22.9	15.3	396.8	120.3	1.0	620.1
Other S. & C. America	98.5	103.2	48.8	—	265.9	57.4	†	573.2	78.6	97.4	51.1	—	233.1	61.3	†	520.2
Total S. & C. America	111.4	246.6	74.4	24.6	700.9	181.4	†	1339.0	93.5	233.5	76.4	26.0	660.5	192.9	0.1	1282.8
Germany	4.8	90.0	171.4	75.1	20.2	222.7	25.2	609.4	4.3	91.9	134.8	64.4	18.6	232.4	25.5	571.9
Italy	11.8	141.7	21.3	—	46.4	69.5	3.2	293.9	9.7	136.2	16.7	—	46.7	70.3	3.1	282.7
Netherlands	1.4	70.4	17.4	3.9	0.1	22.7	5.2	121.1	1.3	72.1	8.8	4.1	†	32.0	4.0	122.4
Poland	1.8	14.8	121.0	—	2.0	23.5	1.0	164.0	1.4	16.7	111.0	—	2.1	25.6	1.1	157.8
Spain	12.3	83.2	14.1	58.3	22.5	73.8	3.3	267.5	10.7	68.7	5.6	58.2	27.5	80.5	4.6	255.8
Turkey	0.3	57.3	112.9	—	88.8	43.3	1.2	303.9	0.1	70.0	106.1	—	78.1	49.8	1.3	305.4
Ukraine	0.7	10.2	47.4	83.0	6.5	5.3	1.0	154.1	0.7	13.9	41.2	76.2	6.3	9.7	1.0	149.0
United Kingdom	1.1	131.9	6.9	56.2	5.9	114.6	8.1	324.8	0.9	114.1	5.4	50.3	6.5	127.8	7.7	312.8
Other Europe	19.4	174.7	177.0	653.5	435.6	264.5	28.7	1753.5	17.2	175.4	145.2	584.3	469.5	292.8	29.1	1713.5
Total Europe	53.6	774.2	689.5	930.0	627.9	840.0	76.9	3992.1	46.3	759.1	574.8	837.4	655.3	921.0	77.4	3871.3
Kazakhstan	—	21.3	74.1	—	10.0	1.1	—	106.5	—	21.3	73.0	—	9.8	3.7	1.4	109.2
Russian Federation	12.0	519.2	176.8	209.0	194.4	1.8	4.9	1118.1	10.7	485.5	152.3	215.9	212.4	3.5	4.9	1085.4
Other CIS	0.8	151.8	4.0	2.2	44.1	0.9	0.4	204.2	0.8	151.1	4.2	2.1	43.4	0.9	0.1	202.5
Total CIS	12.8	692.3	254.9	211.2	248.5	3.8	5.3	1428.8	11.6	657.9	229.4	218.0	265.6	8.1	6.4	1397.1
Iran	82.5	199.2	0.7	6.4	29.0	0.9	—	318.7	82.1	220.4	0.7	6.3	21.2	1.0	—	331.6
Saudi Arabia	136.6	206.0	—	—	—	1.0	—	343.7	132.8	207.0	—	—	—	1.0	—	340.9
United Arab Emirates	†	134.3	—	—	—	4.2	†	138.5	†	131.2	—	1.6	—	5.6	—	138.4
Other Middle East	144.8	274.2	21.9	—	4.2	7.6	†	452.8	142.6	277.4	19.0	—	4.3	11.0	—	454.3
Total Middle East	363.9	813.7	22.6	6.4	33.2	13.8	†	1253.6	357.5	836.1	19.7	8.0	25.4	18.6	—	1265.2
Egypt	27.4	153.5	—	—	13.2	6.5	—	200.6	25.8	150.0	—	—	13.1	9.7	—	198.6
South Africa	1.3	1.9	218.2	13.6	1.0	12.0	4.6	252.6	1.4	1.9	202.4	15.6	0.5	12.6	5.1	239.5
Other Africa	47.2	182.2	37.5	—	123.0	19.5	0.8	410.2	42.4	180.3	33.6	—	128.9	20.0	0.6	405.8
Total Africa	75.9	337.5	255.7	13.6	137.2	38.0	5.4	863.4	69.6	332.2	236.0	15.6	142.6	42.3	5.7	843.9
Australia	4.7	55.7	149.8	—	14.1	41.2	0.3	265.9	4.5	53.1	142.9	—	14.5	49.9	0.3	265.2
China	10.8	232.5	4849.7	348.7	1272.5	742.0	47.2	7503.4	11.4	247.0	4917.7	366.2	1322.0	863.1	51.6	7779.1
India	5.1	67.5	1184.5	45.2	162.0	139.2	0.2	1603.7	4.9	70.8	1125.2	44.6	163.6	151.2	0.6	1560.9
Indonesia	10.6	62.3	174.5	—	16.5	14.9	0.1	278.9	6.8	51.3	180.9	—	19.5	16.8	†	275.2
Japan	53.5	363.7	307.2	65.6	73.6	111.2	55.5	1030.3	41.6	353.5	298.8	43.0	77.5	125.6	64.8	1004.8
Malaysia	1.1	66.8	75.3	—	25.8	2.6	—	171.5	0.9	45.6	89.6	—	20.3	3.1	—	159.6
South Korea	8.1	154.0	239.6	145.9	2.8	30.5	4.3	585.3	7.0	153.3	208.5	160.2	3.9	37.0	4.1	574.0
Taiwan	5.7	91.2	126.4	32.3	5.5	7.9	5.0	274.1	4.2	99.9	126.0	31.4	3.0	10.3	4.9	279.8
Thailand	1.1	121.8	35.8	—	6.3	21.4	†	186.5	0.7	113.9	36.8	—	4.5	20.5	†	176.4
Vietnam	1.4	42.5	110.8	—	67.7	4.1	0.9	227.5	1.2	35.1	118.6	—	69.0	9.5	1.2	234.5
Other Asia Pacific	43.1	239.2	143.7	9.2	144.5	34.1	0.8	614.5	40.5	233.5	141.4	9.3	149.3	34.9	0.8	609.7
Total Asia Pacific	145.1	1497.1	7397.4	646.9	1791.5	1149.2	114.3	12741.6	123.8	1456.9	7386.4	654.8	1847.2	1322.0	128.3	12919.3
Total World	820.5	6223.8	9826.2	2796.6	4227.9	2789.2	216.7	27001.0	758.0	6268.1	9421.4	2700.1	4296.8	3147.0	231.8	26823.2
of which: OECD	172.3	3358.6	2450.2	1994.6	1444.2	1599.3	149.1	11168.4	150.4	3360.0	2067.8	1876.7	1479.7	1788.6	157.6	10880.8
Non-OECD	648.2	2965.2	7376.0	802.0	2783.7	1189.9	67.6	15832.5	607.6	2908.1	7353.6	823.4	2817.1	1358.4	74.3	15942.4
EU	49.2	566.7	475.1	765.5	317.1	658.5	60.3	2892.5	42.7	552.9	373.4	687.9	342.0	710.4	61.2	2770.6

*Based on gross output.

†Includes sources not specified elsewhere e.g. pumped hydro, non-renewable waste and statistical discrepancies (which can be positive or negative).

‡Less than 0.05.