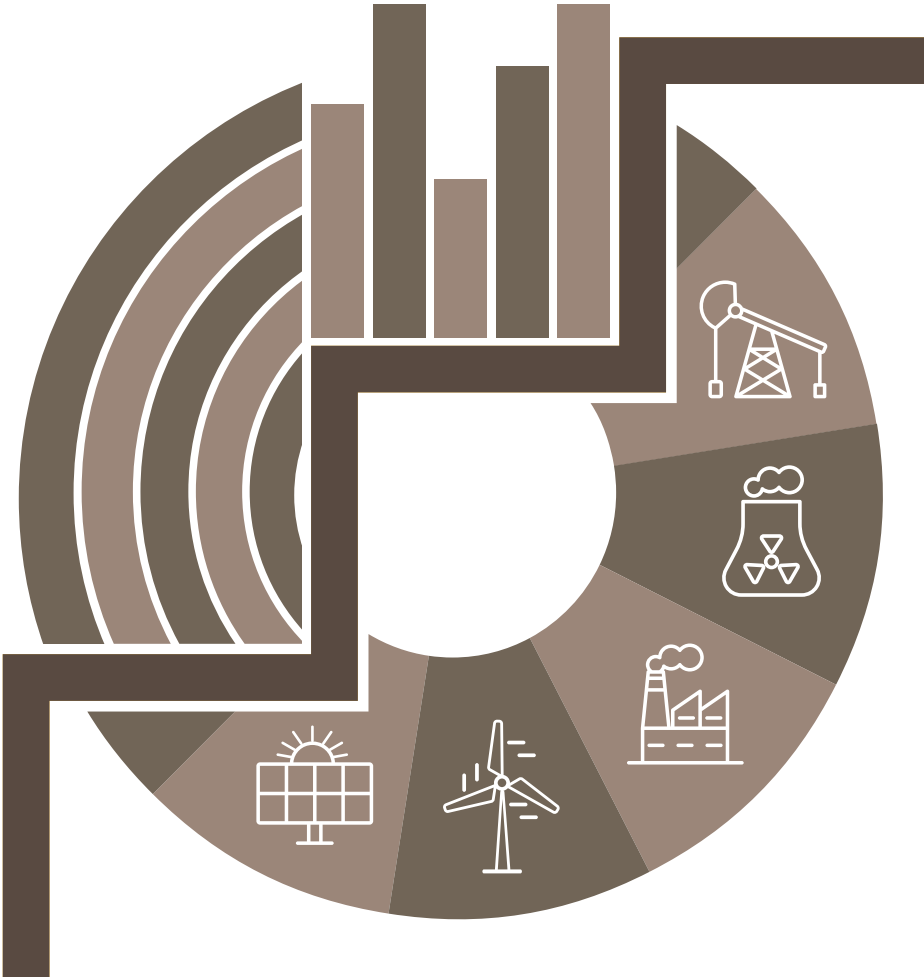
United Nations | Department of Economic and Social Affairs

Energy Statistics Pocketbook

2021



ST/ESA/STAT/SER.E/4

Department of Economic and Social Affairs
Statistics Division

Statistics Papers Series E No.4

2021
Energy Statistics Pocketbook

United Nations
New York, 2021

Department of Economic and Social Affairs

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Note

The designations employed and the presentation of the material in the present publication do not imply the expression of any opinion whatsoever on the part of the United Nations concerning the legal status of any country or of its authorities, or the delimitations of its frontiers. The term "country" as used in this report also refers, as appropriate, to territories or areas. The designations of country groups are intended solely for statistical or analytical convenience and do not necessarily express a judgement about the stage reached by a particular country, territory or area in the development process. Mention of the names of firms and commercial products does not imply endorsement by the United Nations. The symbols of United Nations documents are composed of capital letters and numbers.

United Nations Publications, 405 East 42nd Street, S-09FW001, New York, NY 10017 USA
Email: publications@un.org
Website: shop.un.org

ST/ESA/STAT/SER.E/4

Sales number: E.21.XVII.7
ISBN 978-92-1-259164-3
eISBN 978-92-1-005598-7
print ISSN 2617-2828
online ISSN 2617-2836

Content

Introduction

This publication is the fourth in a series of pocketbook compilations on energy statistics designed to highlight the availability of data on various aspects of energy production, transformation and use and its linkages to other key statistics. Energy is central to the achievement of the 2030 Agenda for Sustainable Development and the Paris Agreement on climate change, and sound energy statistics are the basis for the reliable measurement of progress, thereby assisting the formulation of policy measures to achieve international and national sustainable development goals.

The information in this publication is primarily based on the energy data collection carried out by the Energy Statistics Section of the United Nations Statistics Division (UNSD). The data are available in the 2018 editions of the Energy Statistics Yearbook, the Energy Balances, and the Electricity Profiles, three annual UNSD publications that present energy data in basic indicator formats, as well as formats that show a more detailed, yet number-heavy, picture of production, trade, transformation and consumption of energy products in more than 200 countries and territories.

The present publication aims at providing additional information by highlighting key indicators and using different visualizations to also show developments, dependencies and distributions in a way that standard data tables cannot convey.

More information about the data collection process, as well as the three publications underlying the information in this pocketbook, are available at https://unstats.un.org/unsd/energystats.

Acknowledgements

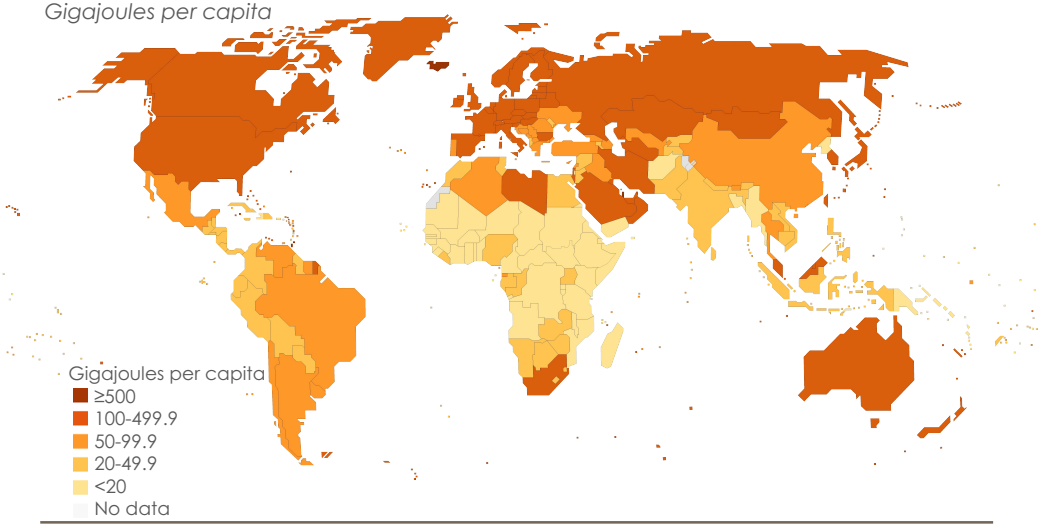
This publication has been compiled by the Energy Statistics Section of UNSD, which is headed by Mr. Leonardo Souza. The conceptual design of this pocketbook has been carried out by Mr. Souza, Ms. Agnieszka Koscielniak and Ms. Costanza Giovannelli. Ms. Giovannelli took the lead in the graphic design, supported by Mr. Graham Osborn and Ms. Peng Guo. The energy data used for the pocketbook have been collected and processed by the staff of the Energy Statistics Section.

Enquiries, comments and suggestions for improving this publication are welcome and should be addressed to: energy_stat@un.org.

Total energy supply

1. Total energy supply per capita, 2018

Gigajoules per capita



Source: United Nations Energy Statistics Database. Please see the disclaimer on page 66.

FACTS AND FIGURES

World total energy supply[1] (TES) increased by 65.6% from 1990 to 2018, reaching 594 EJ. This increase was driven by Asia, responsible for 82.1% of the world growth in the period. Chinese TES alone more than quadrupled, accounting for over a fifth of world TES in 2018.

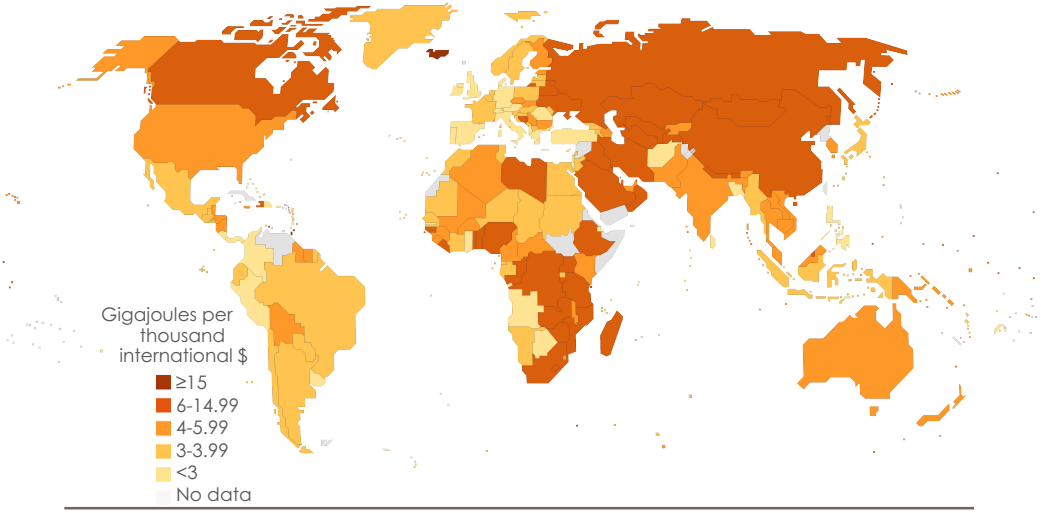
The European share of world TES almost halved from 35.2% in 1990 to 18.4% in 2018, with an absolute drop of 17.1 EJ. The United States, whose share of world TES dropped by 6.7 percentage points since 1990 to reach 15.7% in 2018, showed an absolute increase in TES of 13.1 EJ during this period.

International bunkers were equal to 17.3 EJ in 2018 (accounting for 2.9% of world TES), virtually doubling from 1990.

(1) See notes on pages 66-67.

2. Energy intensity[2], 2018

Gigajoules per thousand international $



Source: United Nations Energy Statistics Database. Please see the disclaimer on page 66.

3. Energy supply (total, per capita and energy intensity[2]), major countries, 2018

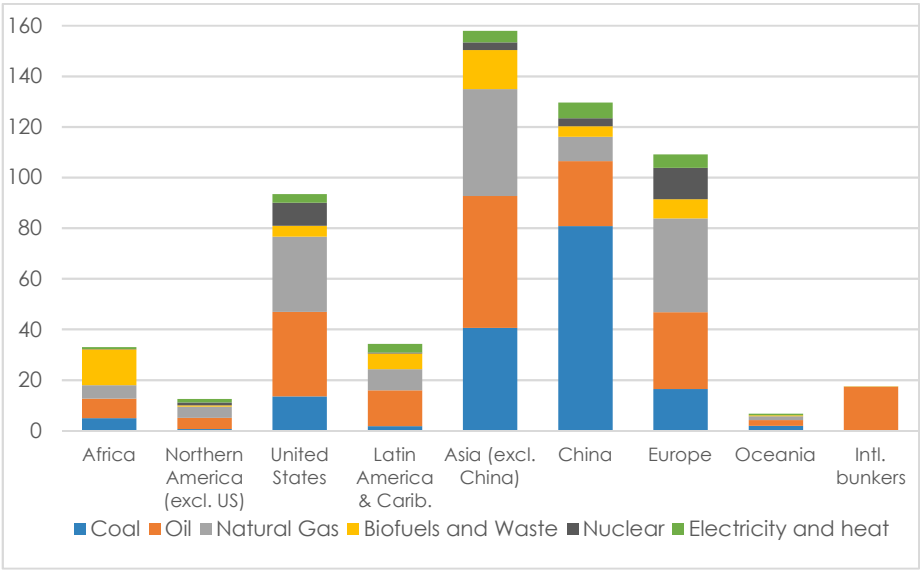
Exajoules, gigajoules per capita and gigajoules per thousand international $

Country	TES	Country	TES per capita	Country	Energy intensity[2]
China	129.7	Iceland	1087.3	Trinidad and Tobago	19.6
United States	93.4	Qatar	650.4	Iceland	18.5
India	39.2	Trinidad and Tobago	514.7	Curaçao	14.5
Russian Federation	33.2	Bahrain	370.8	Mongolia	14.3
Japan	17.9	Brunei Darussalam	363.6	Liberia	13.6
Germany	12.6	Curaçao	356.3	Turkmenistan	13.4
Canada	12.4	Kuwait	352.8	Dem. Rep. Congo	12.6
Brazil	12.2	Canada	335.7	Mozambique	11.7
World	**593.9**	**World**	**77.8**	**World**	**4.8**

(2) See notes on pages 66-67.

4. Total energy supply by region and source, 2018

Exajoules



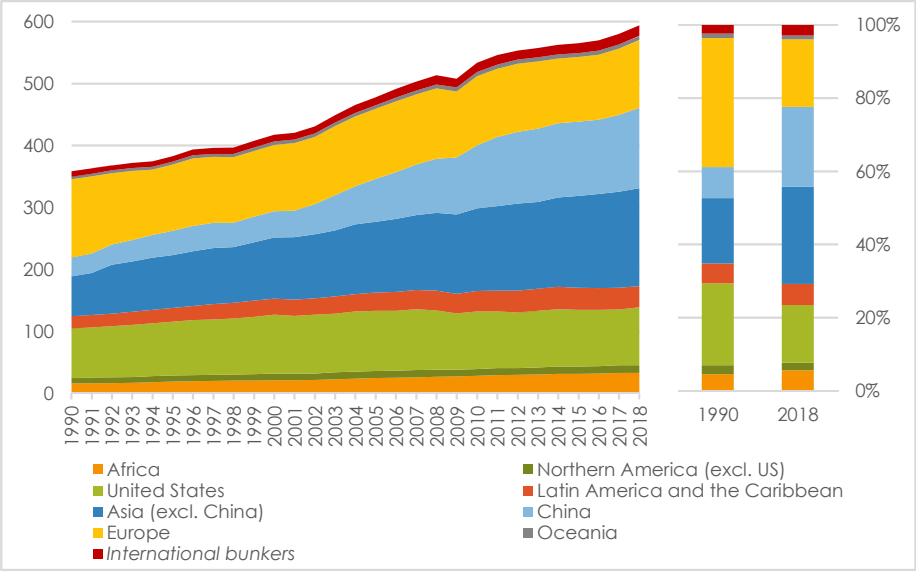
5. Total energy supply by region and source, 2018

Exajoules

Region	Coal	Oil	Natural gas	Biofuels and waste	Nuclear	Electricity and heat	TES
Africa	4.9	7.7	5.3	14.2	0.1	0.8	33.0
Northern America (excl. US)	0.6	4.4	4.5	0.6	1.1	1.4	12.5
United States	13.5	33.5	29.7	4.3	9.1	3.4	93.4
Latin America and the Caribbean	1.8	14.1	8.3	6.2	0.4	3.4	34.3
Asia (excl. China)	40.6	52.2	42.2	15.5	3.1	4.5	158.0
China	80.8	25.7	9.5	4.2	3.2	6.2	129.7
Europe	16.4	30.3	37.0	7.6	12.4	5.4	109.2
Oceania	1.9	2.3	1.5	0.3	0.0	0.6	6.6
International bunkers	*0.0*	*17.3*	*0 +*	*0.0*	*0.0*	*0.0*	*17.3*
World	**160.6**	**187.3**	**138.0**	**53.0**	**29.3**	**25.7**	**593.9**

6. Total energy supply by region, 1990-2018

Exajoules and percentage



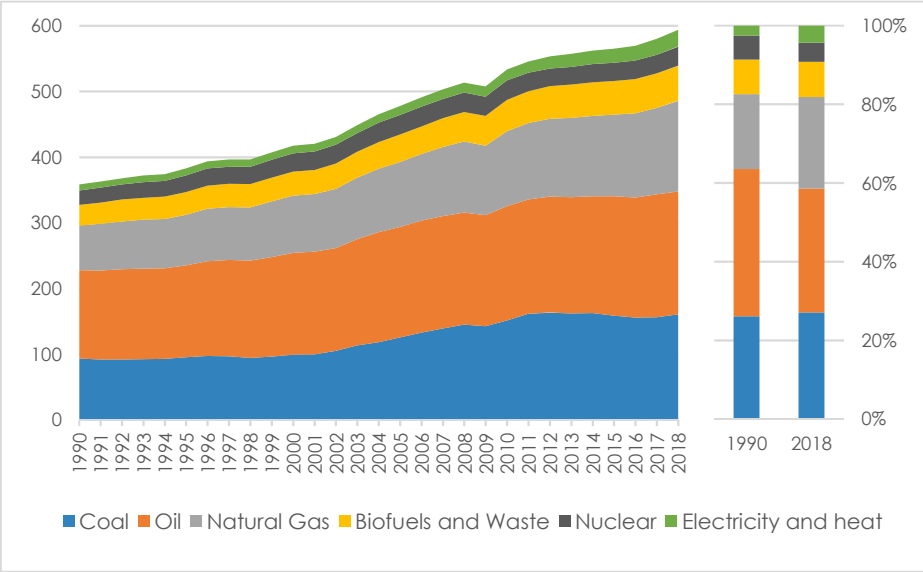
7. Total energy supply by region, 1990, 2000, 2010 and 2018

Exajoules

Region	1990	2000	2010	2018
Africa	16.0	21.1	28.2	33.0
Northern America (excl. US)	8.9	10.6	10.9	12.5
United States	80.3	95.3	92.9	93.4
Latin America and the Caribbean	19.6	25.7	33.2	34.3
Asia (excl. China)	64.0	98.8	133.1	158.0
China	30.4	42.5	101.6	129.7
Europe	126.2	106.8	112.0	109.2
Oceania	4.4	5.5	6.5	6.6
International bunkers	*8.7*	*11.2*	*14.9*	*17.3*
World	**358.6**	**417.3**	**533.3**	**593.9**

8. World total energy supply by source, 1990-2018

Exajoules and percentage



9. World total energy supply by source, 1990, 2000, 2010 and 2018

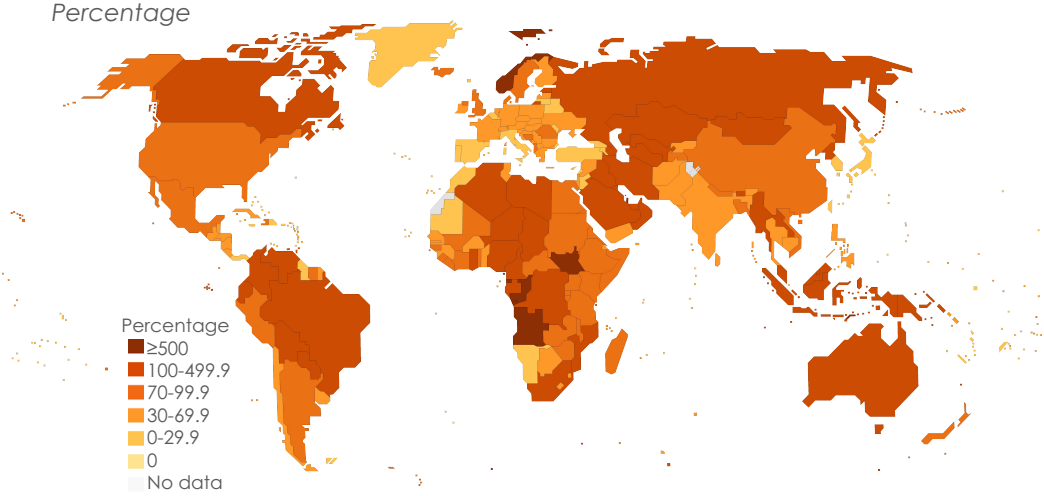
Exajoules

Source	1990	2000	2010	2018
Coal	93.5	99.4	151.5	160.6
Oil	134.3	154.9	174.0	187.3
Natural gas	68.2	87.0	113.9	138.0
Biofuels and waste	31.5	36.5	47.4	53.0
Nuclear	21.8	28.0	29.8	29.3
Electricity and heat	9.3	11.7	16.7	25.7
Total	**358.6**	**417.3**	**533.3**	**593.9**

Primary energy production

10. Energy self-sufficiency[3], 2018

Percentage



Source: United Nations Energy Statistics Database. Please see the disclaimer on page 66.

FACTS AND FIGURES

World primary energy production almost reached 600 EJ in 2018, a 3.1% increase over 2017 and a 65.6% increase compared to 1990 (which translates into an average compounded yearly growth of 1.8%). Oil, coal and natural gas, in this order, are the largest energy sources, together representing 82.1% of total primary energy production, a combined share that barely changed since 1990.

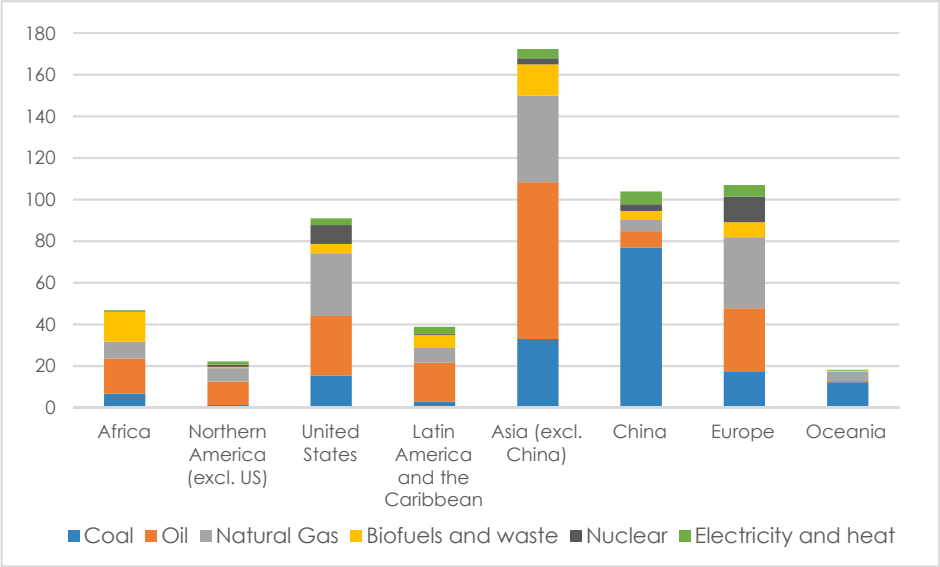
A significant share of 2018 primary energy production occurred in a handful of countries:

- China and the United States produced more than half of all primary coal (55.9%), with China alone producing 46.6% of the world coal;
- The United States topped the oil producers in 2018. The three biggest producers of oil (United States, Saudi Arabia, Russian Federation), produced about 40% of all primary oil in 2018;
- Five natural gas producers (United States, Russian Federation, Iran, Canada and Qatar) produced more than half of all natural gas (55.1%).

(3) See notes on pages 66-67.

11. Primary energy production by region and source, 2018

Exajoules



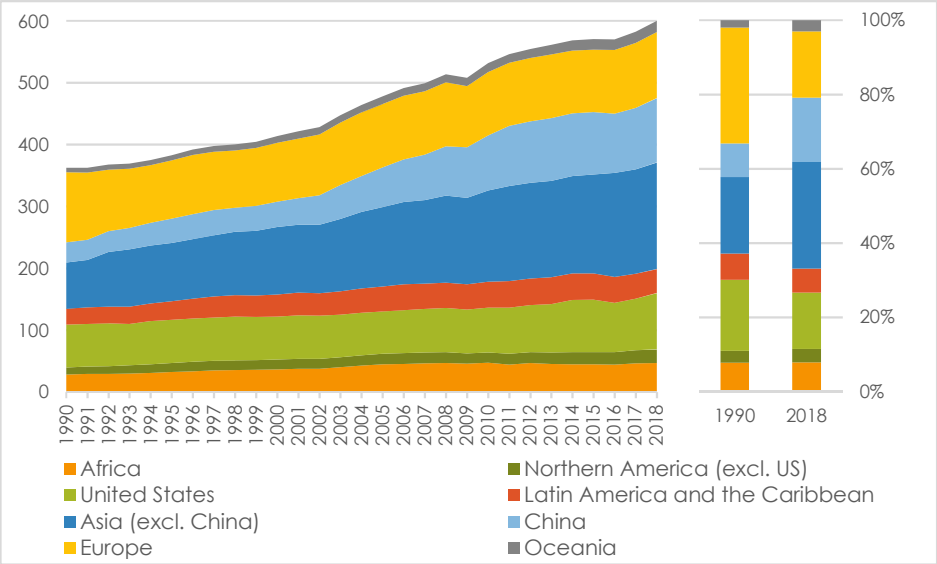
12. Primary energy production by region and source, 2018

Exajoules

Region	Coal	Oil	Natural gas	Biofuels and waste	Nuclear	Electricity and heat	Total
Africa	6.6	16.9	8.2	14.2	0.1	0.8	46.8
Northern America (excl. US)	1.3	11.2	6.5	0.6	1.1	1.5	22.2
United States	15.4	28.6	30.1	4.4	9.1	3.2	90.9
Latin America and the Caribbean	2.7	18.9	7.1	6.3	0.4	3.4	38.8
Asia (excl. China)	32.9	75.3	41.6	15.0	3.1	4.4	172.3
China	76.9	7.9	5.4	4.2	3.2	6.3	103.9
Europe	17.1	30.7	34.1	7.3	12.4	5.4	106.9
Oceania	12.1	0.7	4.5	0.3	0.0	0.6	18.2
World	**165.0**	**190.1**	**137.5**	**52.4**	**29.3**	**25.6**	**599.9**

13. Total primary energy production by region, 1990 – 2018

Exajoules and percentage



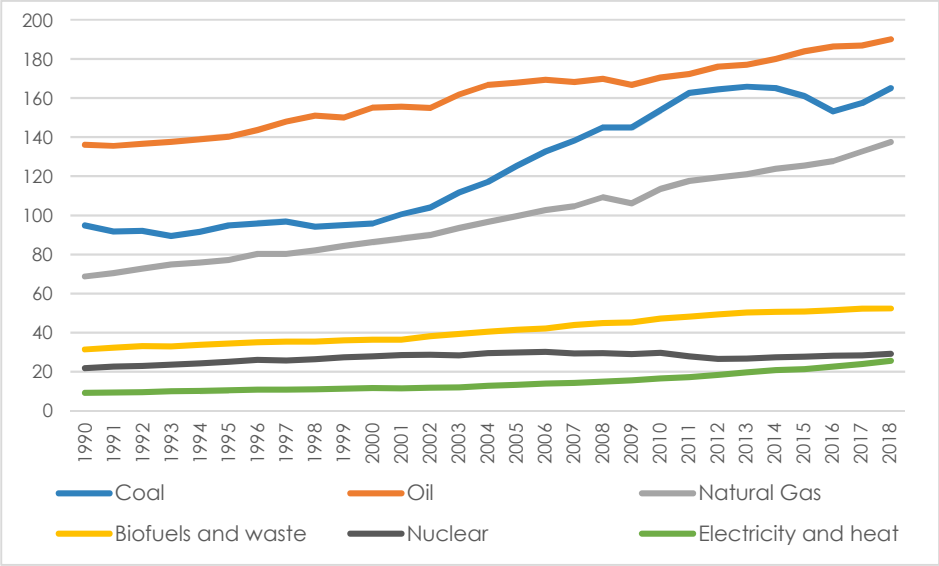
14. Total primary energy production by region, 1990, 2000, 2010 and 2018

Exajoules

Region	1990	2000	2010	2018
Africa	28.2	36.6	47.4	46.8
Northern America (excl. US)	11.6	15.7	16.7	22.2
United States	69.1	69.7	72.3	90.9
Latin America and the Caribbean	25.7	35.4	41.6	38.8
Asia (excl. China)	74.6	109.4	147.7	172.3
China	32.7	40.8	88.6	103.9
Europe	112.9	95.1	102.7	106.9
Oceania	7.4	10.7	14.5	18.2
World	**362.2**	**413.3**	**531.5**	**599.9**

15. World primary energy production by source, 1990 – 2018

Exajoules



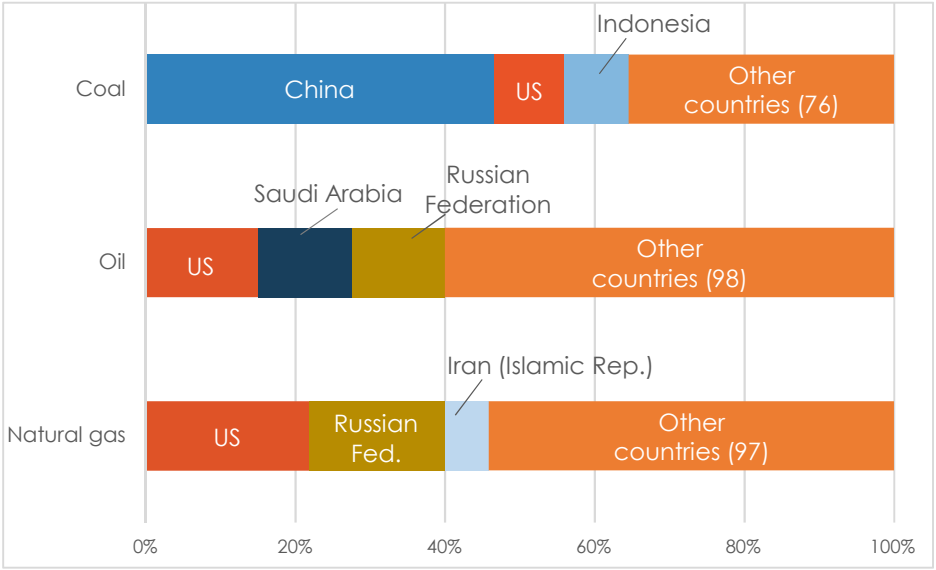
16. World primary energy production by source, 1990, 2000, 2010 and 2018

Percentage

Source	1990	2000	2010	2018
Coal	26.2%	23.2%	28.9%	27.5%
Oil	37.6%	37.5%	32.1%	31.7%
Natural gas	19.0%	20.9%	21.3%	22.9%
Biofuels and waste	8.7%	8.8%	8.9%	8.7%
Nuclear	6.0%	6.8%	5.6%	4.9%
Electricity and heat	2.6%	2.8%	3.1%	4.3%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**

17. Primary production of coal, oil, and natural gas, major countries, 2018

Percentage

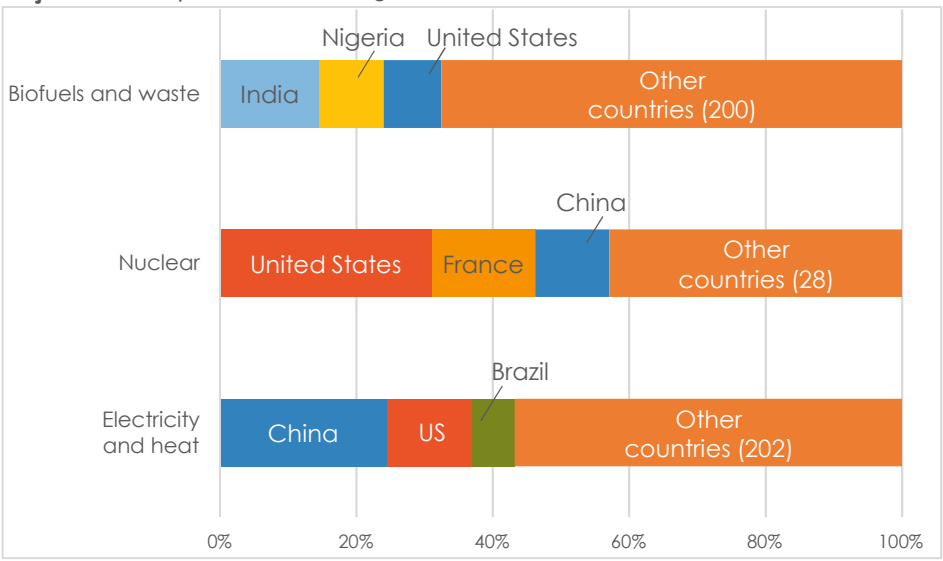


18. Primary production of coal, oil, and natural gas, major countries, 2018

Exajoules

Coal		Oil		Natural gas	
China	76.9	United States	28.6	United States	30.1
United States	15.4	Saudi Arabia	23.9	Russian Federation	25.0
Indonesia	14.2	Russian Federation	23.6	Iran (Islamic Rep.)	8.0
India	12.1	Canada	11.2	Canada	6.5
Australia	12.0	Iraq	9.6	Qatar	6.2
Russian Federation	10.6	Iran (Islamic Rep.)	8.8	China	5.4
South Africa	6.1	UAE	7.9	Saudi Arabia	4.7
Colombia	2.3	China	7.9	Norway	4.5
Others	15.4	Others	68.7	Others	47.2
World	**165.0**	**World**	**190.1**	**World**	**137.5**

19. Primary production of biofuels and waste, nuclear, and electricity and heat, major countries, 2018 *– Percentage*

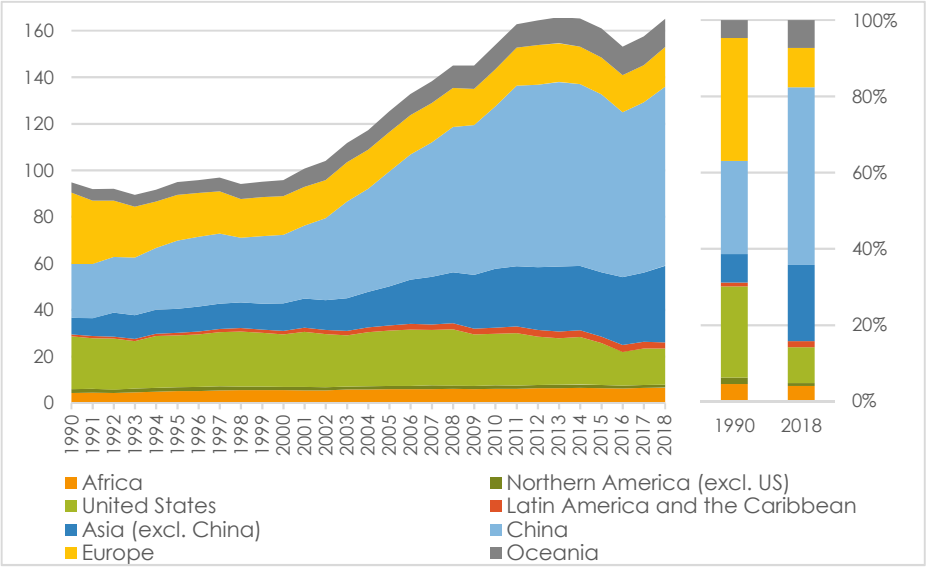


20. Primary production of biofuels and waste, nuclear, and electricity and heat, major countries, 2018 *– Exajoules*

Biofuels and waste		Nuclear		Electricity and heat	
India	7.7	United States	9.1	China	6.3
Nigeria	4.9	France	4.5	United States	3.2
United States	4.4	China	3.2	Brazil	1.6
China	4.2	Russian Federation	2.2	Canada	1.5
Brazil	4.0	Republic of Korea	1.4	India	0.9
Indonesia	1.6	Canada	1.1	Russian Federation	0.7
Ethiopia	1.3	Ukraine	0.9	Turkey	0.7
Germany	1.3	Germany	0.8	Germany	0.7
Others	22.9	Others	6.1	Others	10.1
World	**52.4**	**World**	**29.3**	**World**	**25.6**

21. Primary production of coal by region, 1990 – 2018

Exajoules and percentage



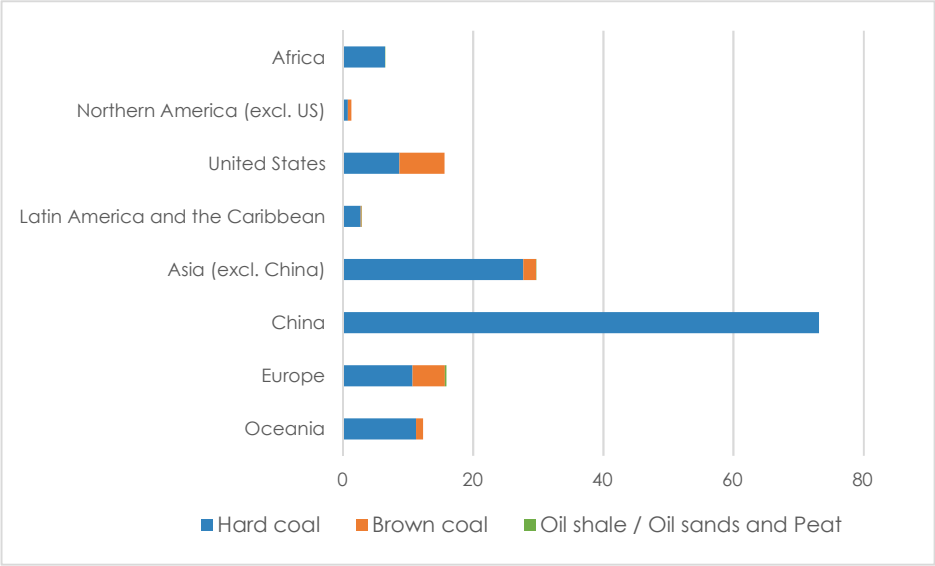
22. Primary production of coal by region, 1990, 2000, 2010 and 2018

Exajoules

Region	1990	2000	2010	2018
Africa	4.3	5.5	6.1	6.6
Northern America (excl. US)	1.6	1.4	1.4	1.3
United States	22.7	22.5	22.3	15.4
Latin America and the Caribbean	0.9	1.6	2.5	2.7
Asia (excl. China)	7.1	11.8	25.3	32.9
China	23.1	29.5	69.7	76.9
Europe	30.6	16.5	15.9	17.1
Oceania	4.5	7.0	10.6	12.1
World	**94.8**	**95.8**	**153.8**	**165.0**

23. Primary production of coal by region and type of fuel, 2018

Exajoules



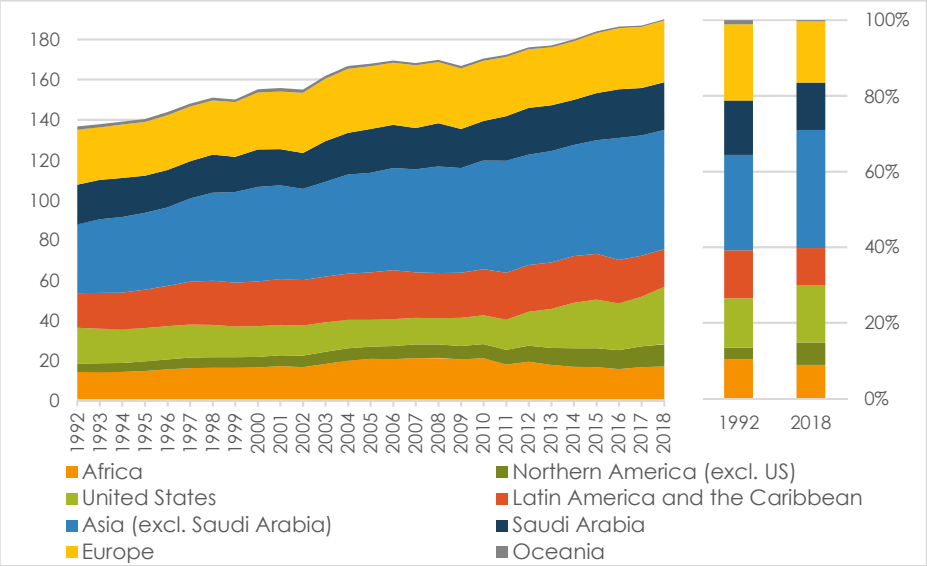
24. Primary production of coal by region and type of fuel, 2018

Exajoules

Region	Hard coal	Brown coal	Oil shale/ Peat	Total
Africa	6.6	0^+	0^+	6.6
Northern America (excl. US)	0.9	0.4	0.0	1.3
United States	8.8	6.6	0.0	15.4
Latin America and the Caribbean	2.6	0.1	0^+	2.7
Asia (excl. China)	30.9	2.0	0^+	32.9
China	76.9	0.0	0.0	76.9
Europe	11.8	4.9	0.4	17.1
Oceania	11.1	1.0	0.0	12.1
World	**149.6**	**15.1**	**0.4**	**165.0**

25. Primary production of oil by region, 1992 – 2018

Exajoules and percentage



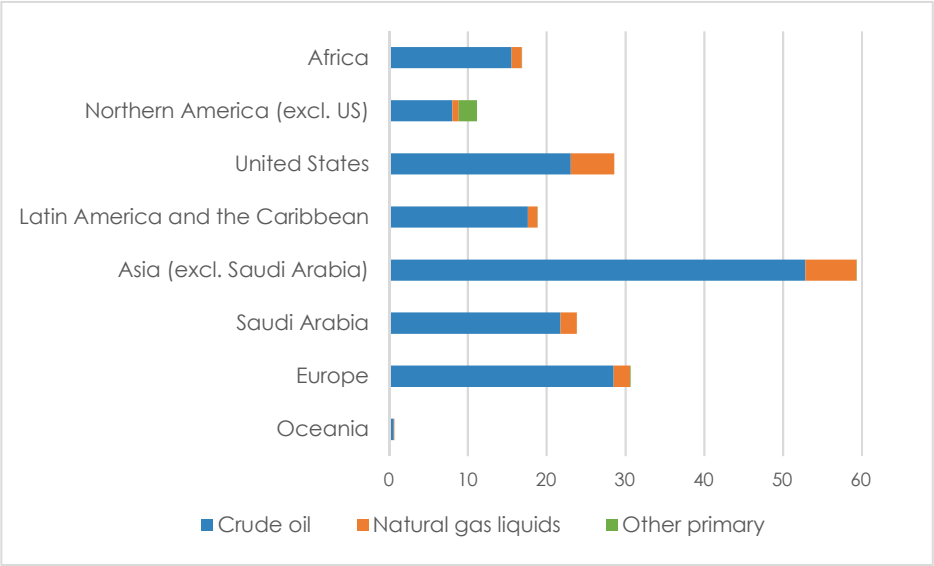
26. Primary production of oil by region, 1992, 2000, 2010 and 2018

Exajoules

Region	1992	2000	2010	2018
Africa	14.2	16.4	21.1	16.9
Northern America (excl. US)	4.1	5.4	7.0	11.2
United States	17.8	15.3	14.4	28.6
Latin America and the Caribbean	17.3	22.3	22.9	18.9
Asia (excl. Saudi Arabia)	34.4	47.2	54.3	59.4
Saudi Arabia	19.7	18.7	19.6	23.9
Europe	27.5	28.3	29.9	30.7
Oceania	1.5	1.7	1.2	0.7
World	**136.7**	**155.1**	**170.4**	**190.1**

27. Primary production of oil by region and type of fuel, 2018

Exajoules



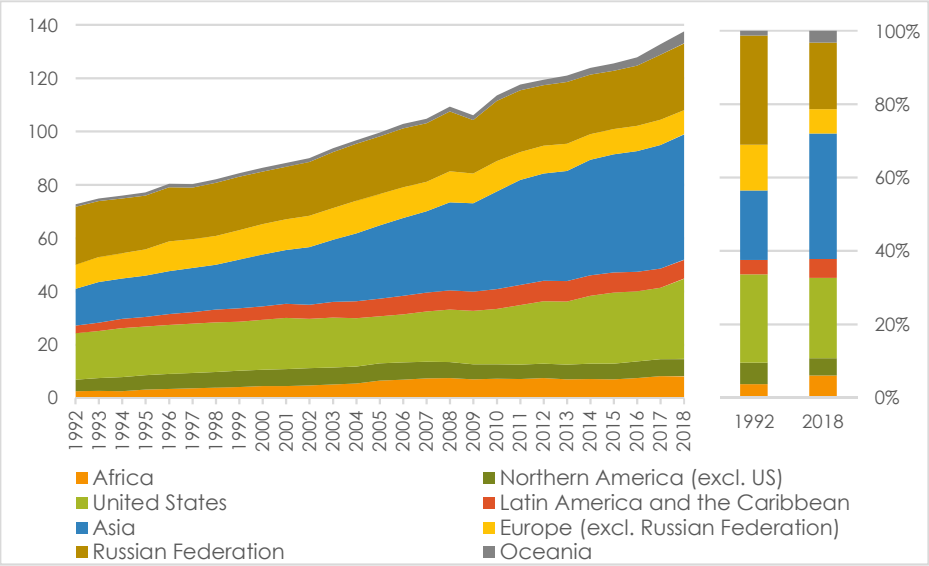
28. Primary production of oil by region and type of fuel, 2018

Exajoules

Region	Crude oil	Natural gas liquids	Other primary oil	Total
Africa	15.6	1.3	0.02	16.9
Northern America (excl. US)	8.1	0.8	2.3	11.2
United States	23.1	5.5	0.0	28.6
Latin America and the Caribbean	17.6	1.2	0.01	18.9
Asia (excl. Saudi Arabia)	52.9	6.5	0.04	59.4
Saudi Arabia	21.8	2.1	0.0	23.9
Europe	28.5	2.1	0.1	30.7
Oceania	0.6	0.05	0.0	0.7
World	**168.1**	**19.5**	**2.5**	**190.1**

29. Production of natural gas by region, 1992 – 2018

Exajoules and percentage



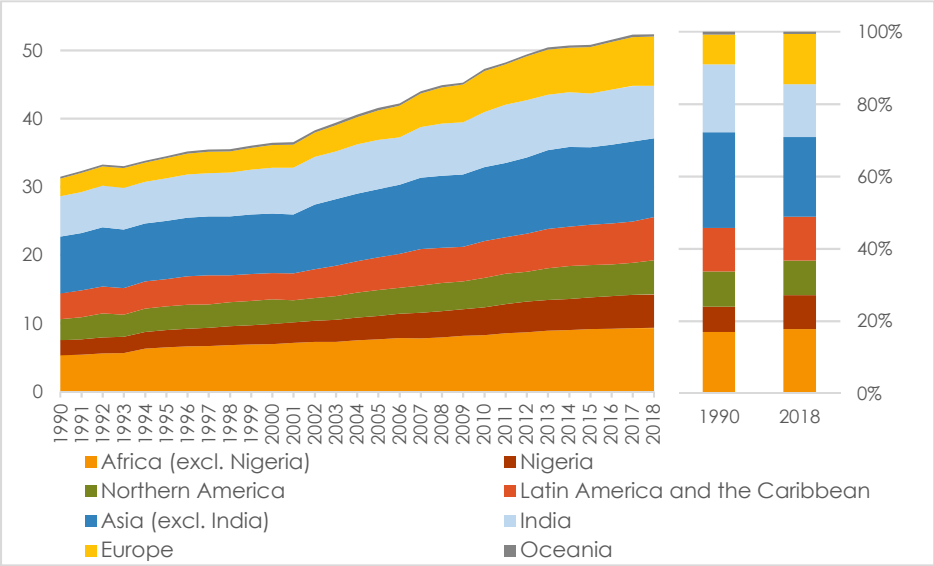
30. Production of natural gas by region, 1992, 2000, 2010 and 2018

Exajoules

Region	1992	2000	2010	2018
Africa	2.6	4.5	7.3	8.2
Northern America (excl. US)	4.3	6.2	5.4	6.5
United States	17.5	18.7	20.7	30.1
Latin America and the Caribbean	2.8	5.0	7.5	7.1
Asia	13.8	19.4	36.6	47.0
Europe (excl. Russian Federation)	9.0	11.4	11.3	9.1
Russian Federation	21.7	19.7	22.6	25.0
Oceania	1.0	1.4	2.0	4.5
World	**72.7**	**86.3**	**113.5**	**137.5**

31. Primary production of biofuels and waste by region, 1990 – 2018

Exajoules and percentage



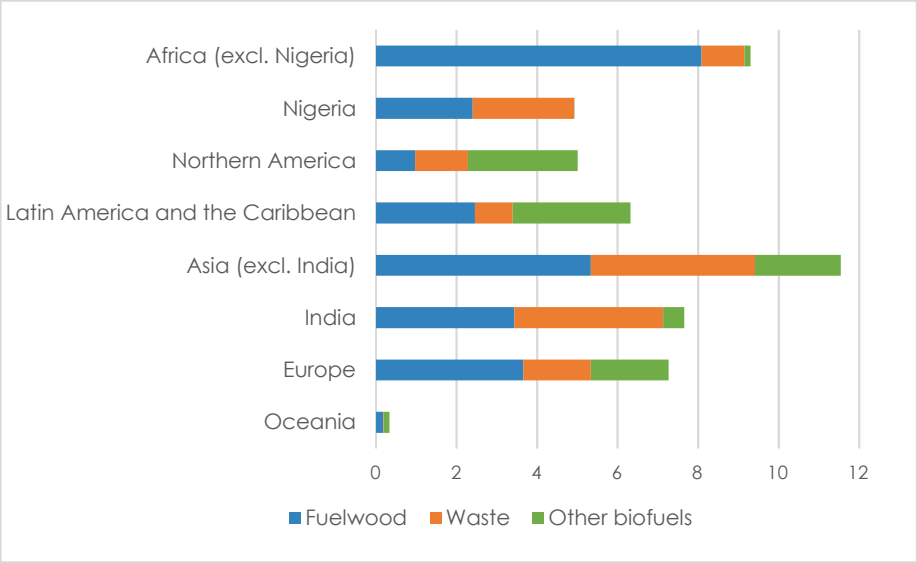
32. Primary production of biofuels and waste by region, 1990, 2000, 2010 and 2018

Exajoules

Region	1990	2000	2010	2018
Africa (excl. Nigeria)	5.3	6.9	8.2	9.3
Nigeria	2.2	2.9	4.1	4.9
Northern America	3.1	3.6	4.3	5.0
Latin America and the Caribbean	3.8	3.8	5.4	6.3
Asia (excl. India)	8.3	8.7	10.9	11.5
India	5.9	6.7	8.1	7.7
Europe	2.6	3.3	6.0	7.3
Oceania	0.3	0.3	0.3	0.3
World	**31.5**	**36.4**	**47.3**	**52.4**

33. Primary production of biofuels and waste by region and type of fuel, 2018

Exajoules



34. Primary production of biofuels and waste by region and type of fuel, 2018

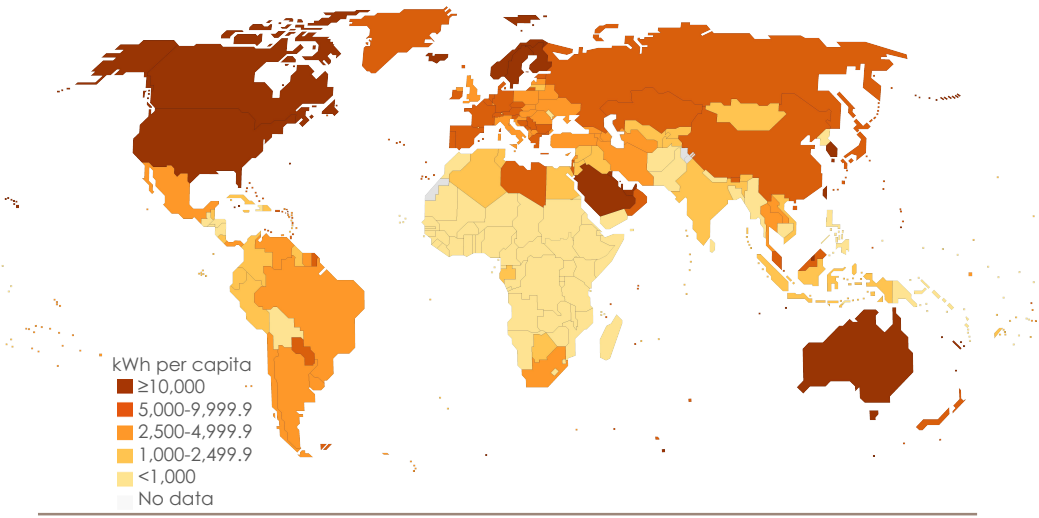
Exajoules

Region	Fuelwood	Waste	Other biofuels	Total
Africa (excl. Nigeria)	8.1	1.1	0.2	9.3
Nigeria	2.4	2.5	0^{+}	4.9
Northern America	1.0	1.3	2.7	5.0
Latin America and the Caribbean	2.5	0.9	2.9	6.3
Asia (excl. India)	5.3	4.1	2.1	11.5
India	3.4	3.7	0.5	7.7
Europe	3.7	1.7	1.9	7.3
Oceania	0.2	0.02	0.1	0.3
World	**26.5**	**15.3**	**10.5**	**52.4**

Electricity

35. Electricity generation per capita, 2018

Kilowatt hours per capita



Source: United Nations Energy Statistics Database. Please see the disclaimer on page 66.

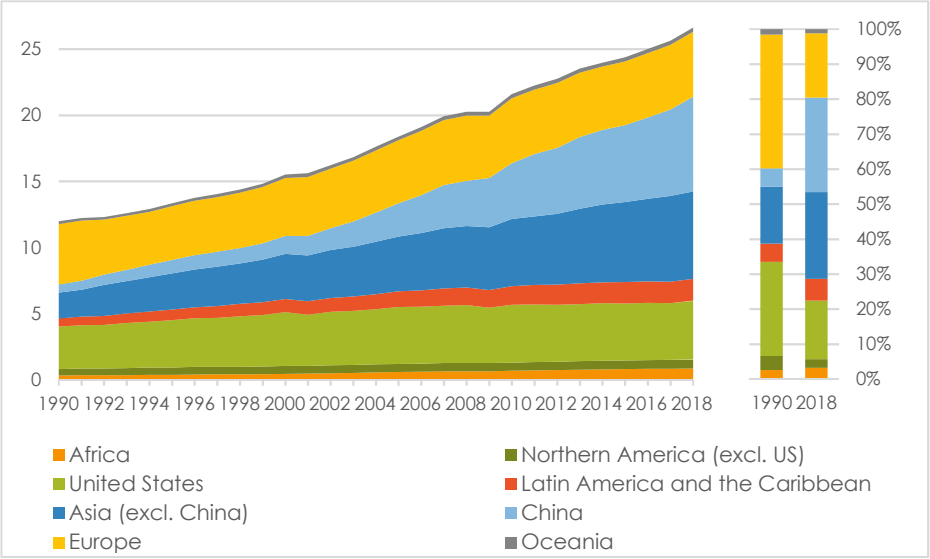
FACTS AND FIGURES

World electricity generation grew 122% from 1990 to 2018, reaching 26,626 TWh in 2018. The largest absolute growth from 1990 to 2018 was observed for electricity generated from coal (5,727 TWh or +129%) and natural gas (4,379 TWh or +245%) while the fastest growth was visible for electricity generated from solar, wind and other sources[4] (+3,091% or 1,901 TWh). In 2018, slightly less than 3/4 of all electricity was generated from non-renewable sources[5], mainly from non-renewable thermal (64.4% or 17,153 TWh) and nuclear sources (10.2% or 2,709 TWh). However, renewable electricity accounted for 57.8% of global electricity capacity additions over the past eight years, growing to 2,474 GW in 2018 and exceeding 1/3 of total electricity capacity (34.5%).

(4) - (5) See notes on pages 66-67.

36. Total electricity generation by region, 1990-2018

Petawatt hours and percentage



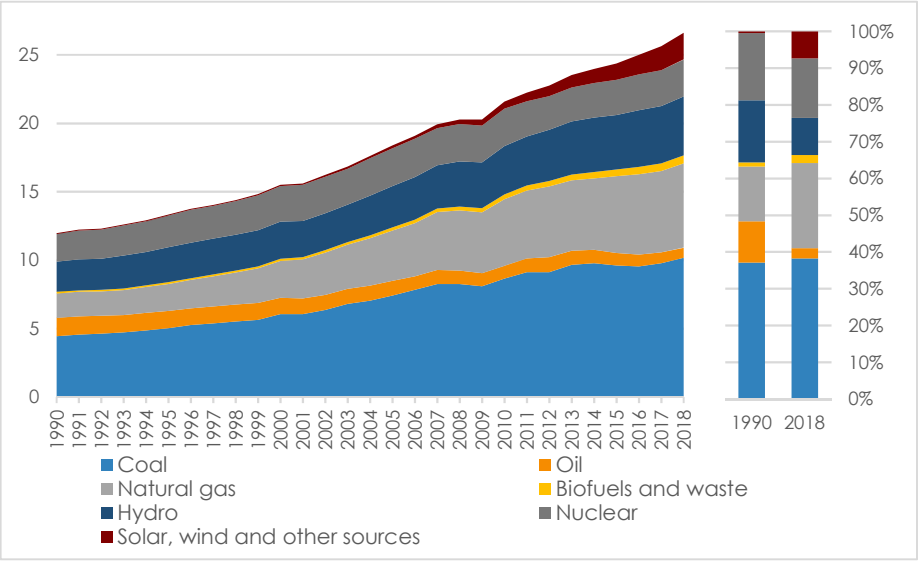
37. Total electricity generation by region, 1990, 2000, 2010 and 2018

Terawatt hours

Region	1990	2000	2010	2018
Africa	311.7	437.3	677.8	854.6
Northern America (excl. US)	482.9	606.7	604.3	655.6
United States	3,218.6	4,052.7	4,378.4	4,455.4
Latin America and the Caribbean	624.5	1,010.6	1,405.8	1,659.9
Asia (excl. China)	1,948.5	3,395.6	5,090.8	6,609.4
China	621.2	1,355.6	4,207.2	7,166.1
Europe	4,571.0	4,386.5	4,913.7	4,906.8
Oceania	192.5	257.7	308.0	318.2
World	**11,970.8**	**15,502.7**	**21,585.9**	**26,626.1**

38. World electricity generation by source, 1990-2018

Petawatt hours and percentage



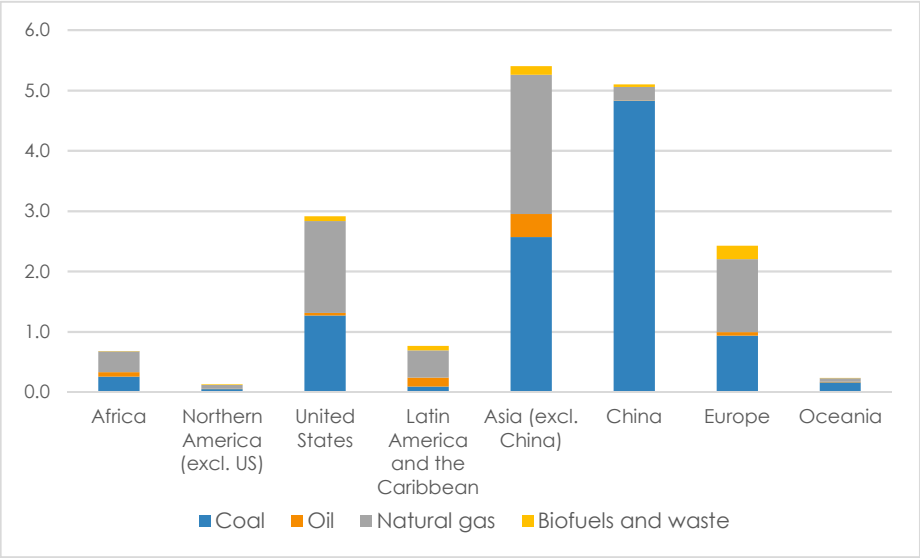
39. World electricity generation by source, 1990, 2000, 2010 and 2018

Terawatt hours

Source	1990	2000	2010	2018
Thermal	7,696.5	10,103.0	14,790.2	17,649.7
- Coal	4,439.6	6,038.6	8,653.8	10,166.6
- Oil	1,340.4	1,198.6	923.7	740.2
- Natural gas	1,785.8	2,703.3	4,862.9	6,165.0
- Biofuels and waste	130.8	162.5	349.9	578.0
Nuclear	2,019.8	2,589.0	2,756.3	2,708.7
Hydro	2,193.0	2,706.8	3,528.6	4,305.6
Solar, wind and other sources	61.5	103.8	510.8	1,962.2
Total	**11,970.8**	**15,502.7**	**21,585.9**	**26,626.1**

40. Thermal electricity generation by region and source, 2018

Petawatt hours



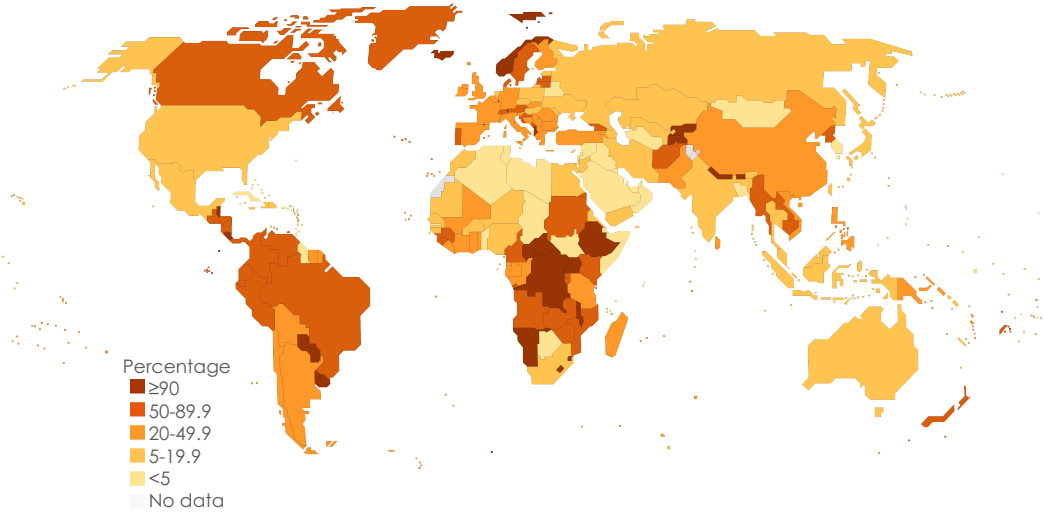
41. Thermal electricity generation by region and source, 2018

Terawatt hours

Region	Coal	Oil	Natural gas	Biofuels and waste	Total
Africa	260.1	74.1	340.2	4.2	678.7
Northern America (excl. US)	50.5	6.9	63.1	10.8	131.3
United States	1,272.1	42.9	1,519.2	77.7	2,912.0
Latin America and the Caribbean	91.2	150.8	448.4	76.4	766.9
Asia (excl. China)	2,571.3	382.1	2,305.9	141.5	5,400.8
China	4,825.6	9.2	222.7	38.7	5,096.3
Europe	934.9	61.5	1,204.9	224.5	2,425.7
Oceania	160.8	12.6	60.4	4.1	237.9
World	**10,166.6**	**740.2**	**6,165.0**	**578.0**	**17,649.7**

42. Renewable electricity share in total electricity generation, 2018

Percentage



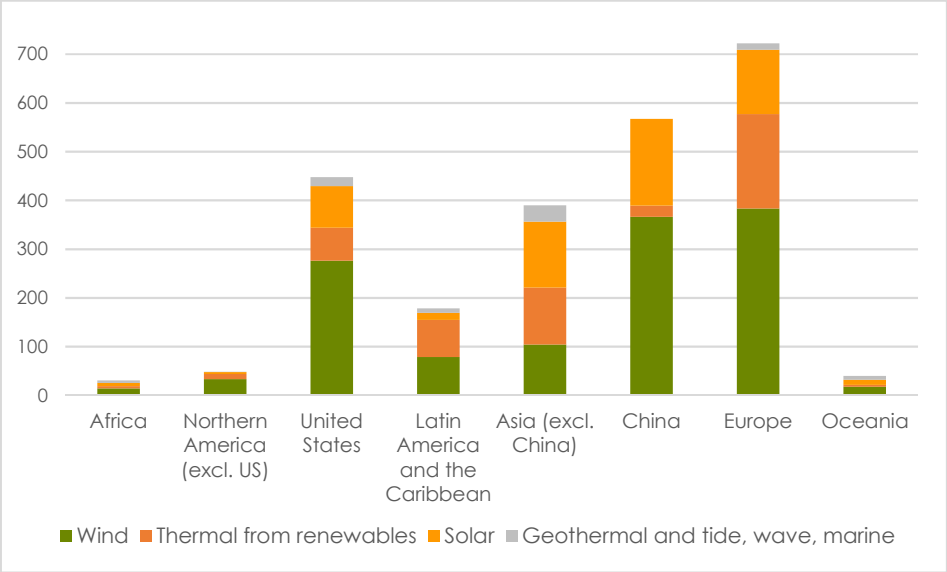
Source: United Nations Energy Statistics Database. Please see the disclaimer on page 66.

43. Renewable electricity generation by type (hydro, wind, total), major countries, 2018 - *Terawatt hours*

Country	Hydro	Country	Wind	Country	Total renewables
China	1,231.8	China	366.0	China	1,798.7
Brazil	389.0	United States	275.8	United States	764.7
Canada	386.0	Germany	110.0	Brazil	495.3
United States	317.0	India	64.3	Canada	433.6
Russian Federation	193.0	United Kingdom	56.9	India	298.7
Norway	139.5	Spain	50.9	Germany	230.9
Others	1,649.3	Others	348.4	Others	2,707.0
World	**4,305.6**	**World**	**1,272.3**	**World**	**6,728.8**

44. Electricity from non-hydro renewable sources by region and type, 2018

Terawatt hours



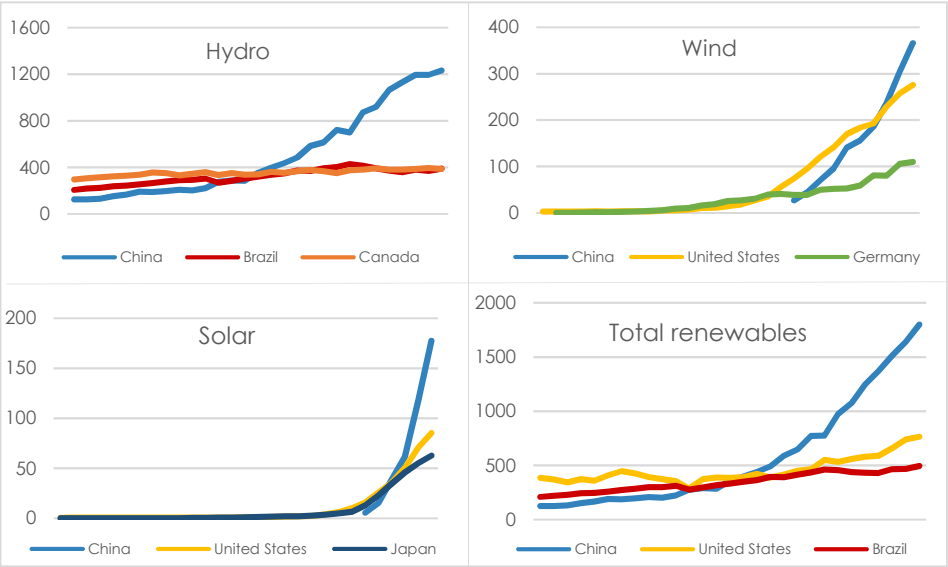
45. Electricity from non-hydro renewable sources by region and type, 2018

Terawatt hours

Region	Wind	Thermal (ren.)	Solar	Geoth. & tide	Total
Africa	14.2	4.2	6.9	5.1	30.5
Northern America (excl. US)	33.2	10.7	3.8	0.02	47.7
United States	275.8	67.9	85.2	18.8	447.7
Latin America and the Caribbean	78.7	75.9	14.5	9.4	178.5
Asia (excl. China)	103.8	117.0	135.4	33.7	389.8
China	366.0	23.4	177.5	0.0	566.9
Europe	383.3	193.8	131.6	13.6	722.3
Oceania	17.3	4.1	10.2	8.4	40.0
World	**1,272.3**	**497.0**	**565.1**	**88.9**	**2,423.3**

46. Renewable electricity by type, major countries in 2018, 1990-2018

Terawatt hours



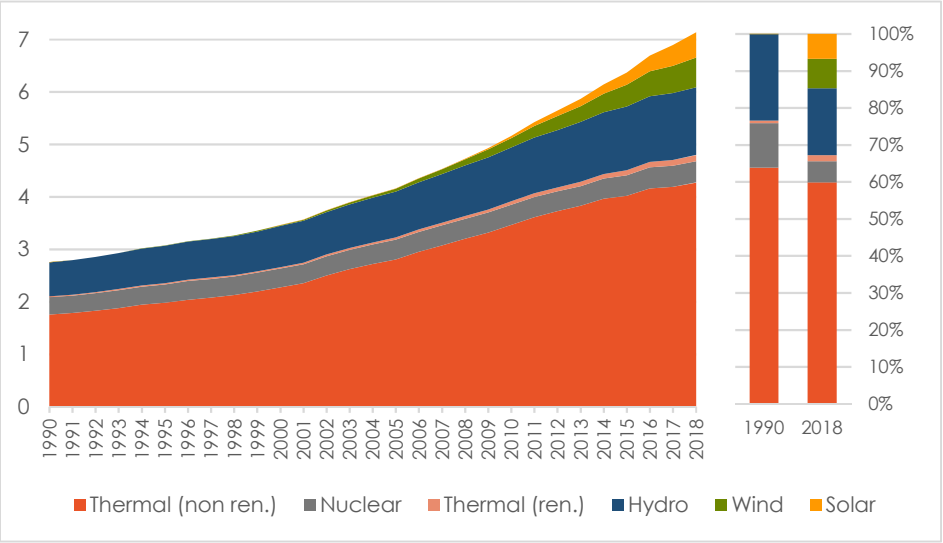
47. Renewable electricity by type, major countries in 2018, 1990 and 2018, and share in total electricity generation, 2018

Gigawatt hours and percentage

Hydro	1990	2018	%2018	Wind	1990	2018	%2018
China	126,720	1,231,787	17%	China	0	365,971	5%
Brazil	206,708	388,971	65%	US	3,066	275,834	6%
Canada	296,848	385,951	59%	Germany	215 [1991]	109,951	17%
Solar	**1990**	**2018**	**%2018**	**Total renewables**	**1990**	**2018**	**%2018**
China	0	177,517	2%	China	126,720	1,798,654	25%
US	666	85,184	2%	US	385,049	764,681	17%
Japan	67	62,668	6%	Brazil	210,567	495,290	82%

48. World electricity capacity by type[6], 1990-2018

Terawatt and percentage



49. World electricity capacity by type[6], 1990, 2000, 2010 and 2018

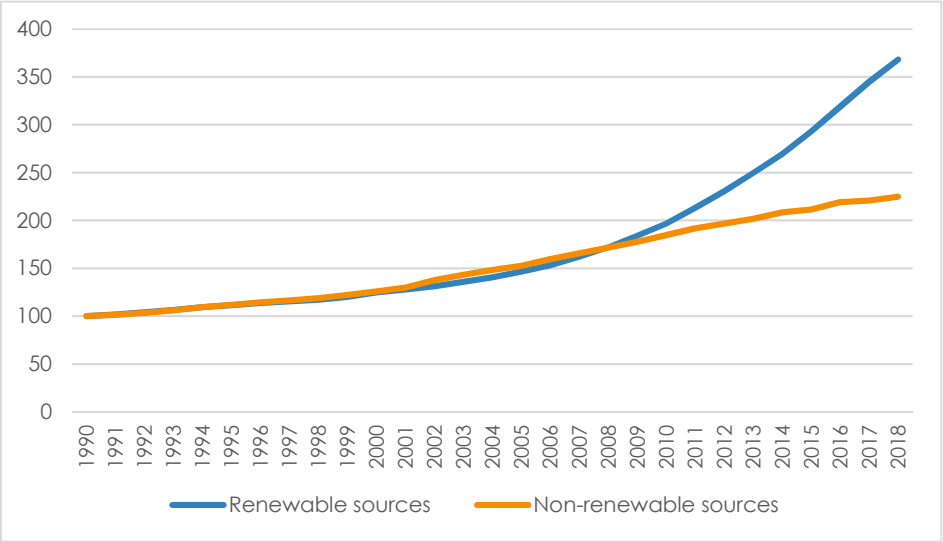
Gigawatt

Type	1990	2000	2010	2018
Non-renewable, *of which*	2,089.2	2,632.4	3,857.7	4,698.1
- Thermal (non-ren.)	1,758.8	2,273.8	3,467.1	4,274.1
- Nuclear	330.4	358.3	381.8	406.3
Renewable, *of which*	671.9	839.0	1,322.8	2,474.2
- Thermal (ren.)	19.0	29.3	65.6	117.7
- Hydro	644.2	782.8	1,025.6	1,291.3
- Wind	2.4	17.1	180.8	566.7
- Solar	0.4	1.2	40.6	484.8
Total	**2,761.2**	**3,471.4**	**5,180.5**	**7,172.3**

(6) See notes on pages 66-67.

50. World electricity capacity by type[6], 1990-2018

Index number (1990=100)



51. World electricity capacity by type[6], 1990, 2000, 2010 and 2018, and share in 2018

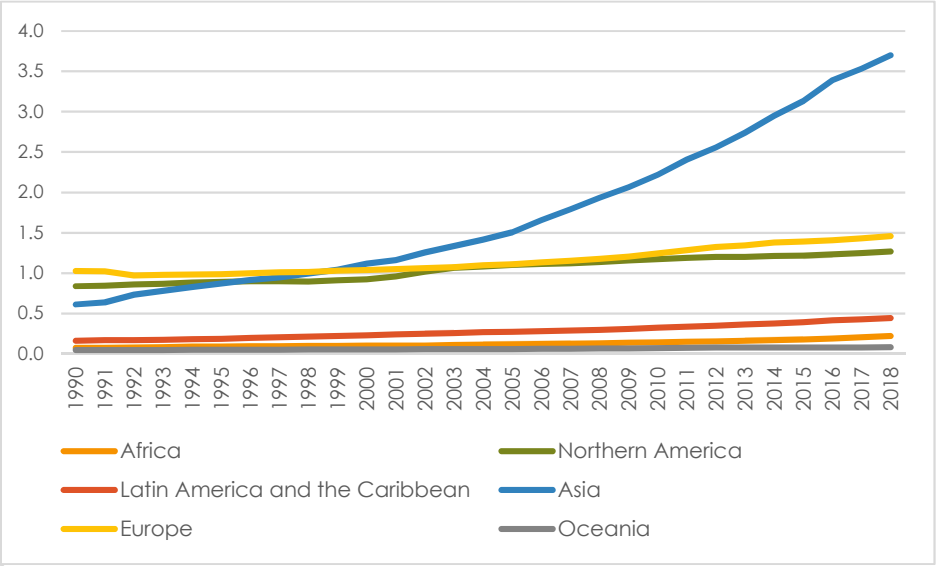
Index number (1990=100) and percentage

Type	1990	2000	2010	2018	%2018
Non-renewable, *of which*	100	126	185	225	65.5%
- Thermal (non-ren.)	100	129	197	243	59.6%
- Nuclear	100	108	116	123	5.7%
Renewable, *of which*	100	125	197	368	34.5%
- Thermal (ren.)	100	154	345	620	1.6%
- Hydro	100	122	159	200	18.0%
- Wind	100	728	7,676	24,064	7.9%
- Solar	100	338	11,413	136,175	6.8%
Total	**100**	**126**	**188**	**260**	**100.0%**

(6) See notes on pages 66-67.

52. Total electricity capacity by region, 1990-2018

Terawatt



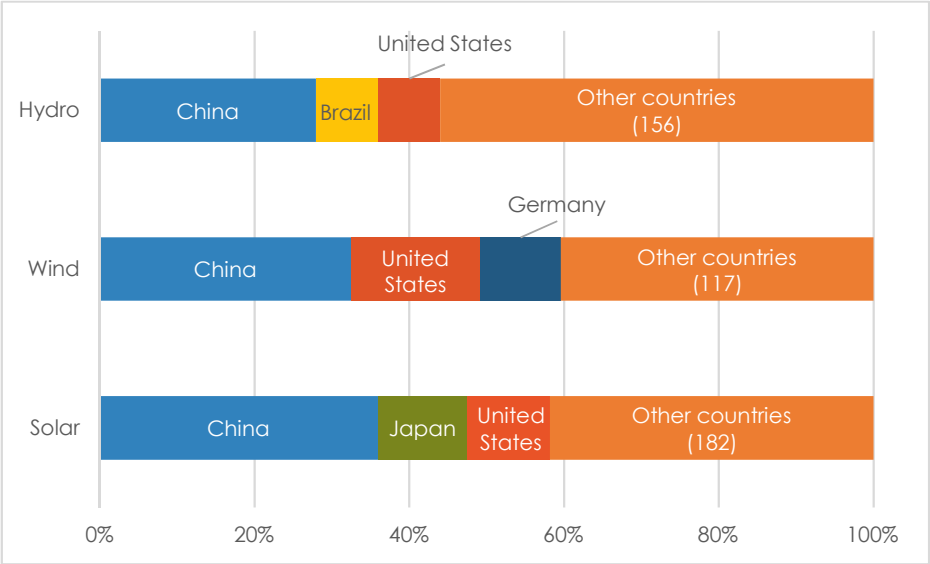
53. Total electricity capacity by region, 1990, 2000, 2010 and 2018

Gigawatt

Region	1990	2000	2010	2018
Africa	74.7	101.5	141.3	221.8
Northern America	838.0	923.0	1,174.9	1,268.3
Latin America and the Caribbean	162.4	231.1	324.1	444.3
Asia	612.1	1,119.7	2,221.6	3,698.1
Europe	1,026.9	1,040.4	1,245.6	1,457.7
Oceania	47.0	55.7	73.0	82.2
World	**2,761.2**	**3,471.4**	**5,180.5**	**7,172.3**

54. Electricity capacity by type (hydro, wind, solar), major countries, 2018

Percentage



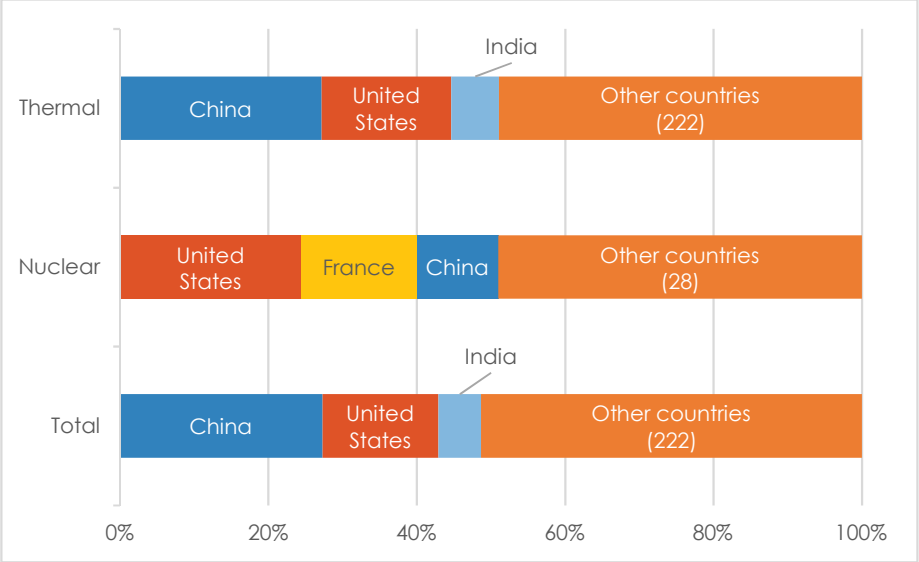
55. Electricity capacity by type (hydro, wind, solar), major countries, 2018

Gigawatt

Country	Hydro	Country	Wind	Country	Solar
China	361.1	China	184.3	China	174.3
Brazil	104.2	United States	94.5	Japan	56.2
United States	102.8	Germany	58.8	United States	51.6
Canada	81.4	India	38.8	Germany	45.2
Russian Fed.	51.3	Spain	23.5	India	28.5
Japan	50.0	United Kingdom	21.8	Italy	20.1
Others	540.4	Others	145.0	Others	109.0
World	**1,291.3**	**World**	**566.7**	**World**	**484.8**

56. Electricity capacity by type (thermal, nuclear, total), major countries, 2018

Percentage



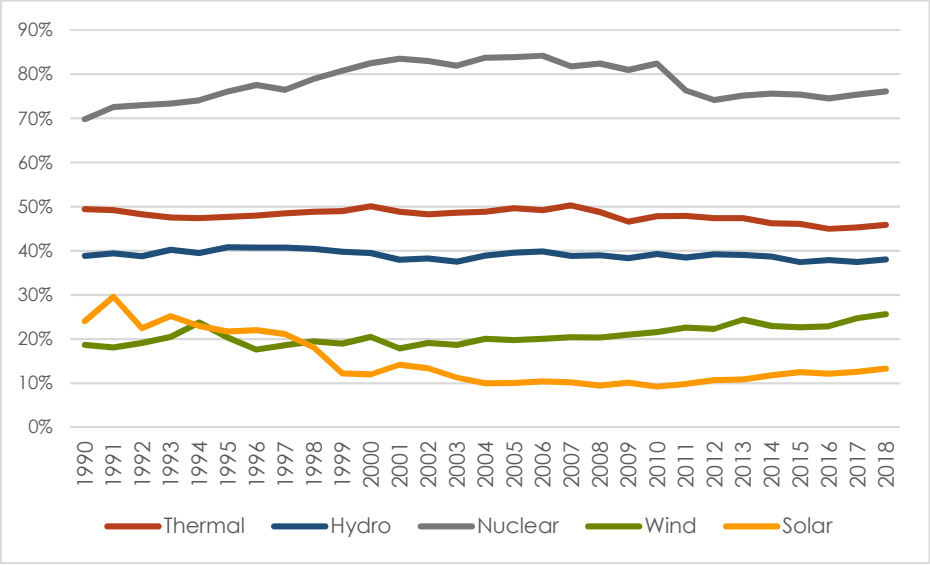
57. Electricity capacity by type (thermal, nuclear, total), major countries, 2018

Gigawatt

Country	Thermal	Country	Nuclear	Country	Total
China	1,194.9	United States	99.4	China	1,959.5
United States	767.0	France	63.1	United States	1,119.1
India	282.4	China	44.7	India	411.8
Japan	196.7	Japan	38.0	Japan	347.4
Russian Fed.	190.2	Russian Fed.	29.1	Russian Fed.	271.6
Germany	103.0	Rep. of Korea	21.9	Germany	229.2
Others	1,657.7	Others	110.0	Others	2,833.8
World	**4,391.9**	**World**	**406.3**	**World**	**7,172.3**

58. Utilization of electricity capacity by type, 1990-2018

Percentage



59. Utilization of electricity capacity by type, 1990, 2000, 2010 and 2018

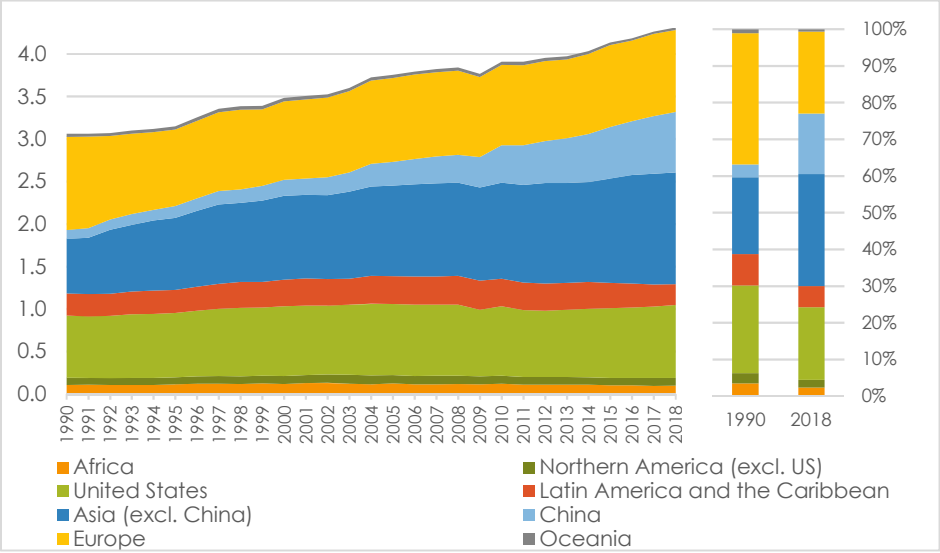
Percentage

Type	1990	2000	2010	2018
Thermal	49%	50%	48%	46%
Hydro	39%	39%	39%	38%
Nuclear	70%	82%	82%	76%
Wind	19%	20%	22%	26%
Solar	24%	12%	9%	13%
Total	**49%**	**51%**	**48%**	**42%**

Refinery output

60. Total refinery output by region, 1990-2018

Billion metric tons



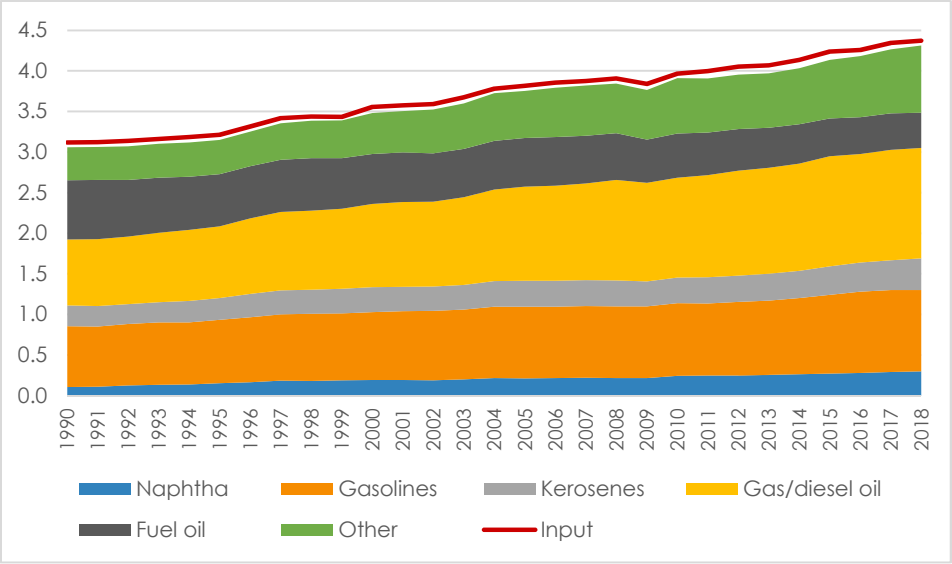
61. Total refinery output by region, 1990, 2000, 2010 and 2018

Million metric tons

Region	1990	2000	2010	2018
Africa	106.3	118.3	119.0	98.6
Northern America (excl. US)	84.2	93.7	96.1	90.5
United States	730.6	817.9	815.8	855.9
Latin America and the Caribbean	261.9	315.2	325.0	245.1
Asia (excl. China)	642.2	983.8	1,128.9	1,317.1
China	106.0	191.8	440.5	711.8
Europe	1,094.3	919.7	947.0	963.5
Oceania	35.5	41.8	36.8	28.8
World	**3,060.9**	**3,482.0**	**3,909.1**	**4,311.1**

62. World total refinery input and refinery output by type of fuel, 1990-2018

Billion metric tons



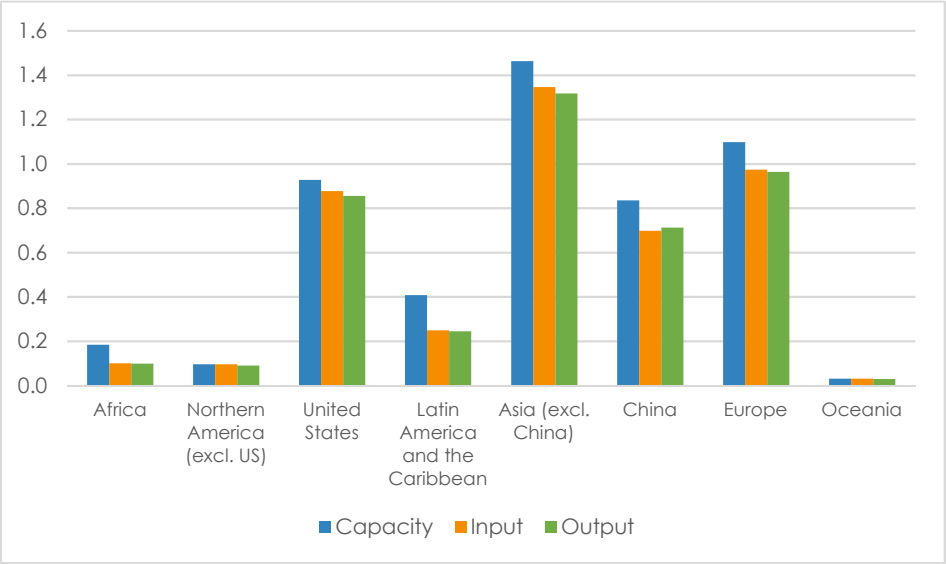
63. World total refinery input and refinery output by type of fuel, 1990, 2000, 2010 and 2018

Million metric tons

Refinery input and output	1990	2000	2010	2018
Total refinery input	**3,120.1**	**3,556.4**	**3,967.6**	**4,371.1**
Total refinery output	**3,060.9**	**3,482.0**	**3,909.1**	**4,311.1**
- Naphtha	104.8	192.3	244.1	297.9
- Gasolines	749.0	834.3	893.7	1,004.5
- Kerosenes	258.1	311.2	316.2	387.0
- Gas/diesel oil	813.2	1,022.8	1,231.9	1,360.3
- Fuel oil	728.0	615.0	540.8	433.5
- Other	407.7	506.5	682.4	827.8

64. Total refinery capacity, input and output by region, 2018

Billion metric tons



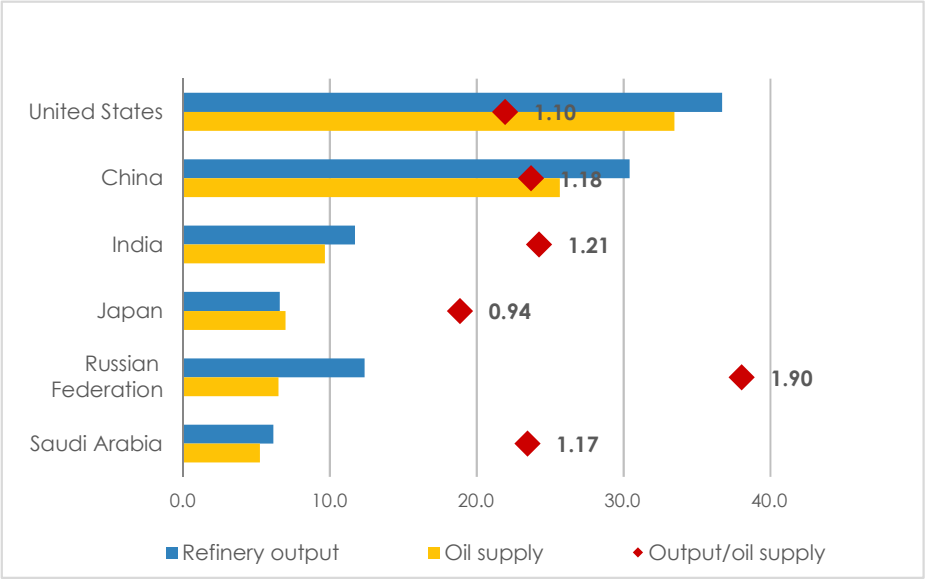
65. Total refinery capacity, input and output by region, 2018

Million metric tons

Region	Capacity	Input	Output
Africa	183.4	100.9	98.6
Northern America (excl. US)	95.3	96.3	90.5
United States	927.6	876.5	855.9
Latin America and the Caribbean	407.0	249.2	245.1
Asia (excl. China)	1,463.5	1,345.9	1,317.1
China	835.6	698.4	711.8
Europe	1,098.3	972.9	963.5
Oceania	30.7	31.0	28.8
World	**5,041.5**	**4,371.1**	**4,311.1**

66. Total refinery output and total oil supply, largest oil supply countries, 2018

Exajoules and ratio between total refinery output and total oil supply



67. Total refinery output and total oil supply[7], largest oil supply countries, 2018

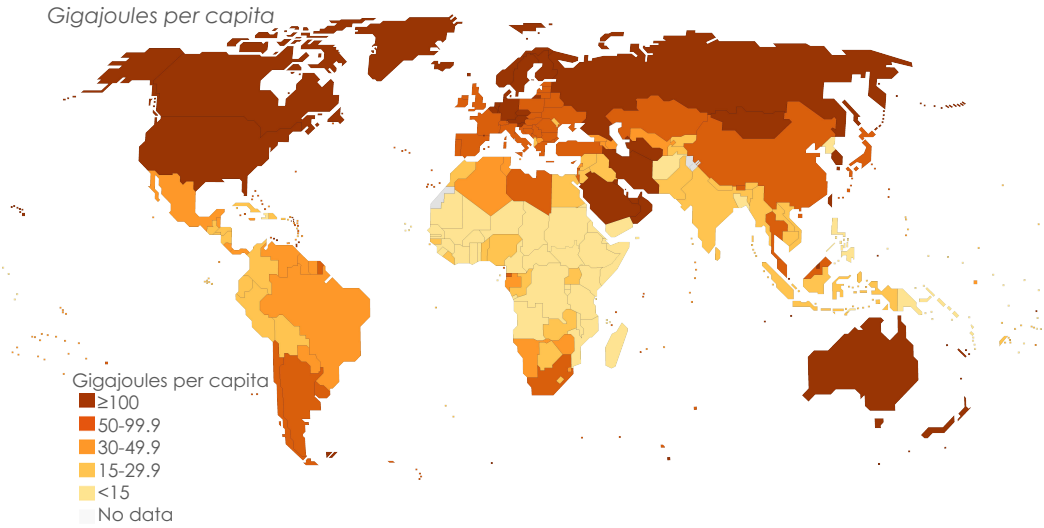
Exajoules and ratio between total refinery output and total oil supply

Country	Refinery output	Oil supply	Output/ oil supply
United States	36.7	33.5	1.10
China	30.4	25.7	1.18
India	11.7	9.7	1.21
Japan	6.6	7.0	0.94
Russian Federation	12.4	6.5	1.90
Saudi Arabia	6.2	5.2	1.17
Others	81.2	82.5	0.98
World	**185.2**	**187.3**	**-**

(7) See notes on pages 66-67.

Total final consumption

68. Total final consumption per capita, 2018



Source: United Nations Energy Statistics Database. Please see the disclaimer on page 66.

FACTS AND FIGURES

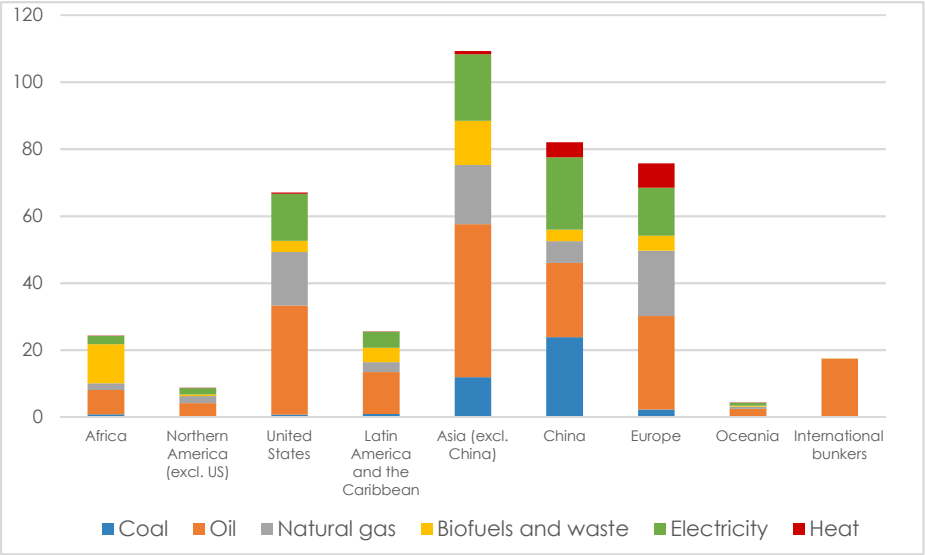
World total final consumption[8] (TFC) amounted to 414 EJ in 2018, increasing by more than 63% compared to 1990. Energy use in the industry and transport sectors dominated TFC in 2018, accounting in total for around 57% of TFC.

In 2018, almost 80% of coal TFC (or 32.2 EJ) occurred in the industry sector, while over 61% of oil TFC (almost 105 EJ) was used for transportation. Most of natural gas TFC happened in industry (almost 37% or 24.9 EJ) and households (29.5% or 19.9 EJ). The largest share of electricity end use was accounted for by the industry sector (42.6% of all electricity). Households were the major users of biofuels and waste, accounting for more than 57% of all TFC of these energy sources, and for 28.0% of all household TFC.

(8) See notes on pages 66-67.

69. Total final consumption by region and source, 2018

Exajoules



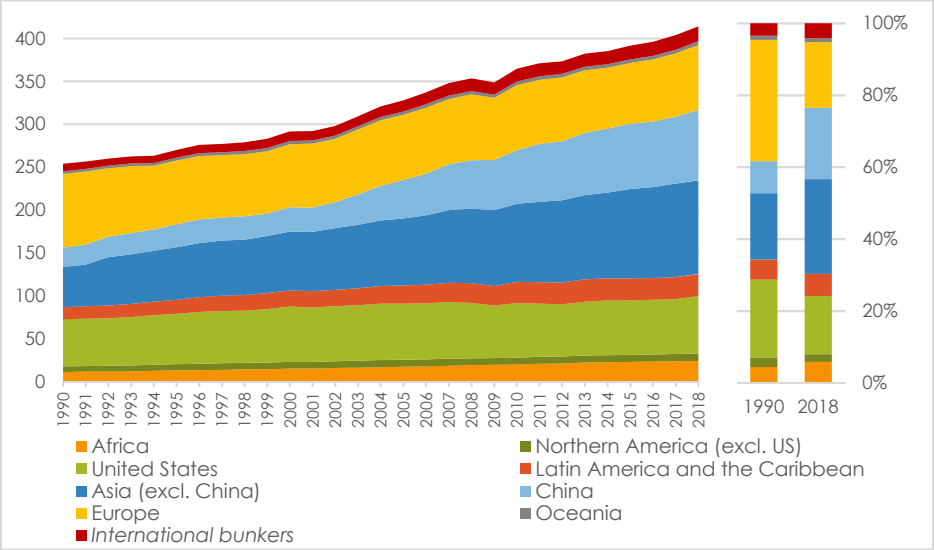
70. Total final consumption by region and source, 2018

Exajoules

Region	Coal	Oil	Natural gas	Biofuels and waste	Elec-tricity	Heat	Total
Africa	0.8	7.2	2.1	11.6	2.5	0.01	24.2
Northern America (excl. US)	0.1	4.0	2.2	0.5	1.9	0.03	8.7
United States	0.7	32.6	15.9	3.4	14.0	0.4	67.1
Latin America and the Caribbean	0.8	12.5	3.0	4.3	4.8	0.02	25.5
Asia (excl. China)	11.8	45.7	17.6	13.2	19.9	0.9	109.2
China	23.8	22.2	6.5	3.4	21.6	4.5	82.0
Europe	2.2	27.9	19.6	4.5	14.3	7.3	75.7
Oceania	0.1	2.3	0.6	0.3	0.9	0.03	4.3
International bunkers	*0.0*	*17.3*	*0 +*	*0.01*	*0.0*	*0.0*	*17.3*
World	**40.5**	**171.7**	**67.5**	**41.2**	**80.0**	**13.2**	**414.0**

71. Total final consumption by region, 1990-2018

Exajoules



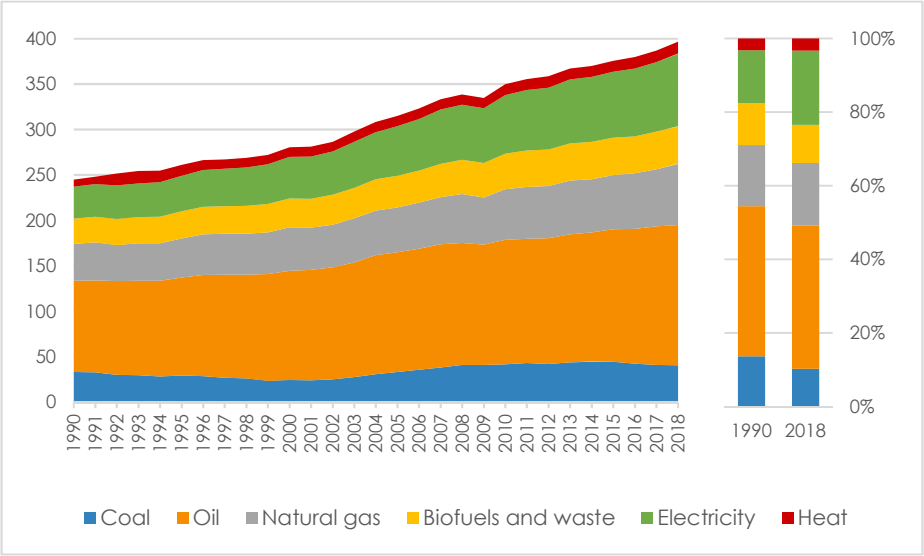
72. Total final consumption by region, 1990, 2000, 2010 and 2018

Exajoules

Region	1990	2000	2010	2018
Africa	11.3	15.0	20.0	24.2
Northern America (excl. US)	6.6	7.8	7.9	8.7
United States	55.0	64.6	63.7	67.1
Latin America and the Caribbean	14.2	18.9	24.6	25.5
Asia (excl. China)	46.6	68.6	91.2	109.2
China	22.6	28.2	62.2	82.0
Europe	85.8	73.5	76.3	75.7
Oceania	2.9	3.6	3.9	4.3
International bunkers	*8.7*	*11.2*	*14.9*	*17.3*
World	**253.7**	**291.4**	**364.6**	**414.0**

73. World total final consumption by source, 1990-2018

Exajoules



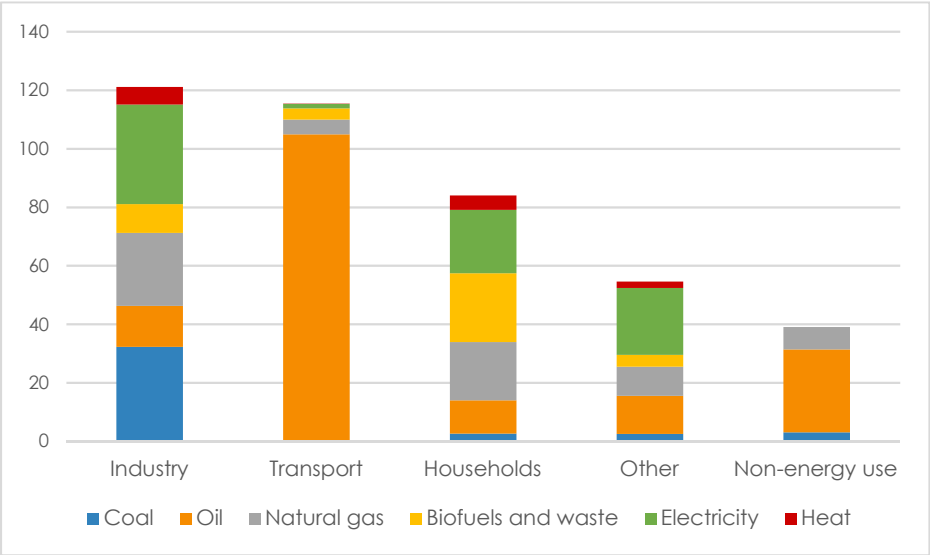
74. World total final consumption by source, 1990, 2000, 2010 and 2018

Exajoules

Source	1990	2000	2010	2018
Coal	33.3	24.4	41.5	40.5
Oil	108.8	131.2	152.1	171.7
Natural gas	40.7	47.9	55.6	67.5
Biofuels and waste	27.8	31.6	39.2	41.2
Electricity	35.3	45.9	64.4	80.0
Heat	7.8	10.5	11.9	13.2
Total	**253.7**	**291.4**	**364.6**	**414.0**

75. World total final consumption by sector and source, 2018

Exajoules



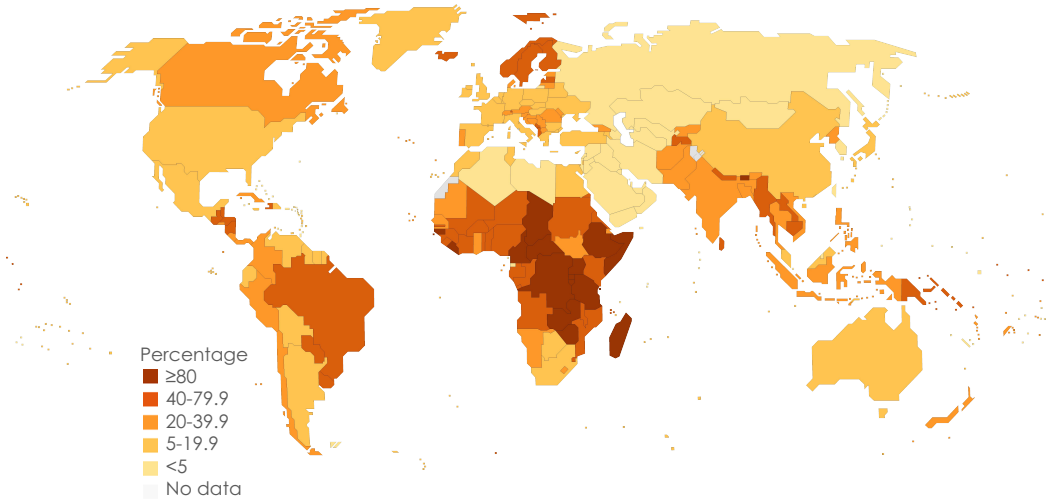
76. World total final consumption by sector and source, 2018

Exajoules

Sector	Coal	Oil	Natural gas	Biofuels and waste	Elec-tricity	Heat	Total
Total final consumption	**40.5**	**171.7**	**67.5**	**41.2**	**80.0**	**13.2**	**414.0**
- Total energy consumption	37.4	143.4	59.8	41.2	80.0	13.2	375.0
- Industry	32.2	14.1	24.9	9.8	34.1	6.0	121.1
- Transport	0.1	104.9	5.0	3.8	1.5	0.04	115.3
- of which intl. bunkers	0.0	17.3	0^{+}	0.01	0.0	0.0	17.3
- Households	2.7	11.4	19.9	23.5	21.6	5.0	84.0
- Other	2.5	13.0	10.0	4.0	22.8	2.2	54.5
- Non-energy use	3.1	28.4	7.7	0.0	0.0	0.0	39.1

77. Renewable energy share in total final energy consumption (TFEC), 2018

Percentage



Source: United Nations Energy Statistics Database. Please see the disclaimer on page 66.

78. Final consumption (total and per capita) and renewable energy share in TFEC, major countries, 2018

Exajoules, gigajoules per capita and percentage

Country	TFC	Country	TFC per capita	Country	% REN in TFEC
China	82.0	Iceland	403.6	Dem. Rep. Congo	96.0%
United States	67.1	Trinidad and Tobago	352.3	Somalia	94.9%
India	28.0	Qatar	312.9	Uganda	90.3%
Russian Fed.	21.5	Gibraltar	274.7	Ethiopia	88.1%
Japan	11.9	Luxembourg	265.0	Liberia	87.2%
Brazil	9.7	United Arab Emirates	237.9	Guinea-Bissau	86.8%
Germany	9.4	Canada	233.2	Rwanda	85.7%
Others	167.1	Others	50.7	Others	16.7%
World	**414.0**	**World**	**52.0**	**World**	**17.3%**

Energy balance, 2018 (Exajoules)				
World	Primary coal	Coal products	Primary oil	Oil products
Primary production	165.0	0.0	190.1	0.0
Imports	33.4	0.8	101.3	61.9
Exports	-37.3	-0.9	-101.4	-64.1
Stock changes	-0.4	-0.2	-0.3	-0.1
Total energy supply	160.8	-0.2	189.7	-2.4
Statistical difference	0.3	0.3	-0.01	-2.5
Transfers	0.0	0.0	7.9	-4.2
Transformation	-127.4	13.7	-196.5	184.7
Electricity plants	-89.2	-2.2	-1.2	-6.4
CHP and heat plants	-14.3	-0.9	-0.02	-1.0
Coke ovens	-20.9	22.2	0.0	-0.1
Oil refineries	0.0	0.0	-185.7	185.2
Other transformation	-3.0	-5.4	-9.6	7.0
Energy industries own use	-4.6	-1.2	-0.4	-9.3
Losses	-0.03	-0.1	-0.3	-0.02
Final consumption	28.6	11.9	0.4	171.3
Final energy consumption	26.0	11.4	0.1	143.3
Industry	21.0	11.2	0.1	14.0
Iron and steel	4.2	9.4	0^+	0.3
Chemical and petrochemical	1.1	0.4	0.03	2.7
Non-ferrous metals	0.2	0.04	0^+	0.3
Non-metallic minerals	1.5	0.1	0^+	1.4
Other industries	14.0	1.3	0.03	9.3
Transport[9]	0.1	0^+	0^+	104.9
of which Road	0.0	0.0	0.0	77.0
of which Aviation	0.0	0.0	0.0	14.3
Households	2.5	0.1	0.0	11.4
Commerce, public services	0.4	0.01	0.0	2.5
Other energy use	2.0	0.1	0^+	10.5
Non-energy use	2.5	0.5	0.3	28.0

(9) - (10) See notes on pages 66-67.

Natural gas	Biofuels and waste	Nuclear	Electricity	Heat	Total	of which: renewables[10]
137.5	52.4	29.3	21.7	3.9	599.9	76.1
41.2	1.8	0.0	2.7	0+	243.1	1.7
-41.5	-1.1	0.0	-2.6	0-	-248.8	-1.1
0.7	-0.05	0.0	0.0	0.0	-0.3	-0.05
138.0	53.0	29.3	21.7	3.9	593.9	76.7
0.7	-0.1	0.0	-0.02	0.1	-1.2	22.0
0.0	-0.2	0.0	0.0	0.0	3.6	-0.2
-55.9	-11.2	-29.3	73.7	12.0	-136.1	-12.8
-38.0	-5.2	-29.1	66.1	-4.1	-109.3	-7.3
-15.9	-2.7	-0.1	7.7	16.1	-11.1	-2.3
0-	0-	0.0	0.0	0.0	1.3	0.0
-0.1	0.0	0.0	0.0	0.0	-0.6	0.0
-2.0	-3.3	0.0	0.0	0.0	-16.3	-3.3
-12.9	-0.6	0.0	-8.4	-1.8	-39.1	-0.6
-1.0	-0.01	0.0	-7.1	-0.9	-9.5	-0.01
67.5	41.2	0.0	80.0	13.2	414.0	41.1
59.8	41.2	0.0	80.0	13.2	375.0	41.1
24.9	9.8	0.0	34.1	6.0	121.1	9.4
2.5	0.2	0.0	4.4	0.6	21.6	0.2
6.1	0.1	0.0	4.3	2.5	17.3	0.1
0.5	0.01	0.0	1.7	0.02	2.8	0.01
2.0	0.3	0.0	0.8	0.1	6.3	0.1
13.7	9.1	0.0	22.9	2.8	73.2	9.1
5.0	3.8	0.0	1.5	0.04	115.3	3.8
1.9	3.8	0.0	0.2	0.0	82.8	3.8
0.0	0.0	0.0	0.0	0.0	14.3	0.0
19.9	23.5	0.0	21.6	5.0	84.0	23.8
7.9	1.2	0.0	15.6	1.6	29.1	1.3
2.2	2.8	0.0	7.3	0.6	25.5	2.8
7.7	0.0	0.0	0.0	0.0	39.1	0.0

Energy balance, 2018 (Petajoules)

Africa	Primary coal	Coal products	Primary oil	Oil products
Primary production	6,596.9	0.0	16,890.5	0.0
Imports	396.5	19.4	1,320.9	5,064.9
Exports	-2,039.7	-2.7	-13,374.0	-1,649.2
International bunkers	0.0	0.0	0.0	-568.8
Stock changes	-29.4	2.5	-95.2	95.0
Total energy supply	4,924.3	19.2	4,742.2	2,941.8
Statistical difference	-14.3	0.1	-106.9	-106.8
Transfers	0.0	0.0	-120.0	161.7
Transformation	-3,527.1	78.6	-4,673.8	4,119.2
Electricity plants	-3,118.4	0.0	-31.8	-687.6
CHP and heat plants	-0.5	0.0	0.0	0.0
Coke ovens	-105.6	99.2	0.0	0.0
Oil refineries	0.0	0.0	-4,279.9	4,229.9
Other transformation	-302.5	-20.6	-362.1	576.9
Energy industries own use	-671.4	-2.0	-30.0	-100.7
Losses	0.0	-4.0	-25.3	-8.9
Final consumption	740.2	91.7	0.0	7,219.9
Final energy consumption	696.9	91.7	0.0	6,790.0
Industry	379.3	91.5	0.0	736.5
Iron and steel	66.5	73.6	0.0	0.6
Chemical and petrochemical	0.1	5.3	0.0	4.4
Non-ferrous metals	40.4	1.8	0.0	4.6
Non-metallic minerals	94.2	0.4	0.0	82.9
Other industries	178.1	10.5	0.0	644.0
Transport	0.4	0.0	0.0	4,811.1
of which Road	0.0	0.0	0.0	4,618.2
Households	196.0	0.1	0.0	593.1
Commerce, public services	96.7	0.0	0.0	70.0
Other energy use	24.6	0.1	0.0	579.3
Non-energy use	43.3	0.0	0.0	429.9

(10) See notes on pages 66-67.

Natural gas	Biofuels and waste	Nuclear	Electricity	Heat	Total	of which: renewables[10]
8,227.7	14,225.6	125.1	542.5	218.9	46,827.2	14,978.8
535.3	0.1	0.0	142.3	0.0	7,479.4	0.1
-3,477.5	-10.7	0.0	-117.3	0.0	-20,671.2	-10.7
0.0	0.0	0.0	0.0	0.0	-568.8	0.0
-1.9	0.0	0.0	0.0	0.0	-28.9	0.0
5,283.7	14,215.0	125.1	567.5	218.9	33,037.6	14,968.2
-40.0	-0.6	0.0	15.1	0	-253.3	567.5
0.0	0.0	0.0	0.0	0.0	41.7	0.0
-2,863.7	-2,588.1	-125.1	2,516.5	-211.1	-7,274.4	-2,768.4
-2,756.6	-61.1	-125.1	2,512.3	-211.1	-4,479.4	-241.5
-2.1	-5.1	0.0	4.2	0.0	-3.4	-5.1
0.0	0.0	0.0	0.0	0.0	-6.5	0.0
0.0	0.0	0.0	0.0	0.0	-50.0	0.0
-105.0	-2,521.9	0.0	0.0	0.0	-2,735.1	-2,521.9
-384.9	-0.01	0.0	-217.2	0.0	-1,406.2	-0.01
-19.0	-1.3	0.0	-390.6	0.0	-449.2	-1.3
2,056.1	11,626.1	0.0	2,461.0	7.8	24,202.9	11,630.9
1,711.4	11,626.1	0.0	2,461.0	7.8	23,385.1	11,630.9
993.5	697.0	0.0	938.8	0.0	3,836.6	693.9
96.4	0.0	0.0	77.7	0.0	314.8	0.0
71.5	0.4	0.0	49.6	0.0	131.3	0.1
1.4	0.0	0.0	119.4	0.0	167.5	0.0
123.4	6.2	0.0	36.4	0.0	343.5	3.6
700.8	690.3	0.0	655.8	0.0	2,879.6	690.3
48.4	1.8	0.0	18.5	0.0	4,880.2	1.8
12.4	1.8	0.0	0.2	0.0	4,632.5	1.8
458.9	10,052.3	0.0	863.4	2.3	12,166.2	10,054.6
9.2	429.5	0.0	437.4	0.1	1,043.0	429.6
201.3	445.5	0.0	202.8	5.4	1,459.0	450.9
344.7	0.0	0.0	0.0	0.0	817.8	0.0

Energy balance, 2018 (Petajoules)

Northern America	Primary coal	Coal products	Primary oil	Oil products
Primary production	16,748.0	0.0	39,774.0	0.0
Imports	327.1	33.3	18,582.4	5,088.3
Exports	-3,629.3	-31.2	-12,947.9	-10,612.8
International bunkers	0.0	0.0	0.0	-2,017.4
Stock changes	658.3	8.2	-75.2	36.2
Total energy supply	14,104.1	10.3	45,333.2	-7,505.7
Statistical difference	-13.1	18.0	97.3	-1,706.4
Transfers	0.0	0.0	451.3	-307.3
Transformation	-13,569.5	329.6	-45,448.7	44,481.5
Electricity plants	-12,577.7	-3.7	0.0	-397.2
CHP and heat plants	-322.5	-22.2	0.0	-95.0
Coke ovens	-542.6	520.6	0.0	0.0
Oil refineries	0.0	0.0	-41,737.9	40,623.5
Other transformation	-126.7	-165.1	-3,710.8	4,350.3
Energy industries own use	-1.3	-52.3	0.0	-2,029.4
Losses	0.0	0.0	0.0	-0.1
Final consumption	546.4	269.6	238.5	36,345.5
Final energy consumption	543.0	267.7	0.0	30,683.6
Industry	524.8	267.7	0.0	1,153.3
Iron and steel	18.1	233.9	0.0	6.5
Chemical and petrochemical	74.0	0.0	0.0	100.6
Non-ferrous metals	8.0	0.0	0.0	11.5
Non-metallic minerals	210.5	2.0	0.0	79.6
Other industries	214.2	31.8	0.0	955.2
Transport	0.0	0.0	0.0	27,453.0
of which Road	0.0	0.0	0.0	23,630.2
Households	0.4	0.0	0.0	718.0
Commerce, public services	17.9	0.0	0.0	524.3
Other energy use	0.0	0.0	0.0	835.1
Non-energy use	3.4	1.9	238.5	5,661.8

(10) See notes on pages 66-67.

Natural gas	Biofuels and waste	Nuclear	Electricity	Heat	Total	of which: renewables[10]
36,580.2	5,014.1	10,174.2	3,872.9	868.2	113,031.8	9,555.5
3,599.6	106.4	0.0	257.2	0.0	27,994.4	106.4
-6,353.3	-210.8	0.0	-270.7	0.0	-34,056.0	-210.8
0.0	-5.0	0.0	0.0	0.0	-2,022.4	-5.0
299.1	-8.1	0.0	0.0	0.0	918.4	-8.1
34,125.7	4,896.6	10,174.2	3,859.4	868.2	105,866.1	9,437.9
61.2	5.4	0.0	-34.1	-8.2	-1,579.9	3,960.1
0.0	0.0	0.0	0.0	0.0	144.0	0.0
-11,987.8	-1,020.4	-10,174.2	14,448.4	-220.0	-23,161.0	-1,490.3
-9,937.7	-775.9	-10,174.2	13,294.4	-718.4	-21,290.5	-1,275.5
-1,758.4	-68.1	0.0	1,154.0	498.4	-613.8	-38.4
0.0	0.0	0.0	0.0	0.0	-21.9	0.0
0.0	0.0	0.0	0.0	0.0	-1,114.4	0.0
-291.6	-176.3	0.0	0.0	0.0	-120.3	-176.3
-3,981.2	-4.3	0.0	-1,524.7	-159.8	-7,753.0	-4.3
0.0	0.0	0.0	-883.0	-57.7	-940.8	0.0
18,095.6	3,866.5	0.0	15,934.3	438.9	75,735.3	3,983.2
16,945.7	3,866.5	0.0	15,934.3	438.9	68,679.7	3,983.2
6,226.1	1,446.3	0.0	3,444.3	231.6	13,293.9	1,422.3
483.0	0.1	0.0	241.3	7.6	990.4	0.1
2,502.6	10.7	0.0	513.4	137.8	3,339.1	2.3
180.3	0.04	0.0	360.1	4.0	563.9	0.04
397.7	7.0	0.0	126.8	0.2	823.7	0.6
2,662.5	1,428.4	0.0	2,202.7	82.0	7,576.8	1,419.2
1,051.9	1,409.3	0.0	72.9	0.0	29,987.0	1,409.3
51.6	1,387.2	0.0	23.3	0.0	25,092.3	1,387.2
5,590.2	776.7	0.0	5,885.1	73.9	13,044.3	850.2
3,976.2	31.6	0.0	5,481.0	130.8	10,161.7	97.0
101.3	202.7	0.0	1,051.1	2.6	2,192.8	204.5
1,149.9	0.0	0.0	0.0	0.0	7,055.5	0.0

Energy balance, 2018 (Petajoules)				
Latin America and the Caribbean	Primary coal	Coal products	Primary oil	Oil products
Primary production	2,712.0	0.0	18,855.9	0.0
Imports	1,231.5	90.1	1,664.3	7,041.2
Exports	-2,303.9	-64.5	-10,168.7	-2,280.1
International bunkers	0.0	0.0	0.0	-1,177.8
Stock changes	157.2	-16.9	124.2	18.0
Total energy supply	1,796.8	8.7	10,475.8	3,601.3
Statistical difference	-15.7	-4.3	-543.3	-281.8
Transfers	0.0	0.0	405.6	-403.1
Transformation	-1,392.3	461.5	-11,402.9	9,751.9
Electricity plants	-941.1	-20.9	-27.3	-1,394.8
CHP and heat plants	0.0	0.0	0.0	-15.4
Coke ovens	-451.2	527.6	0.0	-47.9
Oil refineries	0.0	0.0	-10,628.0	10,452.9
Other transformation	0.0	-45.1	-747.6	757.1
Energy industries own use	0.0	-41.9	-20.9	-706.4
Losses	-3.5	-2.3	-0.1	-2.8
Final consumption	416.8	430.4	0.9	12,522.7
Final energy consumption	416.7	428.1	0.9	11,549.0
Industry	414.1	425.1	0.7	1,281.1
Iron and steel	123.6	409.6	0.04	19.6
Chemical and petrochemical	13.4	0.1	0.0	109.6
Non-ferrous metals	28.0	10.7	0.0	44.3
Non-metallic minerals	47.9	1.8	0.04	256.3
Other industries	201.1	2.9	0.6	851.3
Transport	0.0	0.0	0.2	8,452.1
of which Road	0.0	0.0	0.0	8,011.7
Households	2.6	2.0	0.0	862.9
Commerce, public services	0.0	0.02	0.0	195.5
Other energy use	0.05	1.0	0.0	757.4
Non-energy use	0.04	2.3	0.0	973.7

(10) See notes on pages 66-67.

Natural gas	Biofuels and waste	Nuclear	Electricity	Heat	Total	of which: renewables[10]
7,080.9	6,322.4	386.7	3,050.6	352.9	38,761.3	9,718.5
2,528.9	50.6	0.0	190.7	0.0	12,797.3	50.6
-1,299.6	-91.8	0.0	-182.6	0.0	-16,391.1	-91.8
-1.1	0.0	0.0	0.0	0.0	-1,178.9	0.0
32.1	-37.4	0.0	0.0	0.0	277.2	-37.4
8,341.1	6,243.8	386.7	3,058.7	352.9	34,265.9	9,639.9
171.9	-21.3	0.0	-3.8	0.0	-698.3	3,063.0
0.0	-175.7	0.0	0.0	0.0	-173.2	-175.7
-3,603.7	-1,239.1	-386.7	2,923.7	-336.9	-5,224.4	-1,538.7
-3,365.9	-843.4	-386.7	2,830.0	-336.9	-4,486.9	-1,142.9
-233.3	-220.3	0.0	93.7	0.0	-375.4	-220.3
0.0	0.0	0.0	0.0	0.0	28.5	0.0
0.0	0.0	0.0	0.0	0.0	-175.1	0.0
-4.5	-175.4	0.0	0.0	0.0	-215.5	-175.4
-1,474.4	-519.9	0.0	-268.4	0.0	-3,031.9	-519.9
-126.0	-5.7	0.0	-891.6	0.0	-1,031.9	-5.7
2,965.1	4,324.7	0.0	4,826.3	16.0	25,502.7	4,336.9
2,521.2	4,324.7	0.0	4,826.3	16.0	24,082.8	4,336.9
1,655.8	1,784.4	0.0	2,044.2	0.7	7,606.0	1,785.1
246.2	152.4	0.0	122.2	0.0	1,073.6	152.4
347.8	6.7	0.0	126.5	0.0	604.2	6.7
22.8	0.04	0.0	115.9	0.0	221.7	0.04
92.0	0.2	0.0	75.1	0.0	473.3	0.2
947.0	1,625.1	0.0	1,604.5	0.7	5,233.2	1,625.8
249.7	913.1	0.0	19.1	0.0	9,634.2	913.1
196.6	909.3	0.0	2.4	0.0	9,120.0	909.3
472.2	1,415.6	0.0	1,370.9	7.9	4,134.2	1,423.6
103.4	31.8	0.0	1,059.1	4.9	1,394.7	36.7
40.1	179.8	0.0	333.0	2.5	1,313.8	178.6
443.9	0.0	0.0	0.0	0.0	1,419.9	0.0

Energy balance, 2018 (Petajoules)

Asia	Primary coal	Coal products	Primary oil	Oil products
Primary production	109,810.8	0.0	83,227.0	0.0
Imports	25,685.4	301.5	53,374.0	25,574.2
Exports	-12,828.2	-335.9	-48,309.5	-27,405.0
International bunkers	0.0	0.0	0.0	-8,042.5
Stock changes	-1,105.7	-152.2	-192.6	-372.0
Total energy supply	121,562.2	-186.6	88,098.8	-10,245.2
Statistical difference	267.7	263.6	633.0	-169.7
Transfers	0.0	0.0	4,974.5	-1,711.1
Transformation	-91,870.1	11,297.0	-91,974.5	83,985.4
Electricity plants	-65,980.5	-1,898.5	-1,159.2	-3,470.7
CHP and heat plants	-8,036.4	-489.2	0.0	-360.0
Coke ovens	-16,129.7	18,103.6	0.0	-18.4
Oil refineries	0.0	0.0	-86,358.4	87,049.0
Other transformation	-1,723.5	-4,418.8	-4,456.9	785.6
Energy industries own use	-3,855.8	-748.5	-338.5	-4,349.4
Losses	-25.0	-6.2	-41.5	-5.5
Final consumption	25,543.6	10,092.1	85.8	67,843.8
Final energy consumption	23,091.5	9,626.1	60.4	52,439.2
Industry	18,960.7	9,504.0	60.4	8,668.5
Iron and steel	3,836.5	7,853.5	0.0	238.4
Chemical and petrochemical	867.6	424.4	29.6	1,729.1
Non-ferrous metals	75.9	16.5	0.2	156.0
Non-metallic minerals	915.4	12.9	0.2	712.5
Other industries	13,265.2	1,196.6	30.5	5,832.6
Transport	67.0	0.9	0.0	28,455.0
of which Road	0.0	0.0	0.0	23,684.5
Households	1,933.1	68.2	0.0	7,240.9
Commerce, public services	162.0	4.3	0.0	930.1
Other energy use	1,968.7	48.7	0.0	7,144.7
Non-energy use	2,452.1	466.0	25.4	15,404.7

(10) See notes on pages 66-67.

Natural gas	Biofuels and waste	Nuclear	Electricity	Heat	Total	of which: renewables[10]
47,029.9	19,205.8	6,239.5	9,345.8	1,375.3	276,234.0	29,214.1
17,276.2	652.7	0.0	408.3	0.0	123,272.4	651.8
-12,601.3	-156.9	0.0	-370.2	0.0	-102,007.0	-156.9
0.0	0.0	0.0	0.0	0.0	-8,042.5	0.0
-37.5	8.5	0.0	0.0	0.0	-1,851.6	8.5
51,667.3	19,710.1	6,239.5	9,383.9	1,375.3	287,605.3	29,717.5
625.0	-80.5	0.0	-15.9	60.2	1,583.4	9,392.7
0.0	-0.01	0.0	0.0	0.0	3,263.4	-0.01
-21,282.1	-3,175.4	-6,239.5	40,071.5	5,044.6	-74,143.0	-3,758.0
-18,820.2	-2,562.8	-6,239.5	38,875.0	-2,187.3	-63,443.7	-3,241.6
-1,549.8	-237.7	0.0	1,196.5	7,232.0	-2,244.7	-146.0
0.0	-4.5	0.0	0.0	0.0	1,951.0	0.0
-69.5	0.0	0.0	0.0	0.0	621.1	0.0
-842.5	-370.4	0.0	0.0	0.0	-11,026.6	-370.4
-5,131.5	-13.0	0.0	-4,332.5	-823.9	-19,593.2	-13.0
-465.0	0.0	0.0	-3,631.0	-104.4	-4,278.6	0.0
24,163.8	16,602.2	0.0	41,507.7	5,431.5	191,270.6	16,553.8
21,143.2	16,602.2	0.0	41,507.7	5,431.5	169,901.9	16,553.8
10,338.1	4,453.2	0.0	21,706.2	3,332.9	77,024.0	4,304.6
774.3	32.6	0.0	3,161.6	223.5	16,120.4	30.7
2,003.9	59.7	0.0	2,685.6	1,524.1	9,324.0	35.2
50.4	7.7	0.0	206.7	0.6	513.9	3.7
318.6	89.5	0.0	243.1	0.5	2,292.7	18.1
7,191.0	4,263.7	0.0	15,409.2	1,584.2	48,773.0	4,216.8
2,074.2	763.1	0.0	761.5	38.2	32,159.8	763.1
1,558.4	762.9	0.0	133.0	0.0	26,138.8	762.9
5,580.3	9,084.9	0.0	9,227.2	1,528.8	34,663.4	9,201.2
1,591.4	500.3	0.0	4,482.9	155.3	7,826.1	477.2
1,559.2	1,800.8	0.0	5,330.0	376.4	18,228.6	1,807.8
3,020.6	0.0	0.0	0.0	0.0	21,368.7	0.0

Energy balance, 2018 (Petajoules)				
Europe	Primary coal	Coal products	Primary oil	Oil products
Primary production	17,066.4	0.0	30,676.3	0.0
Imports	5,735.8	339.8	25,376.2	17,535.9
Exports	-6,130.6	-408.4	-16,070.8	-22,039.5
International bunkers	0.0	0.0	0.0	-5,206.2
Stock changes	-154.5	-15.2	-78.0	122.2
Total energy supply	16,517.2	-83.7	39,903.7	-9,587.6
Statistical difference	58.6	4.2	19.5	-82.5
Transfers	0.0	0.0	2,123.5	-1,941.3
Transformation	-15,216.1	1,508.2	-41,646.3	41,159.4
Electricity plants	-4,971.0	-232.3	0.0	-323.4
CHP and heat plants	-5,891.5	-361.9	-20.3	-567.0
Coke ovens	-3,493.6	2,832.0	0.0	-12.5
Oil refineries	0.0	0.0	-41,316.2	41,541.5
Other transformation	-860.0	-729.6	-309.8	520.9
Energy industries own use	-56.5	-358.7	-9.4	-1,888.4
Losses	-3.2	-45.9	-277.4	-0.7
Final consumption	1,182.9	1,015.7	74.4	27,823.9
Final energy consumption	1,148.5	952.1	1.4	22,455.9
Industry	618.7	892.9	1.2	1,987.2
Iron and steel	132.9	768.8	0.1	46.4
Chemical and petrochemical	121.3	14.5	0.9	772.0
Non-ferrous metals	19.5	5.2	0.04	20.1
Non-metallic minerals	210.2	73.7	0.01	275.4
Other industries	134.8	30.6	0.1	873.2
Transport	0.9	0.04	0.0	16,698.5
of which Road	0.0	0.0	0.0	15,597.3
Households	403.9	49.8	0.0	1,959.8
Commerce, public services	79.4	3.4	0.0	709.2
Other energy use	45.7	5.9	0.2	1,101.2
Non-energy use	34.3	63.6	73.0	5,368.0

(10) See notes on pages 66-67.

Natural gas	Biofuels and waste	Nuclear	Electricity	Heat	Total	of which: renewables[10]
34,081.0	7,270.2	12,354.0	4,608.3	805.5	106,861.7	11,719.4
17,106.5	958.2	0.0	1,659.9	0.2	68,712.6	938.0
-14,584.7	-606.3	0.0	-1,666.5	-0.1	-61,506.8	-604.7
-3.8	-0.7	0.0	0.0	0.0	-5,210.7	-0.7
447.6	-11.2	0.0	0.0	0.0	310.8	-9.4
37,046.5	7,610.2	12,354.0	4,601.7	805.7	109,167.7	12,042.6
-69.8	-9.9	0.0	15.2	-0.1	-64.8	4,709.7
0.0	0.0	0.0	0.0	0.0	182.2	0.0
-15,626.9	-3,101.5	-12,354.0	12,898.3	8,010.2	-24,368.6	-2,970.1
-2,623.0	-943.9	-12,211.9	7,721.3	-381.5	-13,965.7	-1,087.5
-12,227.2	-2,110.5	-142.1	5,177.0	8,391.7	-7,751.8	-1,835.6
-0.6	0.0	0.0	0.0	0.0	-674.7	0.0
0.0	0.0	0.0	0.0	0.0	225.2	0.0
-776.1	-47.0	0.0	0.0	0.0	-2,201.6	-47.0
-1,564.8	-32.6	0.0	-1,898.3	-837.9	-6,646.6	-24.9
-367.2	-4.1	0.0	-1,282.4	-717.1	-2,698.0	-4.1
19,557.5	4,482.0	0.0	14,304.1	7,261.0	75,701.4	4,333.9
16,965.4	4,482.0	0.0	14,304.1	7,261.0	67,570.4	4,333.9
5,362.4	1,268.2	0.0	5,593.5	2,435.6	18,159.7	1,011.6
932.7	37.3	0.0	751.9	338.8	3,009.0	1.9
1,112.4	40.9	0.0	903.9	849.2	3,815.3	13.4
173.3	0.5	0.0	726.9	18.3	963.9	0.1
996.0	212.9	0.0	343.4	107.4	2,219.1	59.3
2,147.9	976.5	0.0	2,867.4	1,121.9	8,152.4	936.8
1,587.3	714.3	0.0	572.0	0.0	19,572.9	714.3
83.2	712.4	0.0	9.4	0.0	16,402.3	712.4
7,639.5	2,122.4	0.0	3,990.0	3,334.7	19,500.0	2,213.5
2,114.3	245.7	0.0	3,830.4	1,274.6	8,256.9	254.7
261.9	131.5	0.0	318.3	216.1	2,080.9	139.8
2,592.1	0.0	0.0	0.0	0.0	8,131.0	0.0

Energy balance, 2018 (Petajoules)

Oceania	Primary coal	Coal products	Primary oil	Oil products
Primary production	12,110.6	0.0	675.7	0.0
Imports	52.4	6.4	1,025.5	1,587.7
Exports	-10,319.1	-15.5	-521.6	-162.5
International bunkers	0.0	0.0	0.0	-300.7
Stock changes	72.4	0.0	3.7	-33.9
Total energy supply	1,916.2	-9.2	1,183.3	1,090.6
Statistical difference	8.8	0.0	-108.5	-123.7
Transfers	0.0	0.0	100.4	37.3
Transformation	-1,783.0	72.8	-1,389.4	1,201.3
Electricity plants	-1,630.8	0⁻	0.0	-106.7
CHP and heat plants	-20.4	-7.3	0.0	-0.9
Coke ovens	-130.1	111.9	0.0	0.0
Oil refineries	0.0	0.0	-1,340.6	1,257.9
Other transformation	-1.6	-31.9	-48.9	50.9
Energy industries own use	-0.7	-40.2	-2.0	-191.0
Losses	0.0	-0.3	0.0	0.0
Final consumption	123.7	23.1	0.7	2,261.8
Final energy consumption	117.1	23.1	0.7	2,077.1
Industry	113.6	23.1	0.7	215.7
Iron and steel	0.6	14.4	0.0	0.8
Chemical and petrochemical	6.3	0.5	0.0	4.4
Non-ferrous metals	48.4	3.6	0.0	15.0
Non-metallic minerals	25.3	0.1	0.0	9.6
Other industries	32.9	4.4	0.7	185.8
Transport	0.0	0.0	0.0	1,669.7
of which Road	0.0	0.0	0.0	1,423.4
Households	0.3	0.02	0.0	22.5
Commerce, public services	1.3	0.04	0.0	44.9
Other energy use	1.9	0⁺	0.0	124.4
Non-energy use	6.6	0.0	0.0	184.7

(10) See notes on pages 66-67.

Natural gas	Biofuels and waste	Nuclear	Electricity	Heat	Total	of which: renewables[10]
4,506.5	337.8	0.0	257.8	327.0	18,215.4	918.9
167.9	0.1	0.0	0.0	0.0	2,839.9	0.1
-3,139.2	-0.01	0.0	0.0	0.0	-14,158.0	-0.01
0.0	0.0	0.0	0.0	0.0	-300.7	0.0
6.1	0.0	0.0	0.0	0.0	48.3	0.0
1,541.3	337.9	0.0	257.8	327.0	6,645.0	919.0
-16.5	0+	0.0	2.3	0.0	-237.6	288.0
0.0	0.0	0.0	0.0	0.0	137.7	0.0
-570.8	-55.4	0.0	886.9	-301.9	-1,939.8	-327.2
-448.4	-20.4	0.0	823.8	-300.6	-1,683.0	-289.8
-118.8	-34.4	0.0	63.0	-1.3	-120.1	-36.7
0.0	0.0	0.0	0.0	0.0	-18.2	0.0
0.0	0.0	0.0	0.0	0.0	-82.6	0.0
-3.6	-0.7	0.0	0.0	0.0	-35.8	-0.7
-346.1	0.0	0.0	-130.8	0.0	-710.9	0.0
-0.6	0.0	0.0	-62.0	0.0	-62.8	0.0
640.3	282.5	0.0	949.6	25.1	4,306.8	303.8
541.3	282.5	0.0	949.6	25.1	4,016.5	303.8
306.5	173.8	0.0	344.8	4.6	1,182.7	174.6
10.6	0.0	0.0	17.6	0.0	44.0	0.0
60.1	4.1	0.0	15.6	0.0	90.9	0.5
112.6	1.9	0.0	145.1	0.0	326.7	1.9
47.8	2.7	0.0	17.5	0.0	103.0	2.7
75.3	165.1	0.0	149.1	4.6	618.0	169.5
17.3	5.1	0.0	21.7	0.0	1,713.8	5.1
3.3	5.1	0.0	0.0	0.0	1,431.8	5.1
154.5	72.2	0.0	267.9	16.8	534.2	89.0
60.9	1.4	0.0	294.5	3.1	406.1	4.5
2.2	30.0	0.0	20.6	0.7	179.8	30.7
99.0	0.0	0.0	0.0	0.0	290.3	0.0

Energy indicators, 2018

Region	Total energy supply	Energy use (TES) per capita	Energy intensity	Self-sufficiency	Renewable share in TFEC	Electricity consumption per capita
	PJ	GJ	MJ/INTL$	%	%	kWh
WORLD	**593,911**	**77.8**	**4.8**	**101.0**	**17.3**	**2,911.5**
Africa	**33,038**	**25.9**	**5.4**	**141.7**	**51.8**	**536.3**
Northern Africa	8,774	37.0	3.9	151.0	9.0	1,281.8
Sub-Saharan Africa	24,263	23.4	6.3	138.4	66.7	365.8
Americas	**140,132**	**139.4**	**4.5**	**108.3**	**15.8**	**5,735.8**
Latin America & Caribbean	34,266	53.4	3.6	113.1	29.0	2,091.1
Northern America	105,866	290.6	4.8	106.8	11.2	12,150.0
Asia	**287,605**	**63.1**	**5.1**	**96.0**	**14.7**	**2,528.1**
Central Asia	6,598	91.6	7.9	201.3	4.7	2,388.1
Eastern Asia	165,352	99.2	5.7	66.7	10.8	4,676.4
South-eastern Asia	28,100	42.9	3.6	120.6	26.1	1,455.4
Southern Asia	57,960	30.6	4.7	78.5	24.5	856.6
Western Asia	29,596	109.2	4.5	247.7	3.8	3,641.6
Europe	**109,168**	**145.8**	**3.8**	**97.9**	**14.2**	**5,307.6**
Eastern Europe	48,748	165.9	6.5	146.2	6.6	4,261.7
Northern Europe	14,391	136.7	2.8	123.0	27.0	6,926.6
Southern Europe	15,323	100.4	2.7	30.0	19.1	4,722.9
Western Europe	30,706	155.9	3.0	43.4	15.8	6,455.8
Oceania	**6,645**	**159.9**	**4.4**	**274.1**	**14.0**	**6,345.3**
Australia and New Zealand	6,338	213.8	4.4	283.5	12.8	8,508.1
Melanesia	276	25.8	5.4	89.3	37.8	787.9
Micronesia	10	18.5	7.4	10.0	6.9	3,940.0
Polynesia	21	31.0	10.8	12.3	14.6	1,509.4

Region	Total energy supply	Energy use (TES) per capita	Energy intensity	Self-sufficiency	Renewable share in TFEC	Electricity consumption per capita
	PJ	GJ	MJ/INTL $	%	%	kWh
Afghanistan	142.4	3.8	1.7	62.7	21.4	127.5
Albania	90.9	31.5	2.3	89.5	42.3	2,110.8
Algeria	2,428.9	57.5	5.0	257.5	0.2	1,377.1
American Samoa[11]	0.02	0.3	-	0.0	2.9	2,677.6
Andorra	9.4	122.1	-	8.5	18.6	6,391.3
Angola	514.4	16.7	2.4	737.2	61.1	328.6
Anguilla	2.1	140.7	-	0.1	0.2	5,021.0
Antigua and Barbuda	7.2	75.0	3.6	0.6	0.9	2,980.8
Argentina	3,288.0	74.1	3.2	95.8	12.3	2,902.2
Armenia	131.3	44.5	3.5	28.1	13.4	1,830.3
Aruba	12.5	118.5	3.1	5.2	8.0	7,716.9
Australia	5,393.1	216.6	4.4	319.5	9.7	8,568.6
Austria	1,376.8	154.8	2.8	35.4	33.8	7,093.8
Azerbaijan	606.9	61.0	4.3	387.0	1.8	1,790.2
Bahamas	38.9	100.8	2.8	0.8	1.0	5,728.2
Bahrain	581.9	370.8	8.0	162.6	0.1	18,469.6
Bangladesh	1,963.5	12.2	2.7	81.6	39.7	436.3
Barbados	16.9	58.9	3.8	17.2	5.8	3,288.3
Belarus	1,138.6	120.5	6.4	15.0	7.1	3,243.6
Belgium	2,214.6	192.9	3.8	21.9	10.5	7,207.3
Belize	16.0	41.7	5.8	52.0	40.1	2,034.1
Benin	218.8	19.1	6.0	51.9	44.1	102.8
Bermuda	10.3	164.7	-	5.8	0.4	9,046.7
Bhutan	70.9	94.0	8.3	108.2	81.1	2,897.3
Bolivia (Plurinational State of)	404.0	35.6	4.1	206.7	13.0	744.3
Bonaire, Sint Eustatius and Saba	5.6	219.2	-	3.1	3.2	4,084.2

Region	Total energy supply	Energy use (TES) per capita	Energy intensity	Self-sufficiency	Renewable share in TFEC	Electricity consumption per capita
	PJ	GJ	MJ/INTL $	%	%	kWh
Bosnia and Herzegovina	312.1	93.9	6.5	76.2	35.1	3,446.5
Botswana	101.1	44.9	2.5	64.3	6.9	1,423.6
Brazil	12,196.5	58.2	4.0	102.8	44.2	2,420.1
British Virgin Islands	2.3	76.3	-	0.8	1.4	3,926.8
Brunei Darussalam	156.0	363.6	6.0	409.9	0.2	7,576.5
Bulgaria	779.9	110.6	5.0	64.9	19.5	4,239.5
Burkina Faso	192.5	9.7	4.6	68.0	67.0	79.4
Burundi	65.6	5.9	7.7	85.3	85.5	24.7
Cabo Verde	10.2	18.7	2.7	17.4	23.0	654.7
Cambodia	343.7	21.2	5.1	61.3	61.8	505.5
Cameroon	404.0	16.0	4.4	124.3	81.0	261.7
Canada	12,446.0	335.7	6.9	178.0	22.1	14,143.7
Cayman Islands	8.7	136.1	1.9	0.0	0.01	10,113.4
Central African Republic	22.0	4.7	5.1	85.6	80.9	29.4
Chad	86.1	5.6	3.5	405.0	85.3	14.3
Chile	1,634.6	87.3	3.6	34.9	25.6	3,899.5
China	129,651.0	90.8	6.1	80.1	12.1	4,203.4
China, Hong Kong SAR	589.3	79.9	1.3	0.0	0.04	6,010.1
China, Macao SAR	41.8	66.2	0.5	14.1	14.0	8,813.7
Colombia	1,630.1	32.8	2.3	309.6	31.6	1,245.3
Comoros	8.0	9.6	3.1	48.0	55.0	71.3
Congo	123.7	23.6	6.9	661.1	69.8	301.7
Cook Islands	1.1	62.0	-	3.5	4.4	2,363.1
Costa Rica	204.7	41.0	2.1	46.9	35.7	1,997.9
Côte d'Ivoire	434.5	17.3	3.4	95.6	63.4	276.3
Croatia	354.1	85.2	3.1	49.3	32.8	3,891.3

Region	Total energy supply	Energy use (TES) per capita	Energy intensity	Self-sufficiency	Renewable share in TFEC	Electricity consumption per capita
	PJ	GJ	MJ/INTL $	%	%	kWh
Cuba	374.6	33.0	-	52.6	20.1	1,374.9
Curaçao	58.0	356.3	14.5	1.6	3.1	4,399.3
Cyprus	94.8	79.7	2.8	6.7	11.8	3,921.8
Czechia	1,813.2	170.0	4.3	63.7	14.9	5,438.4
Democratic People's Rep. of Korea	265.5	10.4	-	210.0	33.3	451.3
Democratic Rep. of the Congo	1,148.8	13.7	12.6	102.1	96.0	118.5
Denmark	711.8	123.7	2.2	81.0	35.0	5,403.9
Djibouti	10.1	10.6	2.0	36.1	27.8	489.1
Dominica	2.4	33.9	2.9	6.4	8.2	1,398.7
Dominican Republic	363.7	34.2	1.9	8.8	11.4	1,544.1
Ecuador	595.7	34.9	3.0	208.2	16.9	1,458.0
Egypt	3,721.6	37.8	3.3	90.4	8.1	1,682.6
El Salvador	179.4	27.9	3.2	48.6	24.9	968.9
Equatorial Guinea	99.2	75.8	3.7	652.5	4.9	478.2
Eritrea	36.5	10.6	-	73.2	73.0	117.0
Estonia	262.5	198.4	5.6	105.3	28.4	5,662.5
Eswatini	43.5	38.3	4.5	67.2	66.1	1,164.3
Ethiopia	1,562.6	14.3	6.8	89.4	88.1	83.2
Falkland Islands (Malvinas)	0.6	173.4	-	13.4	5.0	5,454.3
Faroe Islands	10.6	218.7	-	5.8	5.9	6,609.2
Fiji	25.0	28.3	2.0	25.8	27.9	1,026.6
Finland	1,415.5	256.3	5.3	57.4	43.8	14,987.4
France	10,271.5	152.8	3.4	54.7	15.2	6,549.0
French Polynesia	12.1	43.4	-	6.4	7.6	2,191.1
Gabon	105.6	49.8	3.4	450.6	69.3	1,167.4
Gambia	14.5	6.4	3.0	48.4	52.4	105.0

Region	Total energy supply	Energy use (TES) per capita	Energy intensity	Self-sufficiency	Renewable share in TFEC	Electricity consumption per capita
	PJ	GJ	MJ/INTL $	%	%	kWh
Georgia	204.1	51.0	3.8	25.6	27.8	2,982.1
Germany	12,644.6	152.1	2.8	36.9	15.8	6,170.7
Ghana	353.3	11.9	2.3	152.7	38.0	442.9
Gibraltar	10.6	314.1	-	0+	0.01	6,050.7
Greece	935.2	88.9	2.9	32.2	17.7	4,701.5
Greenland	9.0	158.7	-	17.1	11.5	5,895.9
Grenada	4.8	43.1	2.6	8.6	11.7	1,867.0
Guam[11]	0.2	1.1	-	0.0	3.0	9,453.5
Guatemala	546.0	31.7	4.0	62.8	60.5	592.6
Guernsey[11]	1.1	18.4	-	0.0	0.0	5,580.7
Guinea	171.1	13.8	5.5	68.7	69.9	127.9
Guinea-Bissau	31.8	17.0	8.7	83.3	86.8	46.2
Guyana	37.6	48.3	5.2	13.4	16.8	1,114.2
Haiti	192.2	17.3	9.8	75.5	76.1	38.6
Honduras	257.0	26.8	4.7	50.4	50.2	718.2
Hungary	1,117.9	115.2	3.7	41.6	13.4	4,061.4
Iceland	366.1	1,087.3	18.5	91.8	78.0	54,904.5
India	39,184.3	29.0	4.5	60.9	27.2	856.3
Indonesia	10,414.5	38.9	3.4	197.5	29.1	940.7
Iran (Islamic Republic of)	10,991.7	134.4	9.0	155.2	1.9	3,175.5
Iraq	2,676.7	69.6	6.5	373.3	0.5	1,030.2
Ireland	576.5	119.6	1.4	36.1	10.9	5,633.3
Isle of Man[11]	4.5	53.5	-	12.4	2.1	4,305.8
Israel	934.8	111.5	2.7	36.2	3.7	6,858.1
Italy	6,288.9	103.7	2.5	23.1	17.0	4,831.4
Jamaica	117.2	39.9	4.1	7.2	9.0	1,124.1

Region	Total energy supply	Energy use (TES) per capita	Energy intensity	Self-sufficiency	Renewable share in TFEC	Electricity consumption per capita
	PJ	GJ	MJ/INTL $	%	%	kWh
Japan	17,859.3	140.4	3.4	11.8	7.5	7,433.3
Jersey[11]	3.1	28.2	-	24.9	17.4	5,854.2
Jordan	381.8	38.3	3.9	3.2	2.9	1,755.4
Kazakhstan	3,103.4	169.4	6.6	237.7	1.9	4,384.8
Kenya	972.5	18.9	4.5	77.5	63.5	169.3
Kiribati	1.6	13.6	6.1	35.6	41.1	208.9
Kosovo	108.7	60.5	5.6	70.2	26.8	2,447.3
Kuwait	1,459.6	352.8	7.0	470.7	0.3	10,335.6
Kyrgyzstan	191.8	30.4	5.9	50.8	22.1	1,882.0
Lao People's Democratic Rep.	239.0	33.8	4.5	122.0	45.0	728.2
Latvia	194.5	100.9	3.4	61.4	40.8	3,454.0
Lebanon	347.6	50.7	3.3	2.1	3.9	3,066.3
Lesotho	46.6	22.1	8.0	36.1	38.4	382.8
Liberia	98.1	20.4	13.6	85.8	87.2	62.3
Libya	744.9	111.5	7.4	390.0	2.6	2,636.0
Liechtenstein[11]	3.4	89.7	-	40.0	56.8	10,804.9
Lithuania	315.0	112.4	3.2	26.0	33.9	3,713.7
Luxembourg	165.0	273.1	2.4	5.3	18.1	10,631.5
Madagascar	331.2	12.6	7.8	83.9	81.6	73.0
Malawi	88.3	4.9	4.7	78.8	73.2	83.4
Malaysia	3,832.2	121.5	4.4	103.1	6.4	4,848.6
Maldives	24.8	48.0	2.6	0.8	1.1	1,415.5
Mali	207.3	10.9	4.8	77.6	76.6	133.1
Malta	28.4	64.7	1.4	3.4	7.3	5,443.3
Marshall Islands	2.3	39.2	9.9	8.8	11.7	1,335.3
Mauritania	74.3	16.9	3.3	27.9	25.1	260.7

Region	Total energy supply	Energy use (TES) per capita	Energy intensity	Self-sufficiency	Renewable share in TFEC	Electricity consumption per capita
	PJ	GJ	MJ/INTL $	%	%	kWh
Mauritius	68.7	54.2	2.4	14.0	7.4	2,091.3
Mexico	7,633.7	60.5	3.0	87.7	9.6	2,245.9
Micronesia (Federated States of)	2.2	19.3	5.6	1.8	1.8	407.5
Mongolia	541.4	170.8	14.3	257.4	1.3	2,034.5
Montenegro	45.1	71.8	3.5	69.5	40.8	4,534.2
Montserrat	0.4	77.4	-	0.0	0.0	3,705.2
Morocco	871.3	23.8	3.2	11.3	12.3	890.4
Mozambique	443.5	15.0	11.7	192.6	64.9	431.3
Myanmar	991.2	18.5	3.7	122.6	60.0	345.3
Namibia	83.9	34.3	3.5	26.6	31.4	1,703.6
Nauru	0.7	70.2	5.0	0.6	0.7	2,631.6
Nepal	592.9	21.1	6.5	75.3	76.4	231.5
Netherlands	3,032.6	177.8	3.1	50.3	7.3	6,328.8
New Caledonia	73.3	262.0	-	2.4	4.4	12,217.4
New Zealand	945.0	199.2	4.6	77.7	31.0	8,190.2
Nicaragua	167.2	25.9	4.5	57.9	50.1	555.9
Niger	95.7	4.3	3.6	111.4	78.5	61.4
Nigeria	6,585.3	33.6	6.5	160.8	79.4	134.4
Niue	0.1	64.3	-	17.6	23.4	2,049.7
North Macedonia	112.0	53.8	3.4	45.5	24.6	2,931.2
Northern Mariana Islands[11]	0.0	0.0	-	0.0	0.0	5,343.7
Norway	1,173.4	219.8	3.5	738.4	60.4	21,713.5
Oman	1,090.5	225.8	7.9	316.0	0.1	6,946.5
Other Asia	4,577.6	192.9	-	8.8	3.2	10,427.4
Pakistan	4,545.0	21.4	4.5	49.2	31.7	505.4
Palau	3.0	165.5	9.3	0.03	0.1	4,075.7

Region	Total energy supply	Energy use (TES) per capita	Energy intensity	Self-sufficiency	Renewable share in TFEC	Electricity consumption per capita
	PJ	GJ	MJ/INTL $	%	%	kWh
Panama	183.0	43.8	1.4	24.1	22.2	2,225.6
Papua New Guinea	166.6	19.4	4.6	140.4	49.6	459.1
Paraguay	307.3	44.2	3.4	112.5	57.7	1,797.5
Peru	1,001.1	31.3	2.4	91.7	24.2	1,509.7
Philippines	2,392.6	22.4	2.6	46.7	26.8	772.5
Poland	4,453.0	117.4	3.7	58.7	11.4	3,704.2
Portugal	919.0	89.6	2.6	26.7	27.6	4,676.2
Puerto Rico[11]	50.3	16.6	0.5	1.6	1.4	4,496.3
Qatar	1,809.2	650.4	6.9	505.1	0.04	15,051.3
Republic of Korea	11,826.3	231.1	5.5	15.8	3.4	10,384.1
Republic of Moldova	123.8	30.6	3.7	27.0	29.5	947.9
Romania	1,410.8	72.3	2.5	74.6	23.3	2,336.1
Russian Federation	33,226.0	228.0	8.5	187.9	3.3	5,212.1
Rwanda	100.9	8.2	3.9	85.9	85.7	54.3
Saint Helena	0.2	31.7	-	10.7	13.1	1,828.9
Saint Kitts and Nevis	3.5	67.2	2.6	1.1	1.7	3,566.1
Saint Lucia	8.0	43.7	2.9	8.0	10.2	1,988.1
Saint Pierre and Miquelon	0.9	145.9	-	0.6	1.1	8,121.0
Saint Vincent and the Grenadines	3.7	33.2	2.7	4.3	4.9	1,226.0
Samoa	5.2	26.8	4.2	32.4	36.6	685.4
Sao Tome and Principe	2.9	14.0	3.5	36.0	37.8	345.9
Saudi Arabia	9,949.9	295.2	6.2	287.1	0.01	7,882.2
Senegal	191.3	12.1	3.6	36.2	31.4	252.2
Serbia	635.3	90.7	5.2	65.8	21.7	4,003.8
Seychelles	7.8	79.9	2.9	0.9	1.2	4,899.4
Sierra Leone	68.2	8.9	5.4	80.3	79.6	11.0

Region	Total energy supply	Energy use (TES) per capita	Energy intensity	Self-sufficiency	Renewable share in TFEC	Electricity consumption per capita
	PJ	GJ	MJ/INTL $	%	%	kWh
Singapore	1,069.6	185.8	1.9	2.4	0.8	8,762.3
Sint Maarten (Dutch part)	11.2	267.8	9.4	0.0	0.1	5,622.9
Slovakia	716.3	131.4	4.1	35.8	12.4	4,756.1
Slovenia	290.9	140.0	3.7	50.8	21.0	6,601.6
Solomon Islands	7.5	11.5	4.9	44.0	48.5	143.0
Somalia	152.0	10.1	-	94.1	94.9	23.3
South Africa	5,915.6	102.4	8.1	111.9	11.1	3,554.5
South Sudan	25.7	2.3	-	1,079.9	33.3	40.6
Spain	5,182.9	111.0	2.7	26.7	17.3	5,107.1
Sri Lanka	444.5	20.9	1.6	39.5	46.0	665.1
State of Palestine	73.7	15.2	2.8	11.4	12.7	1,146.6
Sudan	528.5	12.6	3.0	76.4	47.4	327.7
Suriname	41.0	71.2	4.3	97.0	19.9	3,096.2
Sweden	2,052.1	205.8	3.8	73.2	51.6	12,792.5
Switzerland	997.0	116.4	1.7	51.9	24.5	6,731.5
Syrian Arab Republic	436.8	25.8	-	38.8	0.9	779.3
Tajikistan	198.6	21.8	6.7	82.9	56.5	1,526.2
Thailand	5,677.8	81.8	4.5	53.7	23.5	2,708.5
Timor-Leste	7.9	6.3	2.0	3,342.5	18.4	264.6
Togo	137.9	17.5	11.3	82.9	76.6	157.1
Tonga	1.9	18.8	3.0	1.8	1.7	565.9
Trinidad and Tobago	715.4	514.7	19.6	200.5	0.2	6,089.2
Tunisia	479.0	41.4	3.8	46.9	11.9	1,427.0
Turkey	6,030.0	73.2	2.6	27.7	12.1	3,096.1
Turkmenistan	1,160.3	198.3	13.4	287.1	0.1	2,131.8
Turks and Caicos Islands	3.3	87.6	3.3	0.3	0.5	6,278.7

Region	Total energy supply	Energy use (TES) per capita	Energy intensity	Self-sufficiency	Renewable share in TFEC	Electricity consumption per capita
	PJ	GJ	MJ/INTL $	%	%	kWh
Tuvalu	0.1	11.8	2.7	5.4	9.9	601.0
Uganda	915.5	21.4	10.1	92.1	90.3	71.8
Ukraine	3,968.2	89.7	7.6	64.8	8.8	2,681.7
United Arab Emirates	2,649.4	275.1	4.1	363.3	0.3	12,754.3
United Kingdom	7,304.3	108.8	2.4	70.1	10.7	4,464.6
United Republic of Tanzania	875.5	15.5	6.2	88.4	83.7	113.2
United States	93,399.9	285.5	4.7	97.3	9.8	11,925.8
United States Virgin Islands[11]	0.1	0.7	-	0.0	3.4	4,977.5
Uruguay	223.2	64.7	3.0	61.2	61.6	3,330.8
Uzbekistan	1,944.1	59.9	8.7	118.8	1.5	1,647.8
Vanuatu	3.5	11.8	3.8	26.6	30.8	240.2
Venezuela (Bolivarian Rep. of)	1,716.2	59.4	-	268.5	15.5	2,270.4
Viet Nam	2,975.0	31.1	4.1	85.8	26.5	2,016.8
Wallis and Futuna Islands	0.4	30.6	-	0.5	0.7	1,472.2
Yemen	136.6	4.8	-	54.3	4.2	76.9
Zambia	518.7	29.9	8.5	90.5	84.4	743.3
Zimbabwe	498.0	34.5	11.0	89.9	81.4	589.1

(11) - See notes on pages 66-67.

Maps disclaimer

The designations employed and the presentation of material on the maps in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined. A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

Endnotes

Chapter: Total energy supply

Note (1), page 1

World total energy supply includes international aviation and marine bunkers; conversely, bunkers are excluded from total energy supply calculated for countries and regions. For further explanations, please refer to the General notes.

Note (2), page 2

Energy intensity is calculated by dividing the total energy supply by GDP, PPP (constant 2017 international $).

Chapter: Primary energy production

Note (3), page 6

Energy self-sufficiency is calculated as the ratio between primary energy production and total energy supply, expressed in percentage.

Chapter: Electricity

Note (4), page 19

"Solar, wind and other sources" refers to solar, wind, geothermal, chemical heat, tide, wave and marine, and other non-specified sources.

Note (5), page 19

Non-renewable electricity refers to: (a) non-renewable thermal, i.e. electricity generated from all non-renewable combustible fuels: coal, oil, natural gas, and non-renewable waste; (b) nuclear; (c) chemical heat and other non-specified sources. Renewable electricity refers to hydro, wind, solar, geothermal, tide, wave and marine, and thermal from biofuels and renewable waste.

Note (6), pages 26 and 27
Non-renewable sources refer to thermal from non-renewable fuels, nuclear, and other non-specified capacities. Renewable sources refer to thermal from renewable fuels, hydro, wind, solar, geothermal and tide, wave and marine capacities. Sources not shown in tables 49 and 51 have negligible capacity values compared to the world total (31.4 GW in 2018) and are not included in chart 48.

Chapter: Refinery output
Note (7), page 35
World oil energy supply includes international aviation and marine bunkers; conversely, bunkers are excluded from oil energy supply calculated for countries. For further explanations, please refer to the General notes.

Chapter: Total final consumption
Note (8), page 36
Fuels used for electricity generation are not accounted here, but indirectly as electricity TFC. Likewise for fuels and energy undergoing other types of transformation. World TFC includes international aviation and marine bunkers. For further explanations, please refer to the General notes.

Chapter: Energy balances
Note (9), page 42
Including international bunkers
Note (10), all balances, starting from page 42
The category *of which: renewables* follows the convention used in the Energy Balances publication available at https://unstats.un.org/unsd/energystats/pubs/balance/ and therefore includes only directly identifiable renewable energy. As a result, no part of imports and exports of electricity and heat, nor their consumption, losses or own use, is considered as renewable, which may lead to differences with values presented in other chapters.

Chapter: Indicators
Note (11), Several countries, starting from page 56
Energy statistics for this country are partially covered by another country (see geographical notes at https://unstats.un.org/unsd/energystats/pubs/yearbook/2018/05gn.pdf). Therefore, indicators should be interpreted with caution.

General notes

Please note that UN energy data are subject to the Terms and Conditions available at: http://data.un.org/Host.aspx?Content=UNdataUse.

Data sources

Data used in this publication derive from the Energy Statistics Database maintained by the United Nations Statistics Division. For more information please refer to https://unstats.un.org/unsd/energystats/data.

Population data used to calculate the per capita indicators are from the United Nations Population Division and are available at: https://population.un.org/wpp.

GDP data used to calculate energy intensity are from the World Bank (GDP, PPP, constant 2017 international $) and are available at: https://data.worldbank.org/indicator/NY.GDP.MKTP.PP.KD.

Geographical notes

The assignment of countries and areas follows the United Nations publication "Standard Country or Area Codes for Statistical Use" originally published as Series M, No. 49 and now commonly referred to as the M49 standard. For more information please refer to https://unstats.un.org/unsd/methodology/m49.

For a detailed description of the geographical coverage of the data please refer to https://unstats.un.org/unsd/energystats/pubs/yearbook/2018/05gn.pdf.

The designations employed and the presentation of material on the maps do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined. A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

The expression *Other countries (x)* is used to represent all the countries and areas that are not shown separately in a chart and indicates that x countries and areas have positive values.

Products and flows

All the definitions of products and flows are based on the International Recommendations for Energy Statistics (IRES) available at:

https://unstats.un.org/unsd/energystats/methodology/ires. Particularly for products, the definitions come from the Standard International Energy Product Classification (SIEC) contained in IRES. A more concise version of these definitions can be found in the Energy Balances publication under the chapter "Concepts and Definitions". The Energy Balances publication is available at: https://unstats.un.org/unsd/energystats/pubs/balance.

Please note that in the present publication the product coal includes peat unless otherwise specified; data for natural gas are expressed on an NCV basis (as are data for all other products); energy sources (i.e. coal, oil, natural gas, biofuels and waste, and electricity and heat) generally refer to both primary and secondary products, with the exception of the chapter on primary energy production.

Chapter: Total energy supply

International aviation and marine bunkers are recorded separately due to their importance, e.g. for the estimation of greenhouse gas emissions. At the world level, bunkers are classified as part of transport final consumption and they are included in the world total energy supply; however, at the country and regional levels, bunkers are not accounted for as final consumption because they pertain to more than one country or region and are therefore subtracted from total energy supply.

Being excluded from regional TES, international bunkers are shown as a separate category in charts 4 and 6 and in tables 5 and 7 to provide a complete overview of the world total energy supply.

Total energy supply per capita is calculated by dividing total energy supply by population.

Energy intensity is calculated by dividing total energy supply by GDP, PPP (constant 2017 international $). It corresponds to SDG indicator 7.3.1.

Chapter: Primary energy production

Energy self-sufficiency is calculated as the ratio between primary energy production and total energy supply expressed in percentage.

The categories *other primary oil* (chart 27 and table 28) refer to additives and oxygenates, and other hydrocarbons.

The category *waste* (chart 33 and table 34) refers to other vegetable material and residues (vegetal waste), animal waste, industrial waste and municipal waste.

The category *other biofuels* (chart 33 and table 34) refers to biogasoline, biodiesel, biogases, bio jet kerosene, bagasse, black liquor and other liquid biofuels as defined in SIEC (for definitions, see section "Products and flows" above).

Chapter: Electricity

Electricity generation per capita is calculated by dividing electricity production by population.

Electricity capacity is the abbreviated form for the Net Maximum Electrical Capacity, which in turn is defined as the maximum active power that can be supplied continuously, with all plants running, at the point of outlet (i.e., after taking the power supplies for the station auxiliaries and allowing for the losses in those transformers considered integral to the station). For annual data, it is considered as measured at the end of the reference year.

Utilization of electricity capacity is calculated by dividing electricity production by electricity capacity and then by the total number of hours in a year. It shows a percentage of theoretical maximal utilization; since the capacity is measured on a net basis and the production on a gross basis, there is a small upwards bias in this utilization indicator.

The category *solar, wind and other sources* (Facts and figures box, chart 38 and table 39) refers to solar, wind, geothermal, chemical heat, tide, wave and marine and other non-specified sources.

Both the category *total renewables* (table 43 and 47 and chart 46) and the category *renewable sources* (tables 49 and 51 and chart 50) refer to hydro, wind, solar, geothermal, tide, wave, marine, as well as thermal from combustible renewables.

The category *non-renewable sources* (tables 49 and 51 and chart 50) refers to thermal from non-renewable fuels, nuclear and other non-specified net installed capacities.

Chapter: Refinery output

Refinery output refers to the total amount of oil products produced in refineries (naphtha, aviation gasoline, motor gasoline, gasoline-type jet fuel, kerosene-type jet fuel, other kerosene, gas/diesel oil, fuel oil, refinery gas, ethane, LPG, white spirit and SBP industrial spirits, lubricants, paraffin waxes, petroleum coke, bitumen, refinery feedstocks, and other oil products not elsewhere classified).

Refinery input refers to the amount of oil (conventional crude oil, natural gas liquids, feedstocks, other hydrocarbons, and additives and oxygenates) that has entered the refinery process.

Refinery capacity is the theoretical maximum annualized capacity of crude oil refineries available for operation at the end of the reference year.

The category *others* (chart 62 and table 63) refers to refinery gas, ethane, LPG, white spirit and SBP industrial spirits, lubricants, paraffin waxes, petroleum coke, bitumen, refinery feedstocks, and other oil products not elsewhere classified. The category *gasolines* refers to aviation gasoline, motor gasoline and gasoline-type jet fuel; the category *kerosenes* refers to kerosene-type jet fuel and other kerosene.

Fuel quantities used in *international aviation and marine bunkers* are included in the world oil supply (chart 66 and table 67); conversely, bunkers are excluded from the oil supply for the shown countries.

The different approach adopted in treating international bunkers at the world level as opposed to the country level determines a divergence between the world oil supply and the sum of the country values in table 67.

Chapter: Total final consumption

Total final consumption per capita is calculated by dividing total final consumption by population.

Total final consumption refers to the consumption of energy products by end users, which is the last stage of energy flows captured in energy statistics. As such, TFC excludes energy products that are transformed into secondary energy products. For example, fuels used for electricity generation are not accounted directly in TFC, but accounted for indirectly as final electricity consumption. For coal specifically, more than 60% of TES in 2018 is used as input for electricity generation worldwide.

International aviation and marine bunkers are classified as part of final consumption at the world level but not at the country and regional levels. Not being included in the total final consumption at the regional level, international bunkers are shown as a separate category in charts 69 and 71 and in tables 70 and 72 to provide a complete overview of world final energy consumption.

The different approach adopted in treating international bunkers at the world level as opposed to the country level determines a divergence between the world TFC and the sum of the country values in table 78.

The category *other* (chart 75 and table 76) refers to agriculture, forestry and fishing, commerce and public services, and to other non-specified consumers. The categories *industry, transport, households* and *other* do not include non-energy use in these sectors.

Renewable energy share in total final energy consumption (map 77 and table 78) refers to renewables directly consumed as energy products, as well as final consumption of electricity and heat attributed to renewable sources, including combustible renewables. It corresponds to SDG indicator 7.2.1.

Chapter: Energy balances

In the regional balances, the category *total energy supply* excludes international aviation and marine bunkers, whereas in the world balance international bunkers are treated as consumption for transportation purposes.

Country energy balances for 2017 and 2018 are available in the Energy Balances publication (https://unstats.un.org/unsd/energystats/pubs/balance).

The category *of which: renewables* follows the convention used in the Energy Balances publication available at: https://unstats.un.org/unsd/energystats/pubs/balance and therefore includes only directly identifiable renewable energy. As a result, no part of imports and exports of heat or electricity, nor their consumption, losses or own use, is considered as renewable, which may lead to differences with values presented in other chapters.

Chapter: Energy indicators

The category *total energy supply* excludes international aviation and marine bunkers at the country and regional levels, as defined by the international methodology set forth in IRES.

Energy statistics for American Samoa, Guam, Guernsey, Isle of Man, Jersey, Liechtenstein, Northern Mariana Islands, Puerto Rico, United States Virgin Islands are partially covered by another country (see geographical notes at: https://unstats.un.org/unsd/energystats/pubs/yearbook/2018/05gn.pdf) . Indicators for these areas, therefore, should be interpreted with caution.

Energy use (TES) per capita is calculated by dividing total energy supply by population.

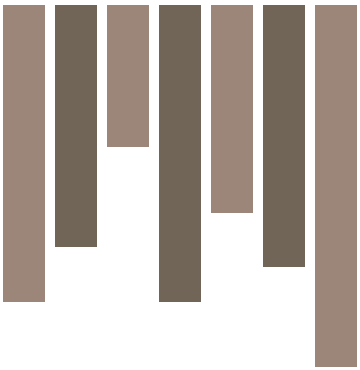
Energy intensity is calculated by dividing total energy supply by GDP, PPP (constant 2017 international $). It corresponds to SDG indicator 7.3.1.

Self-sufficiency is calculated as the ratio between primary energy production and total energy supply expressed in percentage.

Renewable energy share in total final energy consumption refers to renewables directly consumed as energy products, as well as final consumption of electricity and heat attributed to renewable sources, including combustible renewables. It corresponds to SDG indicator 7.2.1.

Electricity consumption per capita is calculated by dividing electricity consumption by population.

The Energy Statistics Pocketbook highlights the availability of data on various aspects of energy production, transformation and use and its linkages to other key statistics. It uses visual representations of key energy indicators to facilitate the understanding of the current state and developments in the energy sector. Energy is central to the achievement of the 2030 Agenda for Sustainable Development and the Paris Agreement on climate change, and sound energy statistics are the basis for the reliable measurement of progress, thereby assisting the formulation of policy measures to achieve international and national sustainable development goals.



ISBN 978-92-1-259164-3

21-00163