United Nations | Department of Economic and Social Affairs

Energy Statistics Pocketbook

2022

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2022
Energy Statistics Pocketbook

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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.

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Content

Introduction

This publication is the fifth 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 2019 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 other three annual publications sourced from the same database as this pocketbook, is available at https://unstats.un.org/unsd/energystats.

Acknowledgements

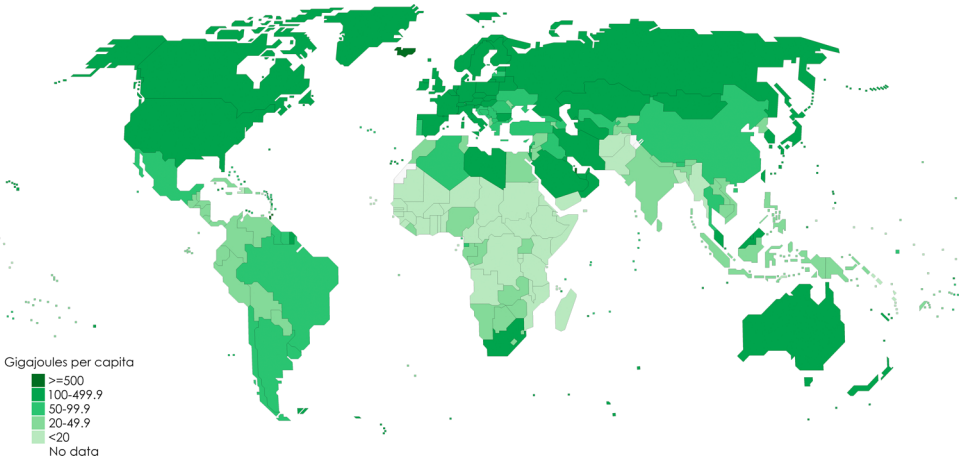
This publication has been compiled by the Energy Statistics Section of UNSD, which is headed by Mr. Leonardo Souza. The conceptual design of this pocketbook has been carried out by Mr. Souza, Ms. Agnieszka Koscielniak and Ms. Costanza Giovannelli. Ms. Giovannelli took the lead in the graphic design, 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, 2019

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 68.2% from 1990 to 2019, surpassing 600 EJ for the first time. This increase was driven by Asia, responsible for 83.6% of the world growth in the period. Chinese TES alone increased 4.5 times, accounting for over a fifth of world TES in 2019.

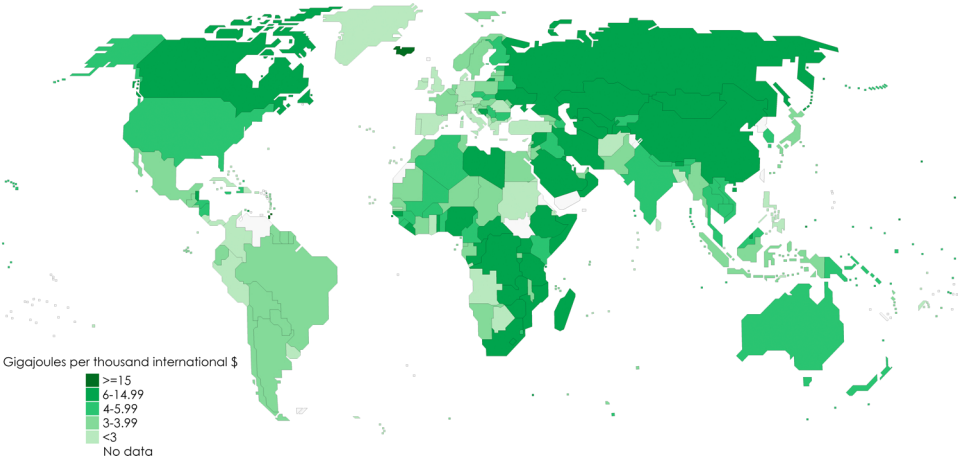
The European share of world TES halved from 35.3% in 1990 to 17.6% in 2019, with an absolute drop of 20.1 EJ. The United States, whose share of world TES dropped by 7.1 percentage points since 1990 to reach 15.4% in 2019, showed an absolute increase in TES of 12.2 EJ during this period.

International bunkers were equal to 17.1 EJ in 2019 (accounting for 2.8% of world TES), virtually doubling from 1990.

(1) See notes on pages 66-67.

2. Energy intensity[2], 2019

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, 2019

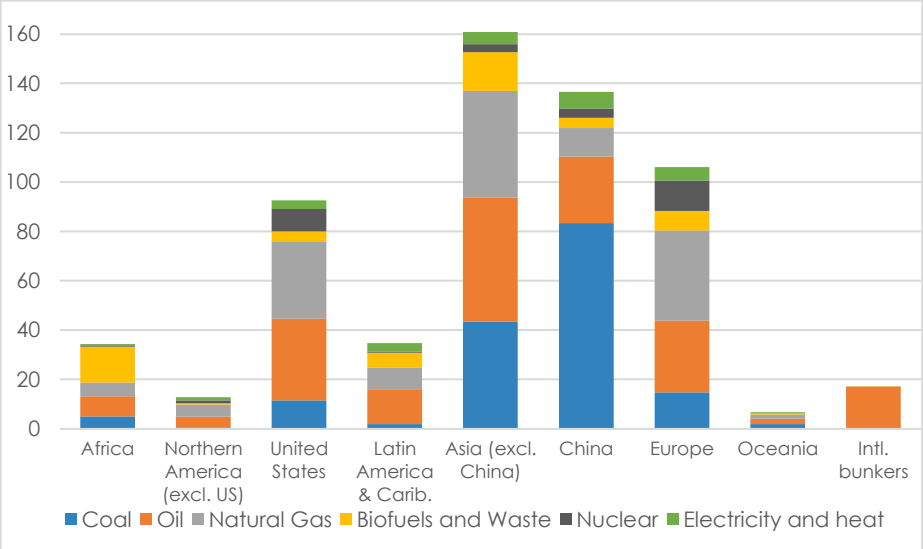
Exajoules, gigajoules per capita and gigajoules per thousand international $

Country	TES	Country	TES per capita	Country	Energy intensity[2]
China	136.6	Iceland	1071.8	Trinidad and Tobago	19.9
United States	92.5	Qatar	608.3	Iceland	17.7
India	40.6	Trinidad and Tobago	514.9	Liberia	14.3
Russian Federation	31.7	Bahrain	407.5	Mongolia	13.4
Japan	17.4	Brunei Darussalam	389.9	Dem. Rep. Congo	13.3
Canada	12.8	Kuwait	379.9	Turkmenistan	12.9
Germany	12.3	Canada	341.6	Mozambique	11.9
Brazil	12.2	Gibraltar	332.0	Somalia	11.6
World	**601.7**	**World**	**78.0**	**World**	**4.6**

(2) See notes on pages 66-67.

4. Total energy supply by region and source, 2019

Exajoules



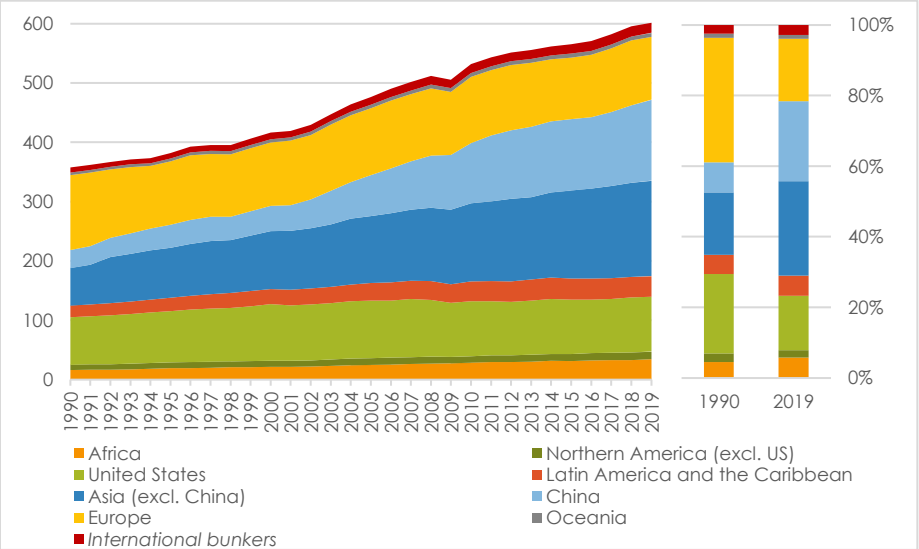
5. Total energy supply by region and source, 2019

Exajoules

Region	Coal	Oil	Natural gas	Biofuels and waste	Nuclear	Electricity and heat	TES
Africa	5.0	8.1	5.6	14.6	0.1	0.8	34.3
Northern America (excl. US)	0.6	4.3	4.9	0.6	1.1	1.3	12.8
United States	11.6	33.1	31.1	4.3	9.1	3.4	92.5
Latin America and the Caribbean	1.8	14.2	8.7	6.1	0.4	3.4	34.7
Asia (excl. China)	43.4	50.2	43.2	15.7	3.3	4.9	160.8
China	83.3	27.0	11.5	4.2	3.8	6.8	136.6
Europe	14.7	29.1	36.5	7.9	12.3	5.5	106.1
Oceania	1.9	2.3	1.6	0.3	0.0	0.6	6.7
International bunkers	*0.0*	*17.0*	*0.01*	*0.01*	*0.0*	*0.0*	*17.1*
World	**162.4**	**185.5**	**143.2**	**53.5**	**30.1**	**26.9**	**601.7**

6. Total energy supply by region, 1990-2019

Exajoules and percentage



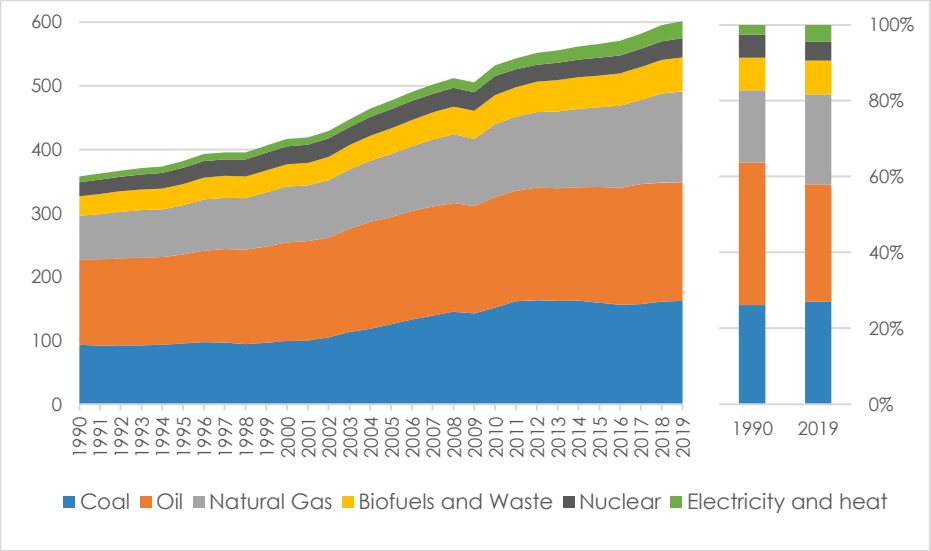
7. Total energy supply by region, 1990, 2000, 2010 and 2019

Exajoules

Region	1990	2000	2010	2019
Africa	16.0	21.1	28.2	34.3
Northern America (excl. US)	8.9	10.6	10.9	12.8
United States	80.3	95.3	92.9	92.5
Latin America and the Caribbean	19.7	25.7	33.2	34.7
Asia (excl. China)	63.2	97.7	131.7	160.8
China	30.4	42.5	101.6	136.6
Europe	126.2	106.8	112.0	106.1
Oceania	4.4	5.5	6.5	6.7
International bunkers	*8.7*	*11.2*	*14.9*	*17.1*
World	**357.8**	**416.4**	**531.9**	**601.7**

8. World total energy supply by source, 1990-2019

Exajoules and percentage



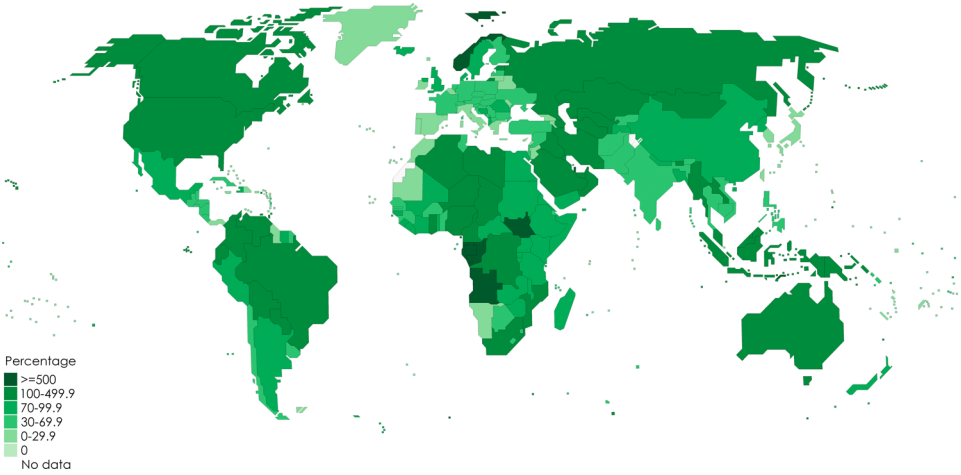
9. World total energy supply by source, 1990, 2000, 2010 and 2019

Exajoules

Source	1990	2000	2010	2019
Coal	93.5	99.4	151.4	162.4
Oil	134.2	154.9	174.2	185.5
Natural gas	68.2	87.0	113.9	143.2
Biofuels and waste	30.8	35.4	45.8	53.5
Nuclear	21.8	28.0	29.8	30.1
Electricity and heat	9.3	11.7	16.7	26.9
Total	**357.8**	**416.4**	**531.9**	**601.7**

Primary energy production

10. Energy self-sufficiency[3], 2019 - *Percentage*



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

FACTS AND FIGURES

World primary energy production reached 613 EJ in 2019, a 2.0% increase over 2018 and a 69.6% 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 82.0% of total primary energy production, a combined share that barely changed since 1990.

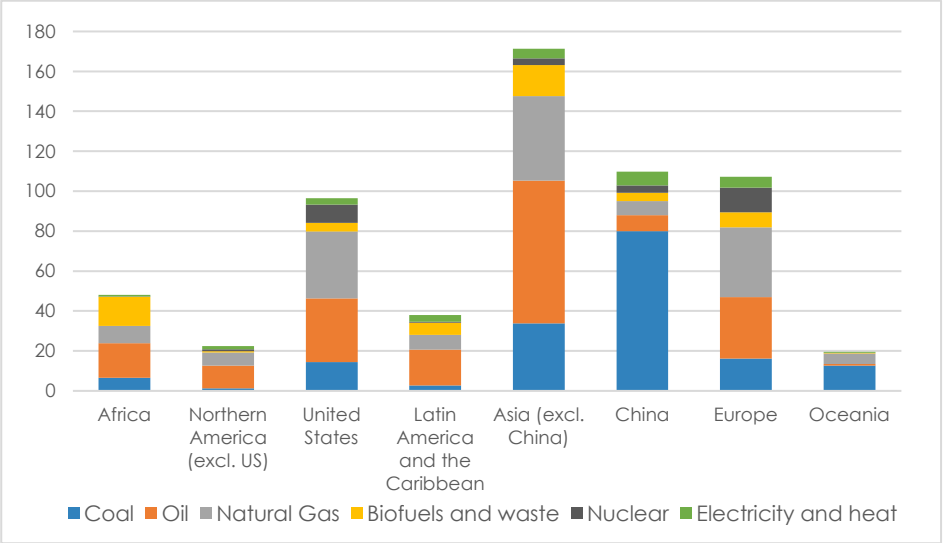
A significant share of 2019 primary energy production occurred in a handful of countries:

- Six countries produced almost 7/8 of all primary coal (86.3%), with China alone producing almost half (47.7%) of the world coal;
- The United States topped the oil producers with roughly 1/6 of the world production. Five countries concentrated more than half of all primary oil production (52.6%);
- Four natural gas producers (United States, Russian Federation, Iran and China) produced more than half of all natural gas (51.6%).

(3) See notes on pages 66-67.

11. Primary energy production by region and source, 2019

Exajoules



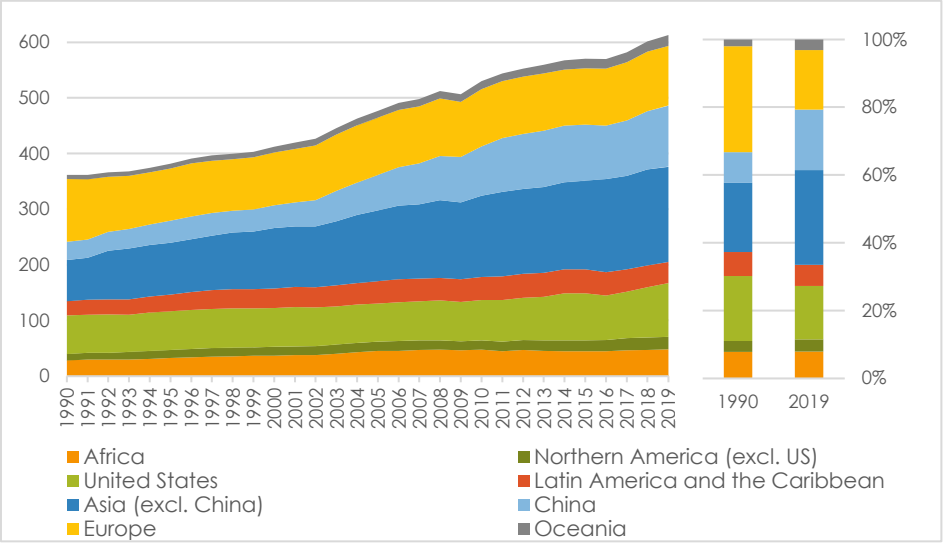
12. Primary energy production by region and source, 2019

Exajoules

Region	Coal	Oil	Natural gas	Biofuels and waste	Nuclear	Electricity and heat	Total
Africa	6.6	17.3	8.7	14.6	0.1	0.8	48.1
Northern America (excl. US)	1.2	11.4	6.6	0.6	1.1	1.5	22.4
United States	14.5	31.8	33.5	4.3	9.1	3.3	96.5
Latin America and the Caribbean	2.8	17.9	7.4	6.1	0.4	3.4	38.0
Asia (excl. China)	33.9	71.3	42.4	15.6	3.3	4.8	171.3
China	80.0	8.0	7.0	4.2	3.8	6.9	109.7
Europe	16.2	30.7	35.0	7.5	12.3	5.5	107.3
Oceania	12.7	0.8	5.2	0.3	0.0	0.6	19.6
World	**167.8**	**189.3**	**145.7**	**53.2**	**30.1**	**26.9**	**613.0**

13. Total primary energy production by region, 1990-2019

Exajoules and percentage



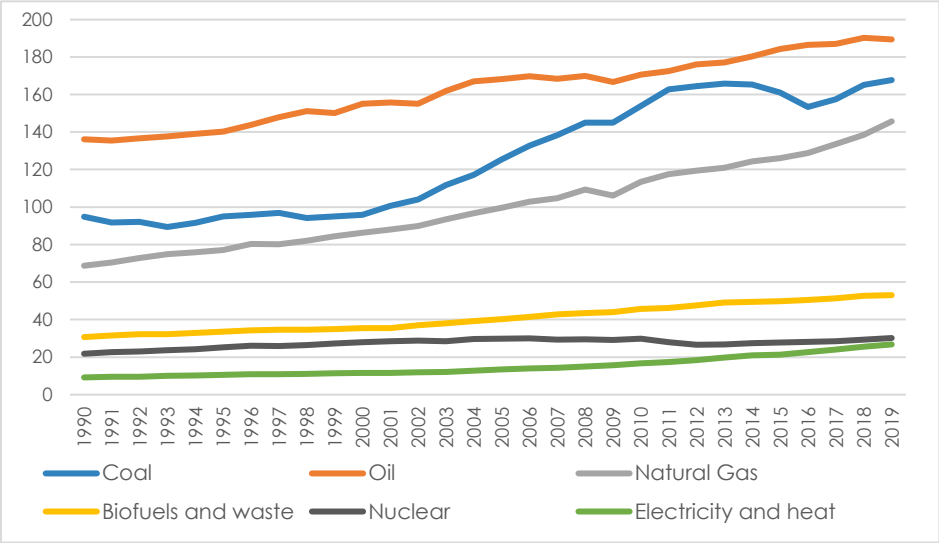
14. Total primary energy production by region, 1990, 2000, 2010 and 2019

Exajoules

Region	1990	2000	2010	2019
Africa	28.2	36.6	47.5	48.1
Northern America (excl. US)	11.6	15.7	16.7	22.4
United States	69.1	69.7	72.3	96.5
Latin America and the Caribbean	25.7	35.4	41.6	38.0
Asia (excl. China)	73.9	108.3	146.2	171.3
China	32.7	40.8	88.6	109.7
Europe	112.9	95.1	102.7	107.3
Oceania	7.4	10.6	14.5	19.6
World	**361.5**	**412.3**	**530.0**	**613.0**

15. World primary energy production by source, 1990-2019

Exajoules



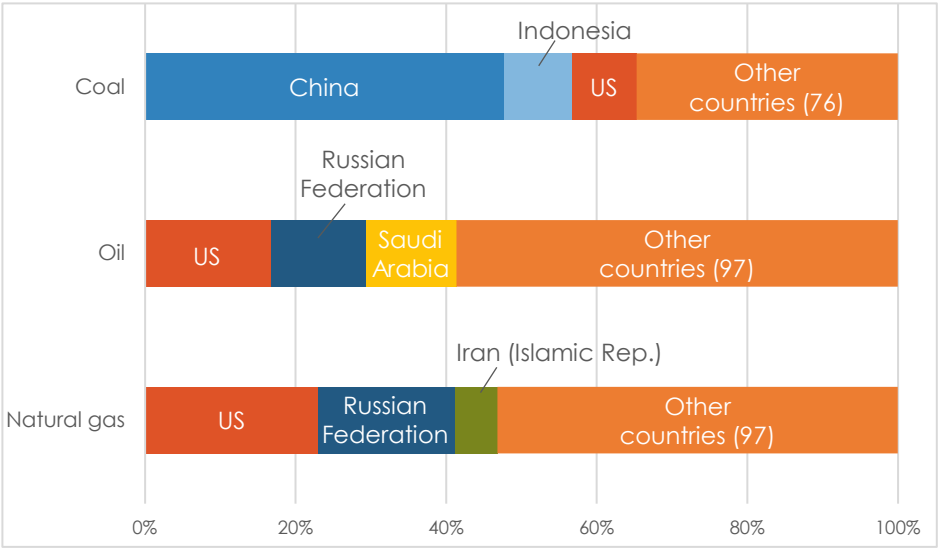
16. World primary energy production by source, 1990, 2000, 2010 and 2019

Percentage

Source	1990	2000	2010	2019
Coal	26.2%	23.2%	29.0%	27.4%
Oil	37.7%	37.6%	32.2%	30.9%
Natural gas	19.0%	20.9%	21.4%	23.8%
Biofuels and waste	8.5%	8.6%	8.6%	8.7%
Nuclear	6.0%	6.8%	5.6%	4.9%
Electricity and heat	2.6%	2.8%	3.2%	4.4%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**

17. Primary production of coal, oil, and natural gas, major countries, 2019

Percentage

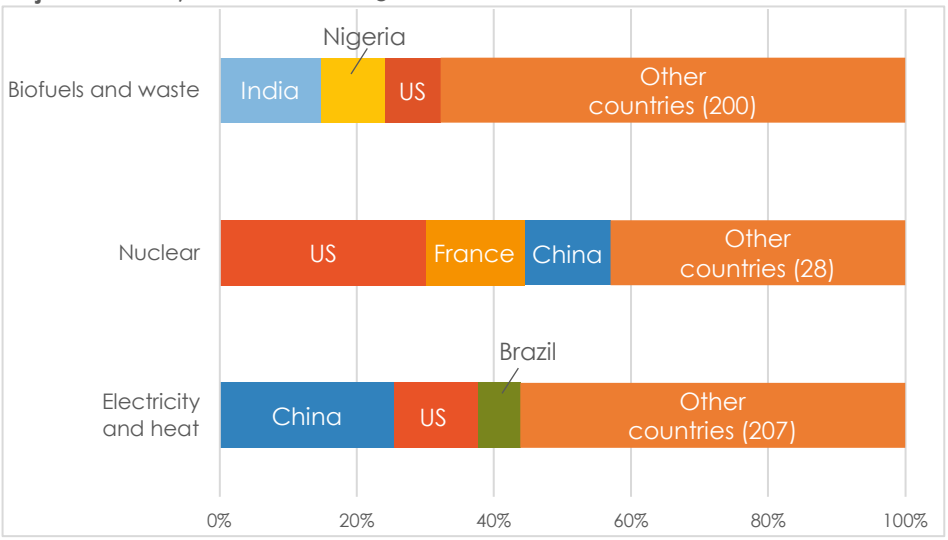


18. Primary production of coal, oil, and natural gas, major countries, 2019

Exajoules

Coal		Oil		Natural gas	
China	80.0	United States	31.8	United States	33.5
Indonesia	15.1	Russian Federation	23.8	Russian Federation	26.4
United States	14.5	Saudi Arabia	22.7	Iran (Islamic Rep.)	8.2
Australia	12.6	Canada	11.4	China	7.0
India	12.0	Iraq	9.9	Canada	6.6
Russian Federation	10.6	China	8.0	Qatar	6.2
South Africa	6.1	United Arab Emirates	7.8	Australia	4.9
Colombia	2.4	Brazil	6.3	Saudi Arabia	4.7
Others	14.5	Others	67.6	Others	48.0
World	**167.8**	**World**	**189.3**	**World**	**145.7**

19. Primary production of biofuels and waste, nuclear, and electricity and heat, major countries, 2019 *– Percentage*

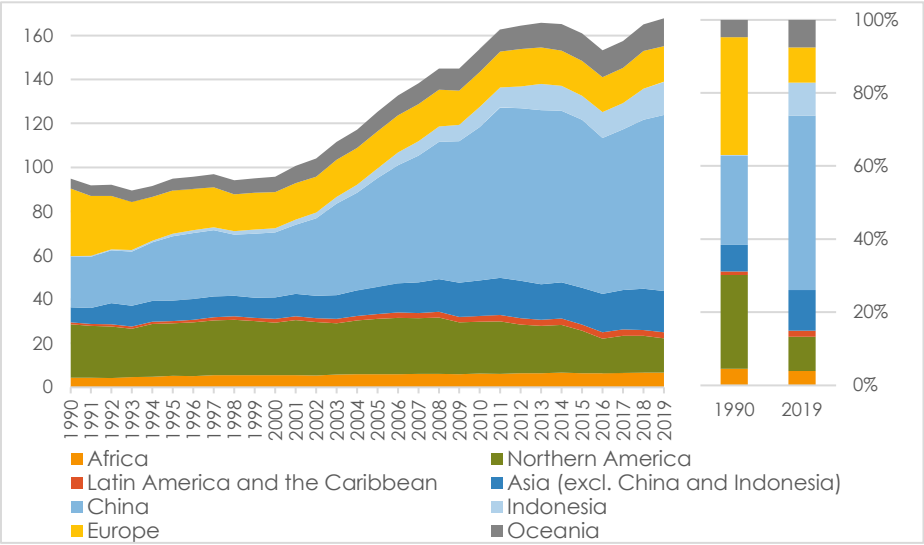


20. Primary production of biofuels and waste, nuclear, and electricity and heat, major countries, 2019 *– Exajoules*

Biofuels and waste		Nuclear		Electricity and heat	
India	7.9	United States	9.1	China	6.9
Nigeria	4.9	France	4.3	United States	3.3
United States	4.3	China	3.8	Brazil	1.7
China	4.2	Russian Federation	2.3	Canada	1.5
Brazil	3.9	Republic of Korea	1.6	India	1.0
Indonesia	1.7	Canada	1.1	Turkey	0.9
Ethiopia	1.4	Ukraine	0.9	Germany	0.7
Germany	1.3	Germany	0.8	Russian Federation	0.7
Others	23.6	Others	6.3	Others	10.3
World	**53.2**	**World**	**30.1**	**World**	**26.9**

21. Primary production of coal by region, 1990-2019

Exajoules and percentage



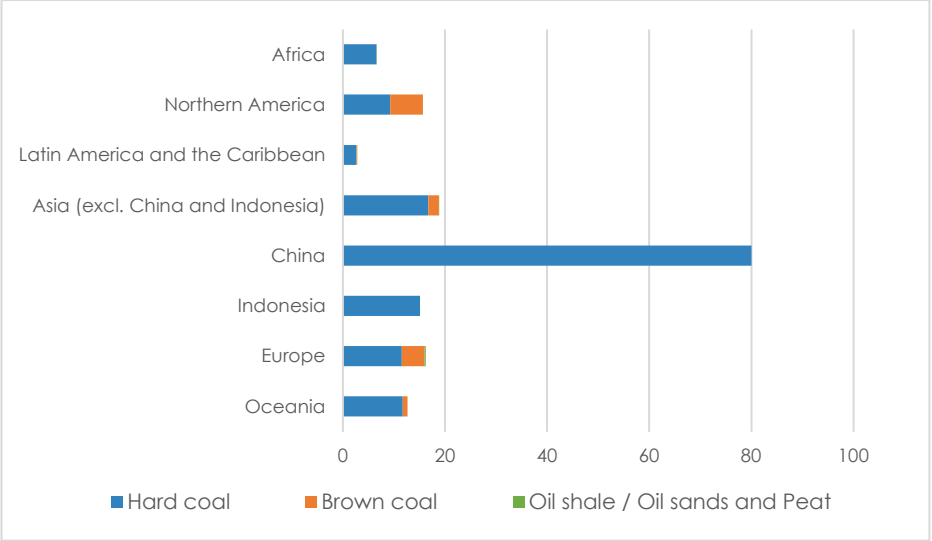
22. Primary production of coal by region, 1990, 2000, 2010 and 2019

Exajoules

Region	1990	2000	2010	2019
Africa	4.3	5.5	6.1	6.6
Northern America	24.3	23.9	23.7	15.7
Latin America and the Caribbean	0.9	1.6	2.5	2.8
Asia (excl. China and Indonesia)	6.9	9.9	16.2	18.8
China	23.1	29.5	69.7	80.0
Indonesia	0.2	1.9	9.2	15.1
Europe	30.6	16.5	15.9	16.2
Oceania	4.5	7.0	10.6	12.7
World	**94.8**	**95.8**	**153.9**	**167.8**

23. Primary production of coal by region and type of fuel, 2019

Exajoules



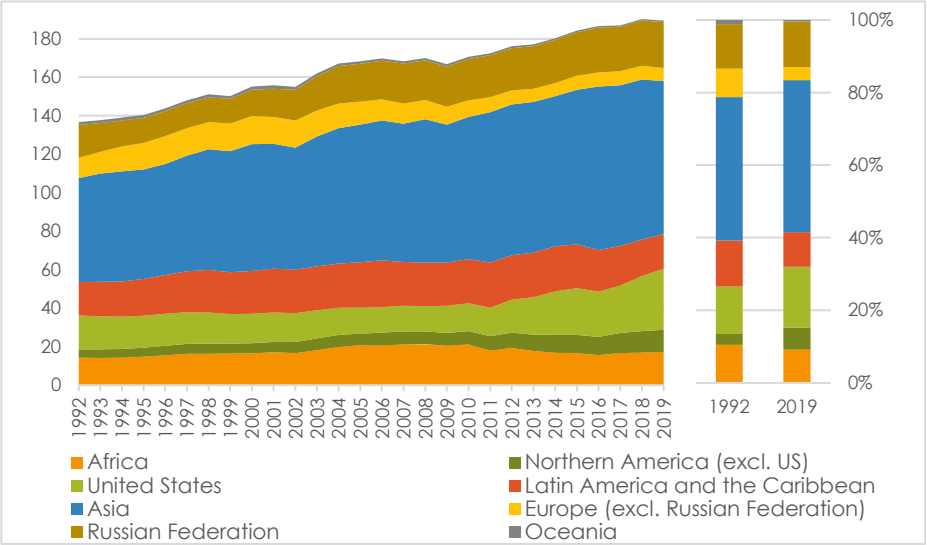
24. Primary production of coal by region and type of fuel, 2019

Exajoules

Region	Hard coal	Brown coal	Oil shale/ Peat	Total
Africa	6.6	0.0	0+	6.6
Northern America	9.3	6.4	0.0	15.7
Latin America and the Caribbean	2.7	0.1	0+	2.8
Asia (excl. China and Indonesia)	16.7	2.0	0+	18.8
China	80.0	0.0	0.0	80.0
Indonesia	15.1	0.0	0.0	15.1
Europe	11.6	4.4	0.3	16.2
Oceania	11.7	1.0	0.0	12.7
World	**153.6**	**13.9**	**0.3**	**167.8**

25. Primary production of oil by region, 1992-2019

Exajoules and percentage



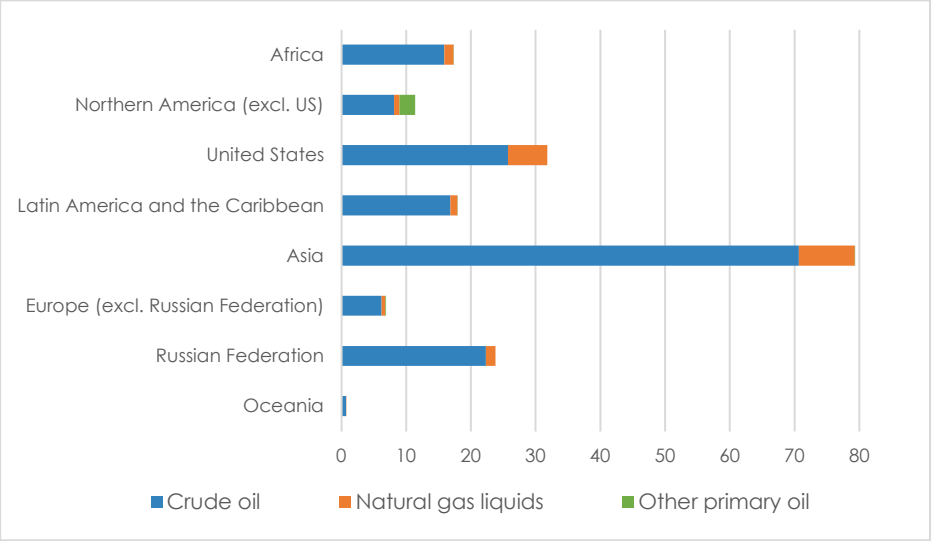
26. Primary production of oil by region, 1992, 2000, 2010 and 2019

Exajoules

Region	1992	2000	2010	2019
Africa	14.2	16.4	21.1	17.3
Northern America (excl. US)	4.1	5.4	7.0	11.4
United States	17.8	15.3	14.4	31.8
Latin America and the Caribbean	17.3	22.3	22.9	17.9
Asia	54.1	65.8	73.9	79.3
Europe (excl. Russian Federation)	10.7	14.7	8.6	6.9
Russian Federation	16.8	13.6	21.4	23.8
Oceania	1.5	1.7	1.2	0.8
World	**136.7**	**155.1**	**170.5**	**189.3**

27. Primary production of oil by region and type of fuel, 2019

Exajoules



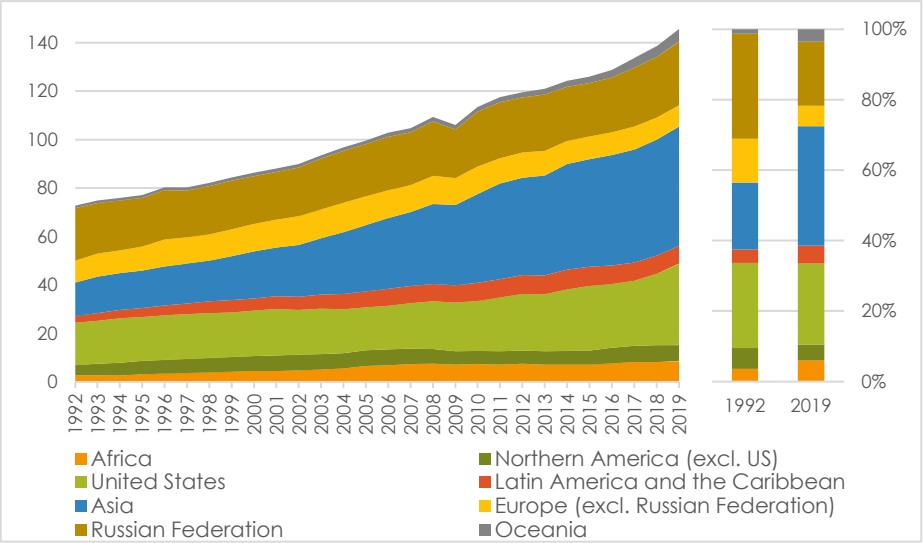
28. Primary production of oil by region and type of fuel, 2019

Exajoules

Region	Crude oil	Natural gas liquids	Other primary oil	Total
Africa	15.9	1.4	0.02	17.3
Northern America (excl. US)	8.1	0.8	2.4	11.4
United States	25.7	6.1	0.0	31.8
Latin America and the Caribbean	16.8	1.1	0.01	17.9
Asia	70.6	8.7	0.05	79.3
Europe (excl. Russian Federation)	6.2	0.6	0.1	6.9
Russian Federation	22.3	1.5	0.0	23.8
Oceania	0.7	0.1	0.0	0.8
World	**166.4**	**20.3**	**2.6**	**189.3**

29. Production of natural gas by region, 1992-2019

Exajoules and percentage



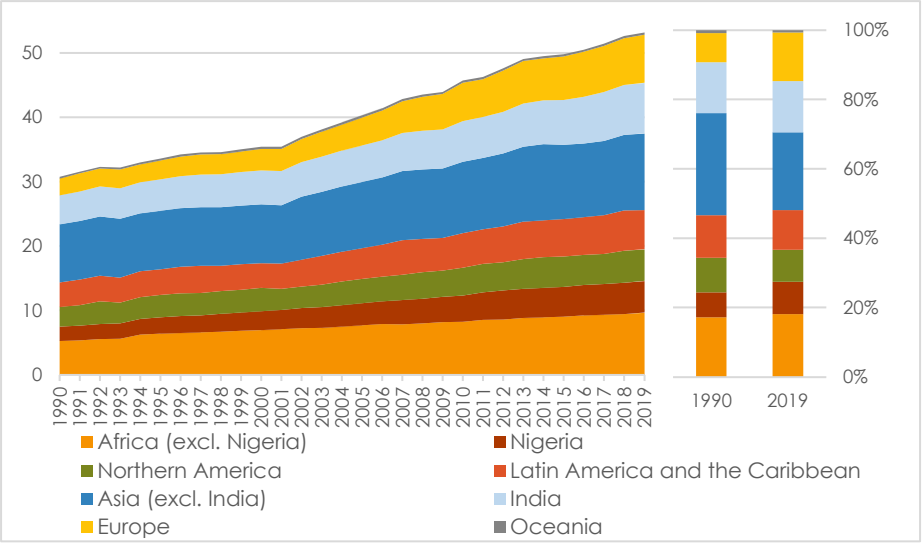
30. Production of natural gas by region, 1992, 2000, 2010 and 2019

Exajoules

Region	1992	2000	2010	2019
Africa	2.6	4.5	7.3	8.7
Northern America (excl. US)	4.3	6.2	5.4	6.6
United States	17.5	18.7	20.7	33.5
Latin America and the Caribbean	2.8	5.0	7.5	7.4
Asia	13.8	19.4	36.6	49.3
Europe (excl. Russian Federation)	9.0	11.4	11.3	8.5
Russian Federation	21.7	19.7	22.6	26.4
Oceania	1.0	1.4	2.0	5.2
World	**72.7**	**86.3**	**113.4**	**145.7**

31. Primary production of biofuels and waste by region, 1990-2019

Exajoules and percentage



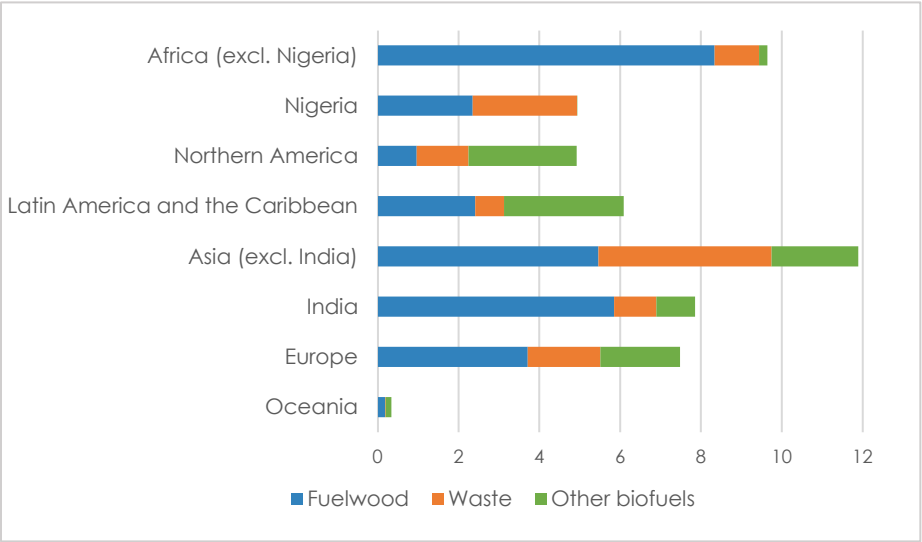
32. Primary production of biofuels and waste by region, 1990, 2000, 2010 and 2019

Exajoules

Region	1990	2000	2010	2019
Africa (excl. Nigeria)	5.3	6.9	8.2	9.6
Nigeria	2.2	2.9	4.1	4.9
Northern America	3.1	3.6	4.3	4.9
Latin America and the Caribbean	3.8	3.8	5.4	6.1
Asia (excl. India)	9.0	9.1	11.1	11.9
India	4.5	5.3	6.3	7.9
Europe	2.6	3.3	6.0	7.5
Oceania	0.3	0.3	0.3	0.3
World	**30.7**	**35.4**	**45.7**	**53.2**

33. Primary production of biofuels and waste by region and type of fuel, 2019

Exajoules



34. Primary production of biofuels and waste by region and type of fuel, 2019

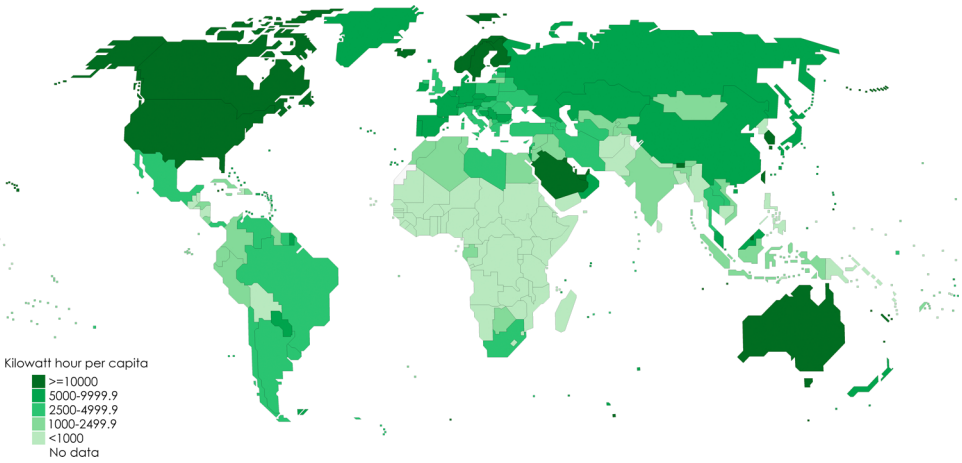
Exajoules

Region	Fuelwood	Waste	Other biofuels	Total
Africa (excl. Nigeria)	8.3	1.1	0.2	9.6
Nigeria	2.3	2.6	0.0	4.9
Northern America	1.0	1.3	2.7	4.9
Latin America and the Caribbean	2.4	0.7	3.0	6.1
Asia (excl. India)	5.5	4.3	2.1	11.9
India	5.9	1.0	1.0	7.9
Europe	3.7	1.8	2.0	7.5
Oceania	0.2	0.02	0.1	0.3
World	**29.3**	**12.8**	**11.1**	**53.2**

Electricity

35. Electricity generation per capita, 2019

Kilowatt hours per capita



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

FACTS AND FIGURES

World electricity generation grew 125% from 1990 to 2019, almost reaching 27 PWh in 2019. The largest absolute growth from 1990 to 2019 was observed for electricity generated from coal (5,447 TWh or +123%) and natural gas (4,626 TWh or +259%) while the fastest growth was visible for electricity generated from solar, wind and other sources[4] (+3,572% or 2,197 TWh).

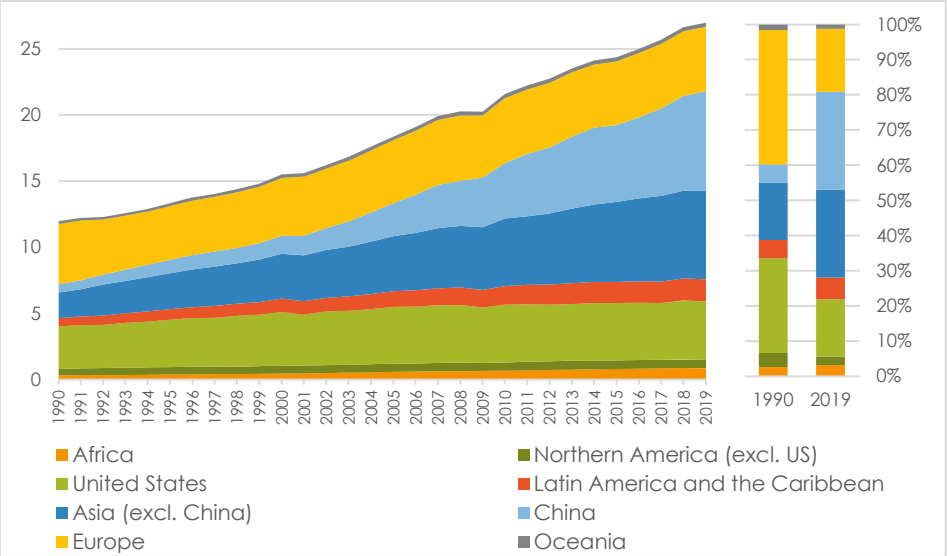
In 2019, slightly less of 3/4 of all electricity was generated from non-renewable sources[5], mainly from non-renewable thermal (63.3% or 17,085 TWh) and nuclear sources (10.3% or 2,778 TWh).

However, renewable electricity accounted for almost 60% of global electricity capacity additions over the past nine years, growing to 2,647 GW in 2019 and reaching 35.8% of total electricity capacity.

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

36. Total electricity generation by region, 1990-2019

Petawatt hours and percentage



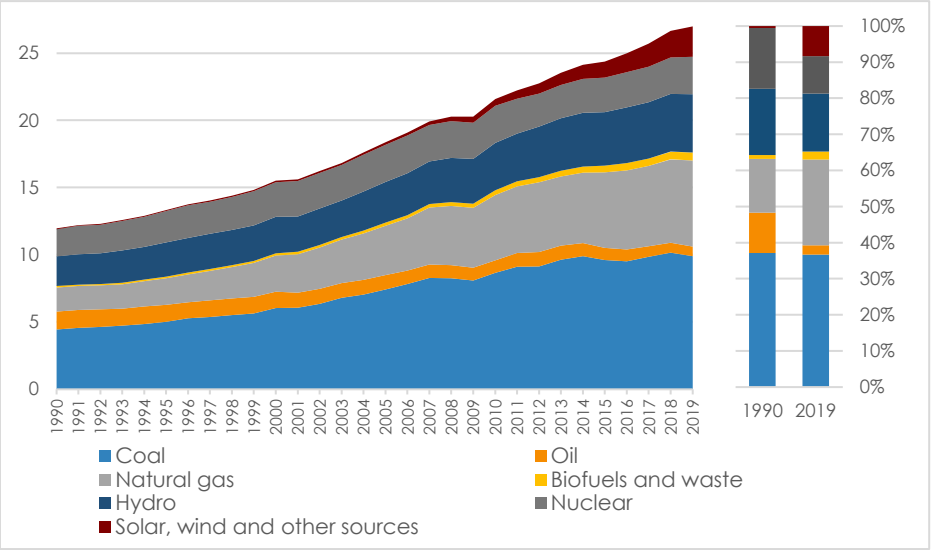
37. Total electricity generation by region, 1990, 2000, 2010 and 2019

Terawatt hours

Region	1990	2000	2010	2019
Africa	311.7	437.3	677.7	857.3
Northern America (excl. US)	482.9	606.7	604.3	646.6
United States	3,218.6	4,052.7	4,378.4	4,391.8
Latin America and the Caribbean	624.6	1,010.6	1,405.5	1,677.3
Asia (excl. China)	1,947.5	3,396.2	5,091.1	6,734.9
China	621.2	1,355.6	4,207.2	7,503.5
Europe	4,571.0	4,386.5	4,914.4	4,849.5
Oceania	192.5	257.7	308.0	321.9
World	**11,969.9**	**15,503.3**	**21,586.5**	**26,982.7**

38. World electricity generation by source, 1990-2019

Petawatt hours and percentage



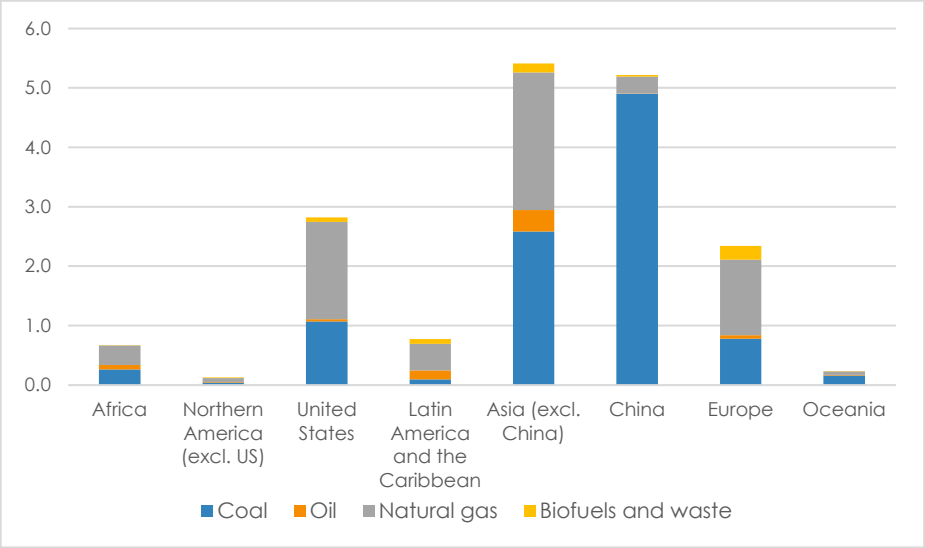
39. World electricity generation by source, 1990, 2000, 2010 and 2019

Terawatt hours

Source	1990	2000	2010	2019
Thermal	7,695.6	10,103.7	14,790.7	17,594.7
- Coal	4,441.7	6,042.0	8,659.4	9,888.5
- Oil	1,338.7	1,198.6	919.2	712.0
- Natural gas	1,785.0	2,699.7	4,869.9	6,411.4
- Biofuels and waste	130.2	163.5	342.2	582.7
Nuclear	2,019.8	2,589.0	2,756.3	2,788.3
Hydro	2,193.0	2,706.8	3,528.7	4,341.6
Solar, wind and other sources	61.5	103.8	510.8	2,258.1
Total	**11,969.9**	**15,503.3**	**21,586.5**	**26,982.7**

40. Thermal electricity generation by region and source, 2019

Petawatt hours



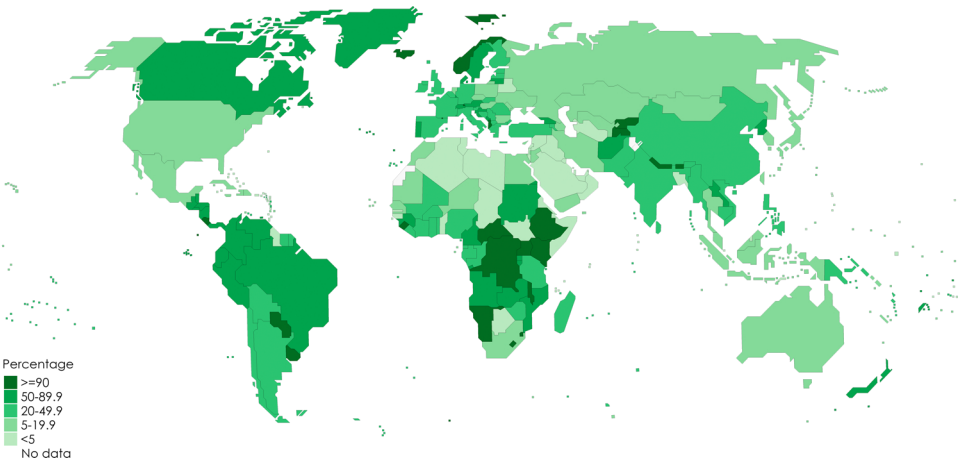
41. Thermal electricity generation by region and source, 2019

Terawatt hours

Region	Coal	Oil	Natural gas	Biofuels and waste	Total
Africa	259.0	76.9	329.8	3.1	668.9
Northern America (excl. US)	43.0	6.4	68.0	11.1	128.4
United States	1,069.5	35.8	1,639.8	73.6	2,818.7
Latin America and the Caribbean	95.4	150.9	444.4	81.0	771.7
Asia (excl. China)	2,584.5	361.8	2,316.8	148.4	5,411.5
China	4,899.1	8.5	282.1	30.5	5,220.1
Europe	779.8	59.1	1,271.0	230.9	2,340.8
Oceania	158.1	12.8	59.5	4.1	234.5
World	**9,888.5**	**712.0**	**6,411.4**	**582.7**	**17,594.7**

42. Renewable electricity share in total electricity generation, 2019

Percentage



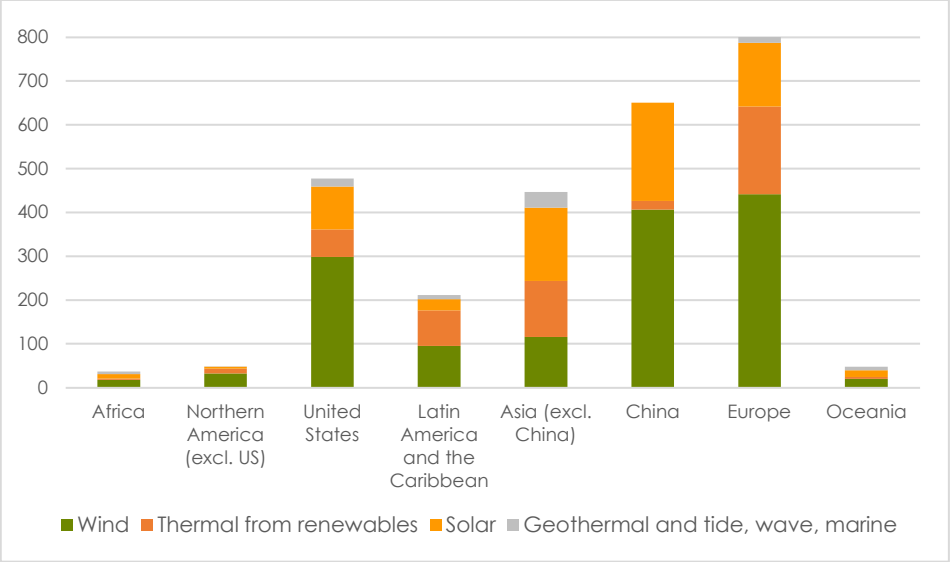
Source: United Nations Energy Statistics Database. Please see the disclaimer on page 66.

43. Renewable electricity generation by type (hydro, wind, total), major countries, 2019 - *Terawatt hours*

Country	Hydro	Country	Wind	Country	Total renewables
China	1,304.4	China	406.0	China	1,954.9
Brazil	397.9	United States	298.2	United States	787.8
Canada	379.7	Germany	125.9	Brazil	515.4
United States	310.6	India	69.9	Canada	427.4
Russian Federation	196.5	United Kingdom	64.3	India	336.6
India	156.0	Brazil	56.0	Germany	248.4
Others	1,596.4	Others	406.5	Others	2,789.5
World	**4,341.6**	**World**	**1,426.9**	**World**	**7,060.1**

44. Electricity from non-hydro renewable sources by region and type, 2019

Terawatt hours



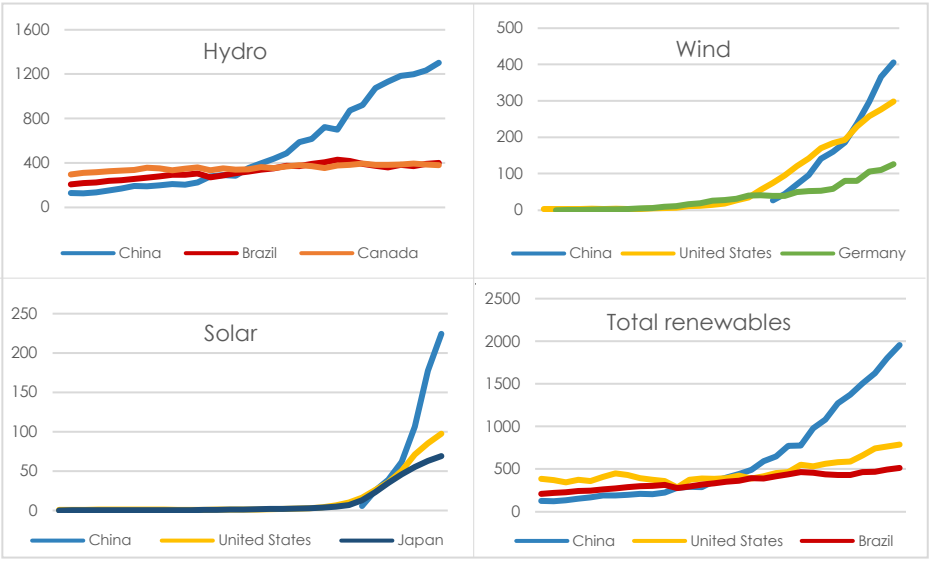
45. Electricity from non-hydro renewable sources by region and type, 2019

Terawatt hours

Region	Wind	Thermal (ren.)	Solar	Geoth. & tide	Total
Africa	17.9	3.1	10.2	5.2	36.4
Northern America (excl. US)	32.7	10.9	4.1	0.00	47.7
United States	298.2	63.2	97.5	18.4	477.2
Latin America and the Caribbean	95.2	80.9	25.6	9.9	211.7
Asia (excl. China)	115.7	127.5	167.9	35.6	446.7
China	406.0	20.0	224.5	-	650.5
Europe	441.2	200.3	145.1	13.7	800.3
Oceania	20.0	4.1	15.3	8.5	47.9
World	**1,426.9**	**510.1**	**690.2**	**91.3**	**2,718.4**

46. Renewable electricity by type, major countries in 2019, 1990-2019

Terawatt hours



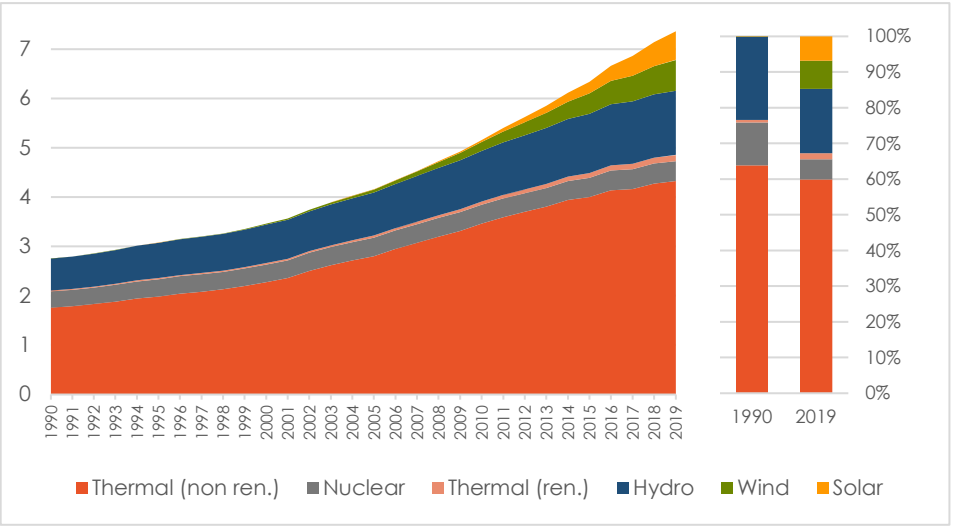
47. Renewable electricity by type, major countries in 2019, 1990 and 2019, and share in total electricity generation, 2019

Gigawatt hours and percentage

Hydro	1990	2019	%2019	Wind	1990	2019	%2019
China	126,720	1,304,440	17%	China	0	406,030	5%
Brazil	206,708	397,877	64%	US	3,066	298,200	7%
Canada	296,848	379,742	59%	Germany	215 [1991]	125,894	21%
Solar	**1990**	**2019**	**%2019**	**Total renewables**	**1990**	**2019**	**%2019**
China	0	224,460	3%	China	126,720	1,954,930	26%
US	666	97,478	2%	US	385,049	787,806	18%
Japan	67	68,953	7%	Brazil	210,567	515,439	82%

48. World electricity capacity by type[6], 1990-2019

Terawatt and percentage



49. World electricity capacity by type[6], 1990, 2000, 2010 and 2019

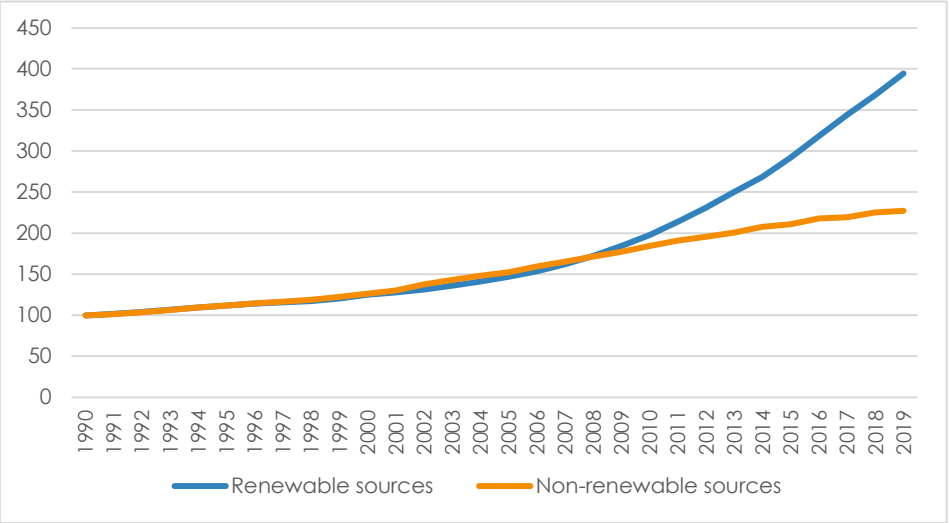
Gigawatt

Type	1990	2000	2010	2019
Non-renewable, *of which*	2,089.2	2,632.4	3,851.3	4,750.8
- Thermal (non-ren.)	1,758.8	2,273.8	3,460.8	4,324.9
- Nuclear	330.4	358.3	381.8	404.8
Renewable, *of which*	671.4	838.8	1,324.6	2,647.1
- Thermal (ren.)	19.0	29.3	65.9	124.2
- Hydro	643.6	782.6	1,027.0	1,302.8
- Wind	2.4	17.1	180.8	624.4
- Solar	0.4	1.2	40.6	581.3
Total	**2,760.6**	**3,471.2**	**5,175.9**	**7,397.9**

(6) See notes on pages 66-67.

50. World electricity capacity by type[6], 1990-2019

Index number (1990=100)



51. World electricity capacity by type[6], 1990, 2000, 2010 and 2019, and share in 2019

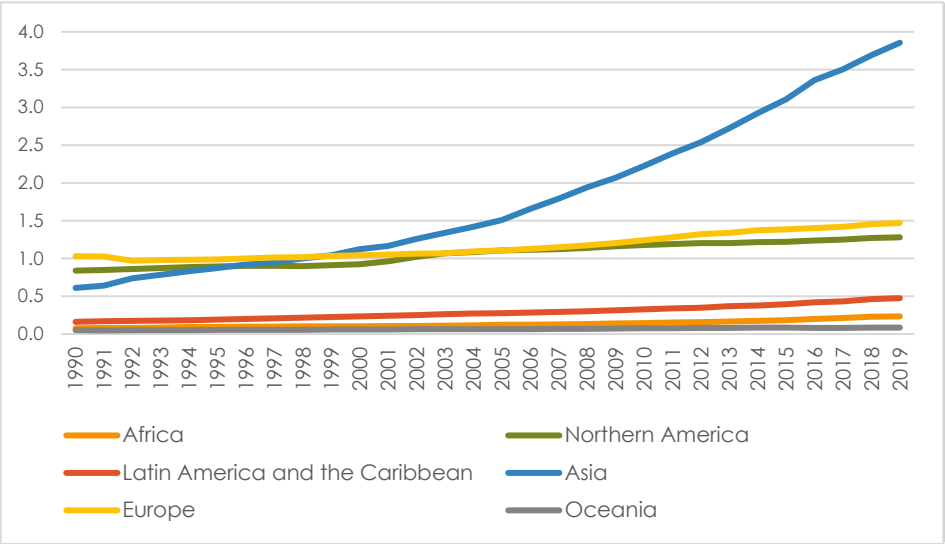
Index number (1990=100) and percentage

Type	1990	2000	2010	2019	%2019
Non-renewable, *of which*	100	126	184	227	64.2%
- Thermal (non-ren.)	100	129	197	246	58.5%
- Nuclear	100	108	116	123	5.5%
Renewable, *of which*	100	125	197	394	35.8%
- Thermal (ren.)	100	154	347	654	1.7%
- Hydro	100	122	160	202	17.6%
- Wind	100	728	7,678	26,515	8.4%
- Solar	100	337	11,417	163,297	7.9%
Total	**100**	**126**	**187**	**268**	**100.0%**

(6) See notes on pages 66-67.

52. Total electricity capacity by region, 1990-2019

Terawatt



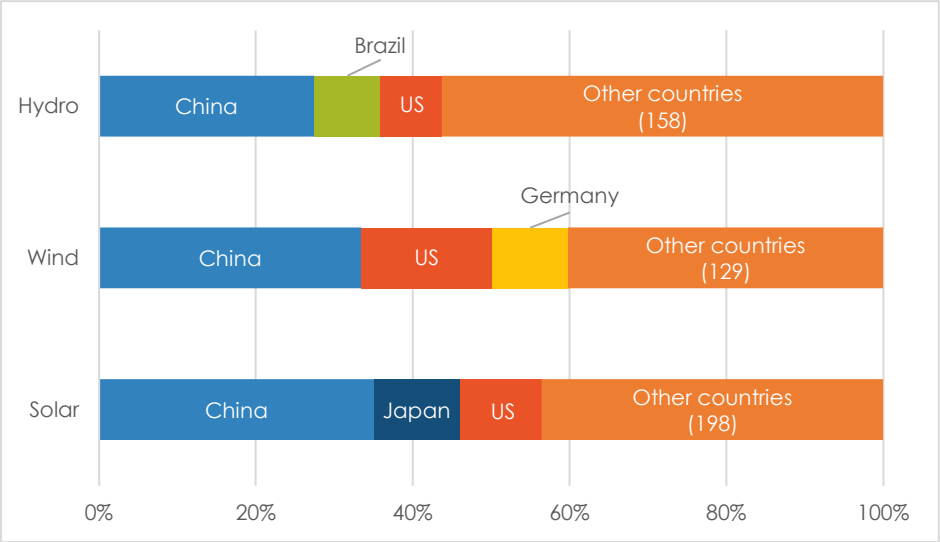
53. Total electricity capacity by region, 1990, 2000, 2010 and 2019

Gigawatt

Region	1990	2000	2010	2019
Africa	74.7	101.5	142.9	234.0
Northern America	838.0	923.0	1,174.9	1,277.8
Latin America and the Caribbean	162.4	231.1	324.1	473.7
Asia	612.1	1,119.7	2,222.7	3,855.1
Europe	1,026.3	1,040.1	1,238.4	1,470.7
Oceania	47.0	55.8	73.0	86.7
World	**2,760.6**	**3,471.2**	**5,175.9**	**7,397.9**

54. Electricity capacity by type (hydro, wind, solar), major countries, 2019

Percentage



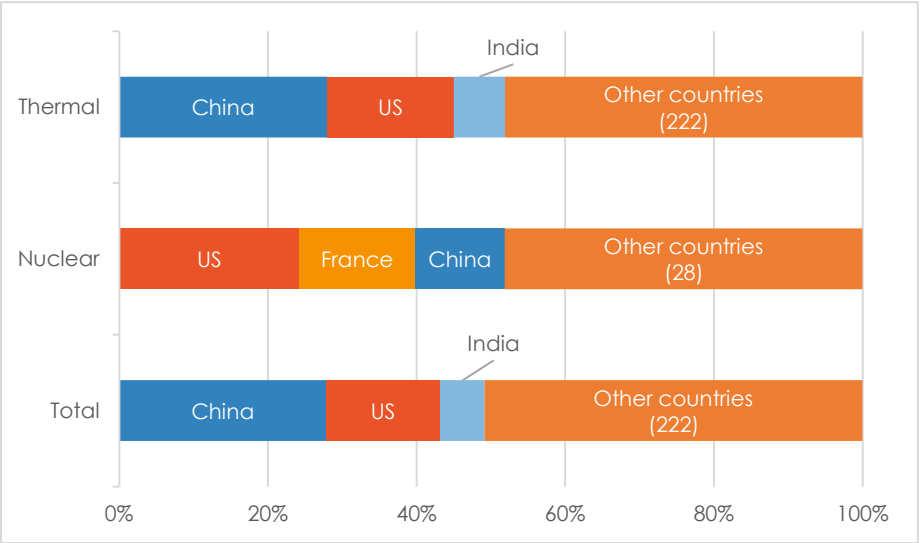
55. Electricity capacity by type (hydro, wind, solar), major countries, 2019

Gigawatt

Country	Hydro	Country	Wind	Country	Solar
China	358.0	China	209.2	China	204.2
Brazil	109.2	United States	103.7	Japan	63.2
United States	102.6	Germany	60.7	United States	60.8
Canada	81.4	India	40.5	Germany	49.0
Russian Fed.	51.8	Spain	25.6	India	33.9
Japan	50.0	United Kingdom	24.1	Italy	20.9
Others	549.8	Others	160.7	Others	149.3
World	**1,302.8**	**World**	**624.4**	**World**	**581.3**

56. Electricity capacity by type (thermal, nuclear, total), major countries, 2019

Percentage



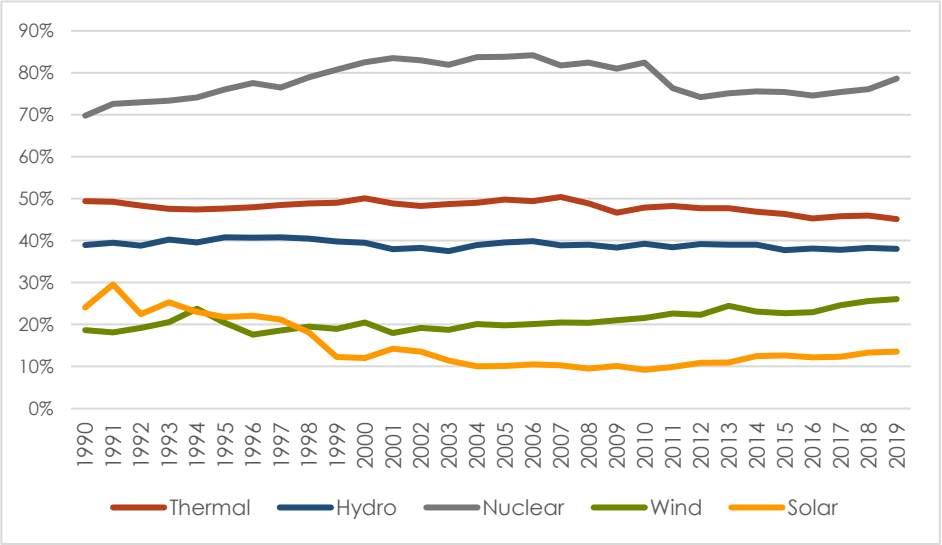
57. Electricity capacity by type (thermal, nuclear, total), major countries, 2019

Gigawatt

Country	Thermal	Country	Nuclear	Country	Total
China	1,244.5	United States	98.1	China	2,064.7
United States	758.6	France	63.1	United States	1,127.8
India	305.3	China	48.7	India	442.3
Japan	193.4	Japan	33.1	Japan	346.5
Russian Fed.	191.9	Russian Fed.	30.3	Russian Fed.	275.8
Germany	101.4	Rep. of Korea	23.3	Germany	231.8
Others	1,653.9	Others	108.2	Others	2,909.0
World	**4,449.1**	**World**	**404.8**	**World**	**7,397.9**

58. Utilization of electricity capacity by type, 1990-2019

Percentage



59. Utilization of electricity capacity by type, 1990, 2000, 2010 and 2019

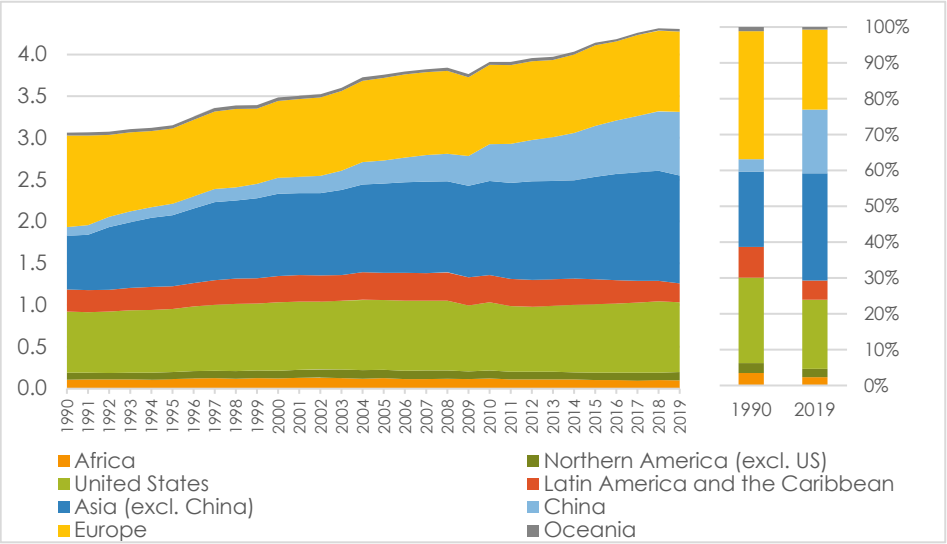
Percentage

Type	1990	2000	2010	2019
Thermal	49%	50%	48%	45%
Hydro	39%	39%	39%	38%
Nuclear	70%	82%	82%	79%
Wind	19%	20%	22%	26%
Solar	24%	12%	9%	14%
Total	**49%**	**51%**	**48%**	**42%**

Refinery output

60. Total refinery output by region, 1990-2019

Billion metric tons



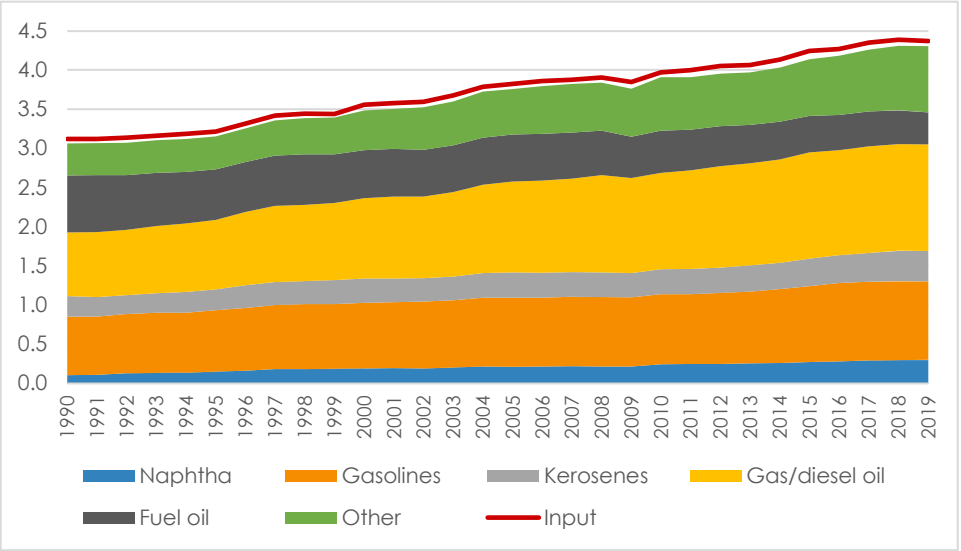
61. Total refinery output by region, 1990, 2000, 2010 and 2019

Million metric tons

Region	1990	2000	2010	2019
Africa	106.3	118.3	119.0	97.9
Northern America (excl. US)	84.2	93.7	96.1	99.5
United States	730.6	817.9	815.8	832.5
Latin America and the Caribbean	261.9	315.2	325.0	228.6
Asia (excl. China)	644.0	985.5	1,129.2	1,288.3
China	106.0	191.8	440.5	764.0
Europe	1,094.3	919.7	947.3	961.6
Oceania	35.5	41.8	36.8	31.1
World	**3,062.6**	**3,483.8**	**3,909.7**	**4,303.4**

62. World total refinery input and refinery output by type of fuel, 1990-2019

Billion metric tons



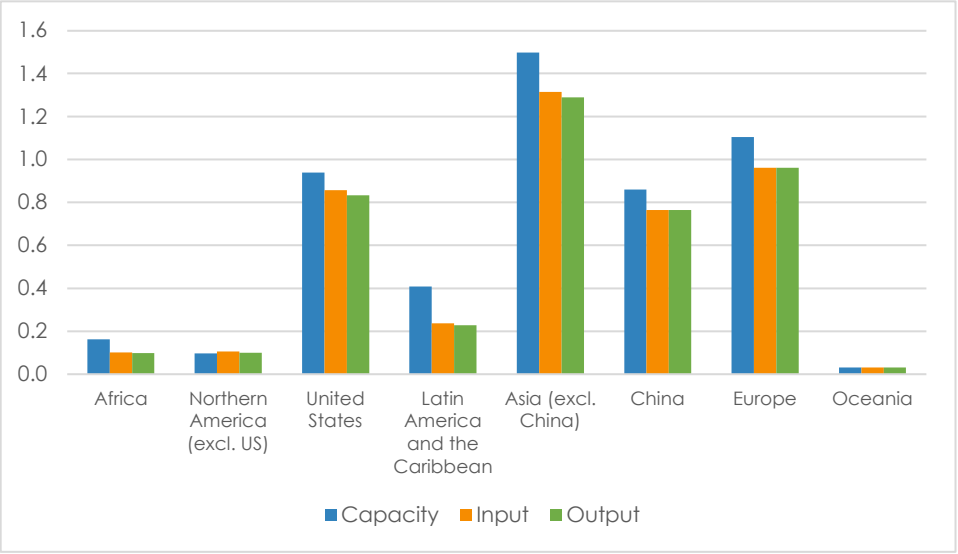
63. World total refinery input and refinery output by type of fuel, 1990, 2000, 2010 and 2019

Million metric tons

Refinery input and output	1990	2000	2010	2019
Total refinery input	**3,120.1**	**3,558.3**	**3,969.3**	**4,370.8**
Total refinery output	**3,062.6**	**3,483.8**	**3,909.7**	**4,303.4**
- Naphtha	104.8	192.4	244.2	300.1
- Gasolines	749.1	833.7	894.6	1,001.7
- Kerosenes	258.1	311.2	316.3	388.3
- Gas/diesel oil	814.9	1,024.8	1,232.6	1,360.1
- Fuel oil	727.7	614.9	538.5	406.9
- Other	408.1	506.9	683.5	846.3

64. Total refinery capacity, input and output by region, 2019

Billion metric tons



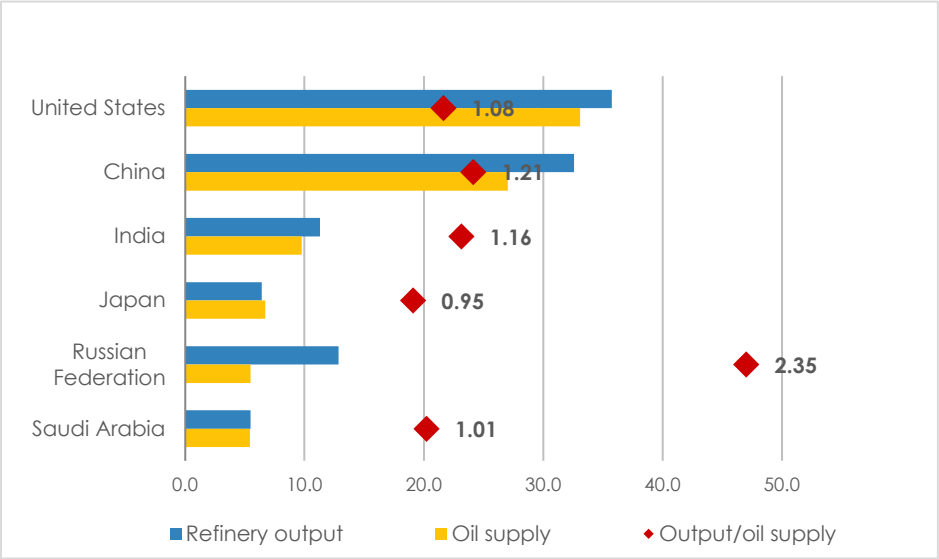
65. Total refinery capacity, input and output by region, 2019

Million metric tons

Region	Capacity	Input	Output
Africa	161.8	100.9	97.9
Northern America (excl. US)	97.1	105.3	99.5
United States	938.1	856.4	832.5
Latin America and the Caribbean	408.0	237.1	228.6
Asia (excl. China)	1,498.0	1,314.3	1,288.3
China	860.0	764.7	764.0
Europe	1,104.6	960.6	961.6
Oceania	31.0	31.5	31.1
World	**5,098.6**	**4,370.8**	**4,303.4**

66. Total refinery output and total oil supply, largest oil supply countries, 2019

Exajoules and ratio between total refinery output and total oil supply



67. Total refinery output and total oil supply[7], largest oil supply countries, 2019

Exajoules and ratio between total refinery output and total oil supply

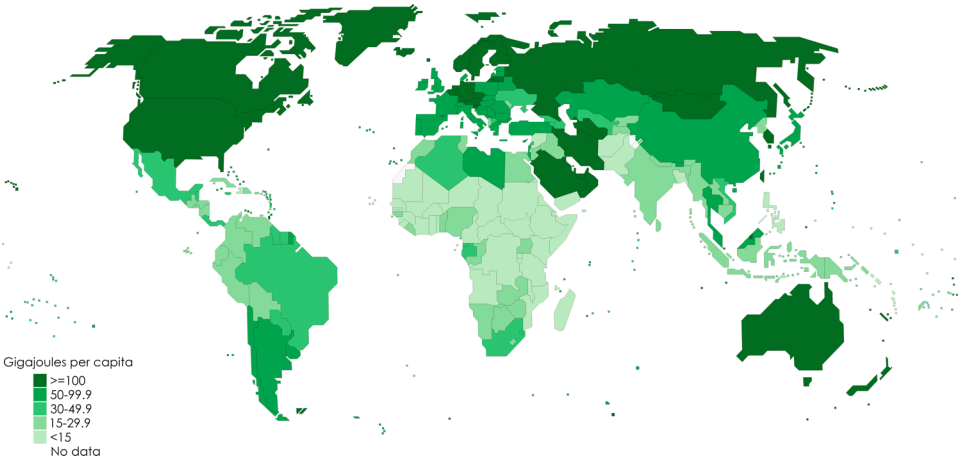
Country	Refinery output	Oil supply	Output/ oil supply
United States	35.8	33.1	1.08
China	32.6	27.0	1.21
India	11.3	9.8	1.16
Japan	6.4	6.7	0.95
Russian Federation	12.9	5.5	2.35
Saudi Arabia	5.5	5.4	1.01
Others	80.5	80.9	1.00
World	**184.9**	**185.5**	**-**

(7) See notes on pages 66-67.

Total final consumption

68. Total final consumption per capita, 2019

Gigajoules per capita



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

FACTS AND FIGURES

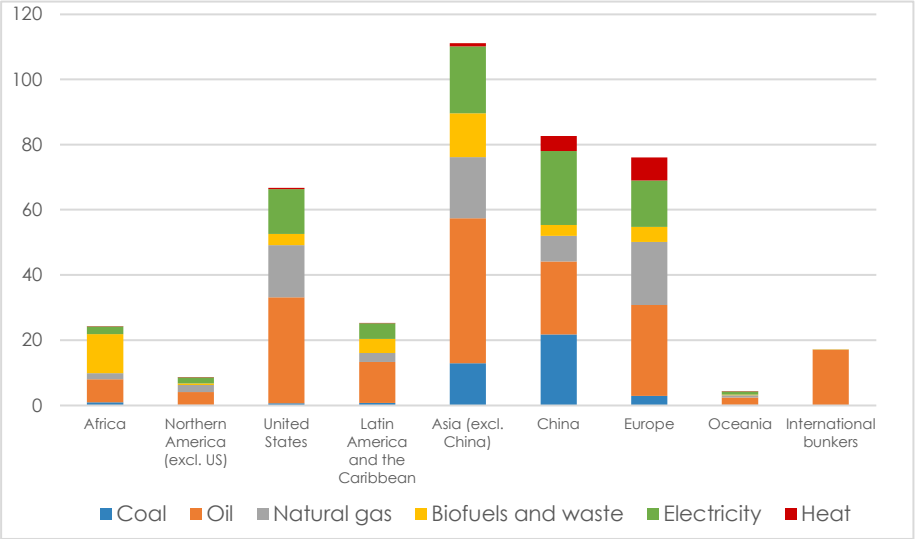
World total final consumption[8] (TFC) amounted to 416 EJ in 2019, increasing by almost 65% since 1990. Energy use in the industry and transport sectors dominated TFC in 2019, accounting in total for 57.0% of TFC.

In 2019, almost 80% of coal TFC (or 32.0 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 (over 37% or 25.9 EJ) and households (29.1% or 20.2 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 56% of all TFC of these energy sources, and for 27.8% of household TFC worldwide.

(8) See notes on pages 66-67.

69. Total final consumption by region and source, 2019

Exajoules



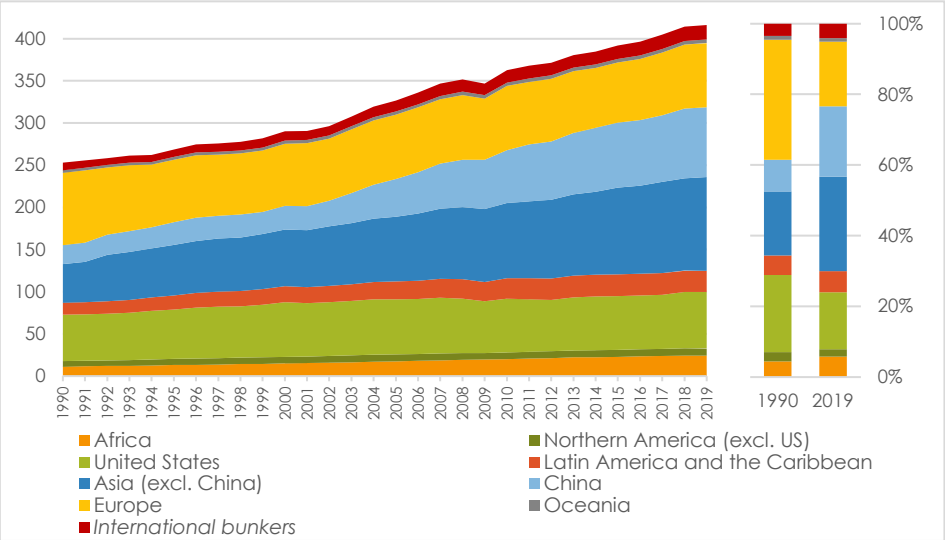
70. Total final consumption by region and source, 2019

Exajoules

Region	Coal	Oil	Natural gas	Biofuels and waste	Elec-tricity	Heat	Total
Africa	0.9	7.1	1.9	12.0	2.4	0.01	24.2
Northern America (excl. US)	0.1	3.9	2.2	0.5	1.9	0.03	8.6
United States	0.6	32.5	16.0	3.4	13.8	0.4	66.7
Latin America and the Caribbean	0.8	12.6	2.8	4.3	4.8	0.02	25.2
Asia (excl. China)	12.9	44.5	18.7	13.5	20.5	1.0	111.1
China	21.7	22.4	7.9	3.4	22.7	4.7	82.7
Europe	2.9	27.8	19.3	4.7	14.2	7.1	76.1
Oceania	0.1	2.3	0.6	0.3	1.0	0.03	4.3
International bunkers	*0.0*	*17.0*	*0.01*	*0.01*	*0.0*	*0.0*	*17.1*
World	**40.1**	**170.2**	**69.4**	**41.9**	**81.3**	**13.2**	**416.1**

71. Total final consumption by region, 1990-2019

Exajoules



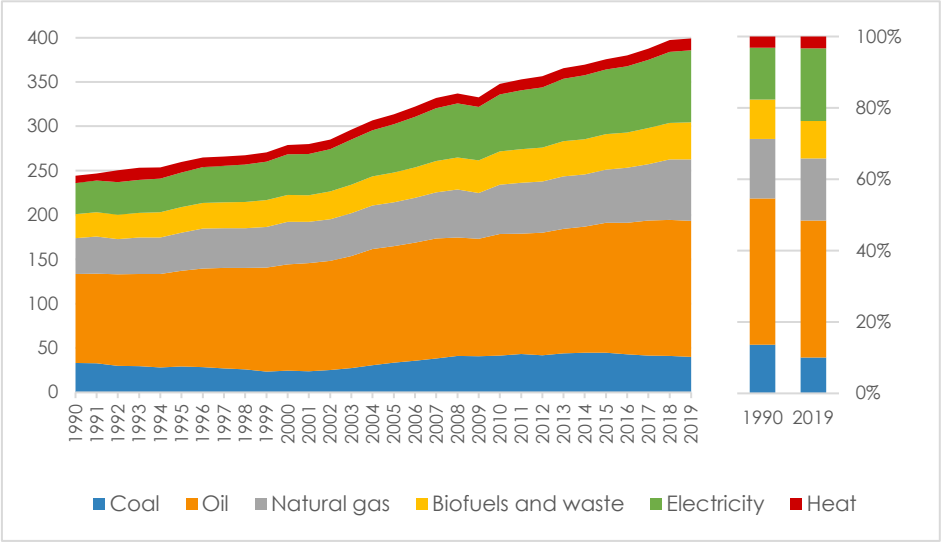
72. Total final consumption by region, 1990, 2000, 2010 and 2019

Exajoules

Region	1990	2000	2010	2019
Africa	11.3	15.0	20.0	24.2
Northern America (excl. US)	6.6	7.8	7.9	8.6
United States	55.0	64.6	63.7	66.7
Latin America and the Caribbean	14.2	18.9	24.5	25.2
Asia (excl. China)	45.7	67.3	89.2	111.1
China	22.6	28.2	62.2	82.7
Europe	85.7	73.5	76.3	76.1
Oceania	2.9	3.6	3.9	4.3
International bunkers	*8.7*	*11.2*	*14.9*	*17.1*
World	**252.8**	**290.1**	**362.6**	**416.1**

73. World total final consumption by source, 1990-2019

Exajoules



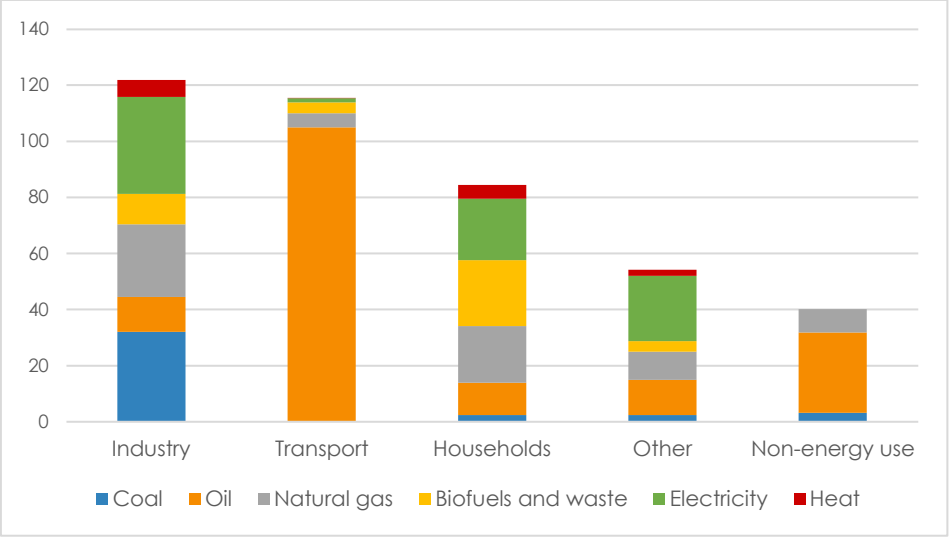
74. World total final consumption by source, 1990, 2000, 2010 and 2019

Exajoules

Source	1990	2000	2010	2019
Coal	33.3	24.4	41.5	40.1
Oil	108.8	131.2	151.8	170.2
Natural gas	40.7	47.9	55.6	69.4
Biofuels and waste	26.9	30.3	37.5	41.9
Electricity	35.3	45.9	64.4	81.3
Heat	7.8	10.5	11.9	13.2
Total	**252.8**	**290.1**	**362.6**	**416.1**

75. World total final consumption by sector and source, 2019

Exajoules



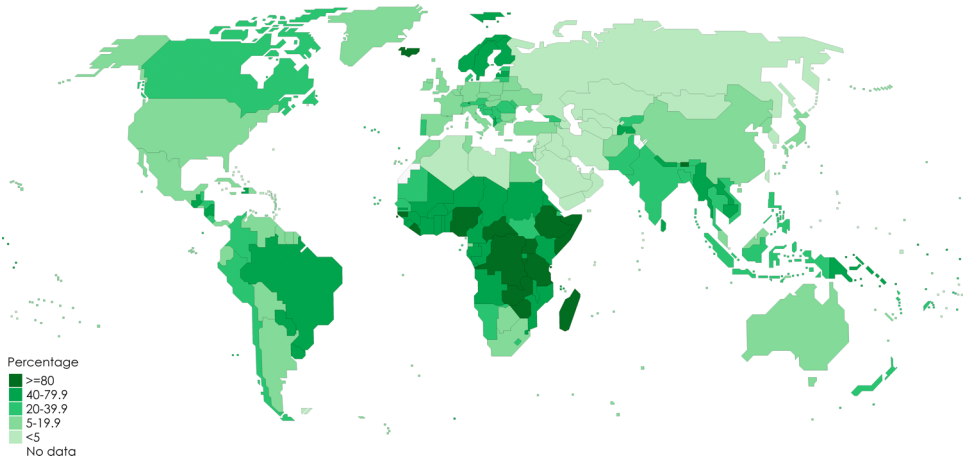
76. World total final consumption by sector and source, 2019

Exajoules

Sector	Coal	Oil	Natural gas	Biofuels and waste	Elec-tricity	Heat	Total
Total final consumption	**40.1**	**170.2**	**69.4**	**41.9**	**81.3**	**13.2**	**416.1**
- Total energy consumption	36.9	141.5	61.2	41.9	81.3	13.2	375.9
- Industry	32.0	12.5	25.9	10.8	34.6	6.1	121.9
- Transport	0.1	104.9	5.0	3.9	1.5	0.04	115.4
- of which intl. bunkers	0.0	17.0	0.01	0.01	0.0	0.0	17.1
- Households	2.4	11.5	20.2	23.5	21.9	4.9	84.4
- Other	2.4	12.6	10.0	3.7	23.3	2.2	54.2
- Non-energy use	3.2	28.7	8.3	0.0	0.0	0.0	40.1

77. Renewable energy share in total final energy consumption (TFEC), 2019

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, 2019

Exajoules, gigajoules per capita and percentage

Country	TFC	Country	TFC per capita	Country	% REN in TFEC
China	82.7	Iceland	379.2	Dem. Rep. Congo	96.2%
United States	66.7	Trinidad and Tobago	370.3	Somalia	95.0%
India	28.5	Qatar	301.5	Central African Rep.	91.3%
Russian Fed.	22.3	Gibraltar	292.8	Uganda	90.2%
Japan	11.7	United Arab Emirates	266.6	Liberia	87.3%
Brazil	9.8	Luxembourg	264.2	Ethiopia	86.9%
Germany	9.3	Canada	230.6	Guinea-Bissau	86.2%
Others	167.9	Others	50.4	Others	17.1%
World	**416.1**	**World**	**51.7**	**World**	**17.8%**

Energy balance, 2019 (Exajoules)

World	Primary coal	Coal products	Primary oil	Oil products
Primary production	167.8	0.0	189.3	0.0
Imports	34.7	0.7	100.1	59.8
Exports	-37.0	-0.8	-100.8	-62.4
Stock changes	-3.1	-0.1	-0.2	-0.3
Total energy supply	162.5	-0.1	188.4	-2.9
Statistical difference	3.4	-0.2	-1.0	-2.4
Transfers	0.0	0.0	9.1	-4.7
Transformation	-126.5	13.3	-197.3	185.1
Electricity plants	-87.9	-2.2	-1.3	-5.8
CHP and heat plants	-14.0	-0.9	0.0	-1.0
Coke ovens	-21.5	23.4	0.0	-0.1
Oil refineries	0.0	0.0	-185.6	184.9
Other transformation	-3.1	-7.0	-10.3	7.0
Energy industries own use	-4.5	-1.3	-0.4	-10.2
Losses	-0.02	-0.1	-0.3	-0.01
Final consumption	28.1	12.0	0.5	169.7
Final energy consumption	25.4	11.5	0.1	141.5
Industry	20.7	11.3	0.1	12.4
Iron and steel	4.0	8.8	0+	0.3
Chemical and petrochemical	0.7	0.9	0.03	2.7
Non-ferrous metals	0.2	0.03	0+	0.3
Non-metallic minerals	1.7	0.1	0+	1.4
Other industries	14.2	1.4	0.03	7.8
Transport[9]	0.1	0+	0+	104.9
of which Road	0.0	0.0	0.0	77.1
of which Aviation	0.0	0.0	0.0	14.5
Households	2.3	0.1	0.0	11.5
Commerce, public services	0.4	0.02	0.0	2.4
Other energy use	1.9	0.05	0+	10.2
Non-energy use	2.7	0.5	0.4	28.2

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

Natural gas	Biofuels and waste	Nuclear	Electricity	Heat	Total	of which: renewables[10]
145.7	53.2	30.1	22.8	4.0	613.0	78.1
43.2	1.5	0.0	2.6	0+	242.7	1.5
-44.1	-1.1	0.0	-2.6	0-	-248.8	-1.1
-1.5	-0.01	0.0	0.0	0.0	-5.2	0.0
143.2	53.5	30.1	22.8	4.0	601.7	78.4
2.0	-0.2	0.0	-0.1	0.0	1.5	23.1
0.0	-0.2	0.0	0.0	0.0	4.2	-0.2
-57.7	-11.0	-30.1	73.9	11.9	-138.4	-12.8
-39.9	-4.2	-30.0	66.4	-4.4	-109.3	-6.3
-15.4	-3.3	-0.1	7.5	16.2	-11.1	-2.9
0-	0-	0.0	0.0	0.0	1.9	0.0
-0.1	0.0	0.0	0.0	0.0	-0.8	0.0
-2.2	-3.5	0.0	0.0	0.0	-19.2	-3.5
-12.9	-0.6	0.0	-8.3	-1.8	-40.0	-0.6
-1.2	-0.01	0.0	-7.2	-0.8	-9.8	-0.01
69.4	41.9	0.0	81.3	13.2	416.1	41.8
61.2	41.9	0.0	81.3	13.2	375.9	41.8
25.9	10.8	0.0	34.6	6.1	121.9	10.3
2.7	0.2	0.0	4.4	0.6	21.0	0.2
6.5	0.1	0.0	4.3	2.7	17.8	0.1
0.5	0.01	0.0	1.7	0.02	2.7	0+
1.9	0.3	0.0	0.8	0.1	6.4	0.1
14.3	10.1	0.0	23.4	2.7	74.0	9.9
5.0	3.9	0.0	1.5	0.0	115.4	3.9
2.1	3.9	0.0	0.2	0.0	83.2	3.9
0.0	0.0	0.0	0.0	0.0	14.5	0.0
20.2	23.5	0.0	21.9	4.9	84.4	23.8
8.1	1.12	0.0	15.7	1.60	29.3	1.2
2.0	2.6	0.0	7.6	0.6	24.9	2.6
8.3	0.0	0.0	0.0	0.0	40.1	0.0

Energy balance, 2019 (Petajoules)

Africa	Primary coal	Coal products	Primary oil	Oil products
Primary production	6,584.5	0.0	17,327.4	0.0
Imports	619.6	14.93	1,415.3	5,208.9
Exports	-2,164.0	-7.6	-13,700.7	-1,506.3
International bunkers	0.0	0.0	0.0	-558.4
Stock changes	-13.5	0.1	-136.4	65.5
Total energy supply	5,026.7	7.4	4,905.6	3,209.8
Statistical difference	-132.7	0.02	65.8	202.4
Transfers	0.0	0.0	-136.1	176.6
Transformation	-3,667.1	75.3	-4,649.2	4,037.3
Electricity plants	-3,273.1	0.0	-37.5	-714.5
CHP and heat plants	-0.2	0.0	0.0	0.0
Coke ovens	-97.2	90.23	0.0	0.0
Oil refineries	0.0	0.0	-4,274.0	4,199.0
Other transformation	-296.5	-14.9	-337.7	552.7
Energy industries own use	-670.9	-1.8	-25.1	-117.5
Losses	-0.1	-4.0	-29.4	-5.1
Final consumption	821.2	76.8	0.0	7,098.7
Final energy consumption	777.9	76.8	0.0	6,772.2
Industry	458.8	76.6	0.0	716.4
Iron and steel	66.5	58.5	0.0	3.2
Chemical and petrochemical	0.05	4.7	0.0	4.4
Non-ferrous metals	27.2	1.6	0.0	4.9
Non-metallic minerals	188.1	0.3	0.0	86.5
Other industries	177.0	11.4	0.0	617.4
Transport	0.3	0.0	0.0	4,994.5
of which Road	0.0	0.0	0.0	4,803.8
Households	197.6	0.1	0.0	610.5
Commerce, public services	96.8	0.0	0.0	81.7
Other energy use	24.4	0.1	0.0	369.0
Non-energy use	43.3	0.0	0.0	326.4

(10) See notes on pages 66-67.

Natural gas	Biofuels and waste	Nuclear	Electricity	Heat	Total	of which: renewables[10]
8,659.4	14,573.1	143.1	576.5	230.9	48,094.8	15,372.5
339.7	0.2	0.0	124.8	0.0	7,723.6	0.2
-3,356.6	-11.4	0.0	-125.9	0.0	-20,872.4	-11.4
0.0	0.00	0.0	0.0	0.0	-558.4	0.0
-1.2	0.0	0.0	0.0	0.0	-85.6	0.0
5,641.3	14,561.9	143.1	575.4	230.9	34,302.1	15,361.3
-13.7	-5.0	0.0	19.6	0.0	136.5	600.1
0.0	0.0	0.0	0.0	0.0	40.5	0.0
-3,108.1	-2,596.6	-143.1	2,490.3	-222.9	-7,784.1	-2,785.9
-2,987.2	-59.3	-143.1	2,486.2	-222.9	-4,951.3	-248.6
-2.1	-5.1	0.0	4.0	0.0	-3.5	-5.1
0.0	0.00	0.0	0.0	0.0	-7.0	0.0
0.0	0.0	0.0	0.0	0.0	-74.9	0.0
-118.8	-2,532.2	0.0	0.0	0.0	-2,747.4	-2,532.1
-656.2	-0.01	0.0	-198.8	0.0	-1,670.4	0.0
-25.0	-1.3	0.0	-440.0	0.0	-504.9	-1.3
1,865.7	11,969.0	0.0	2,407.3	8.0	24,246.7	11,973.9
1,375.3	11,969.0	0.0	2,407.3	8.0	23,386.6	11,973.9
809.1	737.5	0.0	955.4	0+	3,753.8	734.4
124.6	0.0	0.0	79.0	0.0	331.8	0.0
71.1	0.5	0.0	46.6	0.0	127.4	0.1
1.6	0+	0.0	117.4	0.0	152.7	0+
37.5	6.7	0.0	41.3	0.0	360.6	4.1
574.2	730.3	0.0	671.0	0+	2,781.3	730.2
19.5	1.9	0.0	18.7	0.0	5,034.9	1.9
14.9	1.9	0.0	0.2	0.0	4,820.8	1.9
491.1	10,518.1	0.0	840.3	2.5	12,660.2	10,520.6
9.5	458.2	0.0	411.3	0.1	1,057.6	458.3
46.2	253.4	0.0	181.6	5.4	880.0	258.8
490.4	0.0	0.0	0.0	0.0	860.1	0.0

Energy balance, 2019 (Petajoules)

Northern America	Primary coal	Coal products	Primary oil	Oil products
Primary production	15,690.1	0.0	43,234.6	0.0
Imports	356.0	38.7	16,557.2	5,379.2
Exports	-3,132.4	-26.4	-15,224.1	-10,538.7
International bunkers	0.0	0.0	0.0	-2,079.3
Stock changes	-796.9	0.9	151.5	-71.4
Total energy supply	12,116.8	13.2	44,719.2	-7,310.2
Statistical difference	24.4	27.0	-269.0	-1,628.8
Transfers	0.0	0.0	882.7	-736.7
Transformation	-11,581.1	304.2	-45,516.2	44,550.2
Electricity plants	-10,698.0	-3.9	0.0	-331.4
CHP and heat plants	-245.4	-22.4	0.0	-80.1
Coke ovens	-522.6	490.0	0.0	0.0
Oil refineries	0.0	0.0	-41,254.7	40,028.4
Other transformation	-115.1	-159.5	-4,261.5	4,933.3
Energy industries own use	-0.5	-50.3	0.0	-2,039.6
Losses	0.0	0.0	0.0	-0.1
Final consumption	510.8	240.1	354.6	36,092.4
Final energy consumption	507.7	238.1	0.0	30,255.9
Industry	491.4	238.1	0.0	980.1
Iron and steel	16.5	205.9	0.0	3.7
Chemical and petrochemical	66.7	0.0	0.0	69.2
Non-ferrous metals	8.2	0.0	0.0	11.5
Non-metallic minerals	203.0	1.9	0.0	71.9
Other industries	197.1	30.2	0.0	823.9
Transport	0.0	0.0	0.0	27,321.3
of which Road	0.0	0.0	0.0	23,452.6
Households	0.3	0.0	0.0	698.2
Commerce, public services	15.9	0.0	0.0	539.3
Other energy use	0.0	0.0	0.0	717.0
Non-energy use	3.1	2.0	354.6	5,836.4

(10) See notes on pages 66-67.

Natural gas	Biofuels and waste	Nuclear	Electricity	Heat	Total	of which: renewables[10]
40,118.2	4,927.2	10,200.9	3,955.3	828.1	118,954.3	9,517.1
3,575.1	129.1	0.0	260.6	0.0	26,295.9	129.1
-7,294.4	-194.0	0.0	-289.5	0.0	-36,699.6	-194.0
0.0	-7.5	0.0	0.0	0.0	-2,086.8	-7.5
-425.9	8.9	0.0	0.0	0.0	-1,132.9	8.9
35,973.0	4,863.8	10,200.9	3,926.4	828.1	105,331.0	9,453.7
565.4	5.2	0.0	-76.3	-0.1	-1,352.2	4,039.4
0.0	0.0	0.0	0.0	0.0	146.0	0.0
-12,773.0	-1,006.2	-10,200.9	14,107.1	-211.6	-22,327.6	-1,463.9
-10,706.2	-764.8	-10,200.9	12,967.9	-699.3	-20,436.5	-1,251.9
-1,767.5	-67.5	0.0	1,139.1	487.7	-556.1	-38.2
0.0	0.0	0.0	0.0	0.0	-32.6	0.0
0.0	0.0	0.0	0.0	0.0	-1,226.3	0.0
-299.3	-173.9	0.0	0.0	0.0	-76.1	-173.9
-4,192.0	-4.3	0.0	-1,411.1	-154.3	-7,852.0	-4.3
-218.4	0.0	0.0	-1,000.7	-56.0	-1,275.1	0.0
18,224.3	3,848.0	0.0	15,698.0	406.3	75,374.4	3,946.1
17,118.0	3,848.0	0.0	15,698.0	406.3	68,072.0	3,946.1
6,243.1	1,430.8	0.0	3,376.9	222.5	12,983.0	1,406.2
467.2	0.1	0.0	233.6	7.4	934.6	0.1
2,430.7	10.2	0.0	519.9	133.8	3,230.3	1.6
174.1	0.04	0.0	378.2	3.9	575.9	0.0
435.2	6.9	0.0	126.7	0.1	845.8	0.4
2,735.9	1,413.6	0.0	2,118.5	77.3	7,396.5	1,404.0
1,133.3	1,416.1	0.0	77.5	0.0	29,948.1	1,416.1
52.5	1,397.1	0.0	27.9	0.0	24,930.1	1,397.1
5,601.7	775.4	0.0	5,793.2	51.9	12,920.6	826.8
4,038.7	25.9	0.0	5,452.1	129.2	10,201.2	95.3
101.3	199.8	0.0	998.3	2.6	2,019.1	201.6
1,106.2	0.0	0.0	0.0	0.0	7,302.4	0.0

Energy balance, 2019 (Petajoules)

Latin America and the Caribbean	Primary coal	Coal products	Primary oil	Oil products
Primary production	2,767.0	0.0	17,949.3	0.0
Imports	1,241.4	75.3	1,339.8	7,062.1
Exports	-2,177.4	-64.8	-9,470.9	-1,678.6
International bunkers	0.0	0.0	0.0	-1,089.5
Stock changes	9.2	-1.8	49.9	59.5
Total energy supply	1,840.2	8.8	9,868.1	4,353.5
Statistical difference	15.8	-2.6	-542.0	-360.7
Transfers	0.0	0.0	382.0	-331.1
Transformation	-1,463.3	423.8	-10,777.3	8,816.7
Electricity plants	-1,051.8	-20.4	-29.3	-1,327.6
CHP and heat plants	0.0	0.0	0.0	-14.8
Coke ovens	-411.4	478.7	0.0	-43.7
Oil refineries	0.0	0.0	-10,115.6	9,757.5
Other transformation	0.0	-34.4	-632.5	445.2
Energy industries own use	0.0	-35.9	-12.9	-646.0
Losses	-2.9	-2.5	-1.2	-1.1
Final consumption	358.3	396.8	0.7	12,552.7
Final energy consumption	358.3	394.4	0.7	11,593.3
Industry	355.5	391.5	0.6	1,296.0
Iron and steel	98.2	375.6	0.04	16.5
Chemical and petrochemical	11.0	0.01	0+	131.4
Non-ferrous metals	28.7	10.9	0.0	49.1
Non-metallic minerals	55.0	2.1	0.0	305.1
Other industries	162.6	2.8	0.5	793.9
Transport	0.0	0.0	0.1	8,519.9
of which Road	0.0	0.0	0.0	8,008.7
Households	2.8	1.9	0.0	840.5
Commerce, public services	0.0	0.0	0.0	181.8
Other energy use	0+	0.9	0.0	755.1
Non-energy use	0.04	2.4	0.0	959.3

(10) See notes on pages 66-67.

Natural gas	Biofuels and waste	Nuclear	Electricity	Heat	Total	of which: renewables[10]
7,366.7	6,090.2	380.7	3,048.3	375.6	37,977.8	9,512.7
2,586.9	42.5	0.0	166.7	0.0	12,514.7	42.5
-1,237.4	-82.9	0.0	-160.2	0.0	-14,872.2	-82.9
-1.4	0.0	0.0	0.0	0.0	-1,090.9	0.0
8.5	12.6	0.0	0.0	0.0	137.9	12.6
8,723.2	6,062.4	380.7	3,054.8	375.6	34,667.3	9,484.8
972.5	-7.8	0.0	62.2	0.0	137.4	3,076.2
0.0	-204.9	0.0	0.0	0.0	-154.1	-204.9
-3,335.0	-1,053.1	-380.7	2,988.5	-357.3	-5,137.6	-1,373.6
-3,099.3	-634.8	-380.7	2,887.8	-357.3	-4,013.2	-955.3
-220.3	-217.2	0.0	100.7	0.0	-351.6	-217.2
0.0	0.0	0.0	0.0	0.0	23.5	0.0
0.0	0.0	0.0	0.0	0.0	-358.1	0.0
-15.4	-201.1	0.0	0.0	0.0	-438.2	-201.1
-1,509.7	-550.9	0.0	-275.1	0.0	-3,030.5	-550.9
-125.6	-6.9	0.0	-862.9	0.0	-1,003.0	-6.9
2,780.5	4,254.4	0.0	4,843.1	18.3	25,204.8	4,272.3
2,257.2	4,254.4	0.0	4,843.1	18.3	23,719.6	4,272.3
1,452.0	1,708.0	0.0	2,044.1	0.7	7,248.4	1,708.4
248.5	154.3	0.0	118.0	0.0	1,011.2	154.3
302.8	4.3	0.0	120.5	0.0	570.1	4.3
19.4	0.1	0.0	113.1	0.0	221.3	0.1
120.1	8.1	0.0	83.2	0.0	573.5	8.1
761.2	1,541.1	0.0	1,609.4	0.7	4,872.3	1,541.5
256.2	974.9	0.0	20.8	0.0	9,771.9	974.9
227.9	970.6	0.0	2.9	0.0	9,210.1	970.6
447.1	1,357.2	0.0	1,388.3	8.8	4,046.5	1,365.9
100.5	34.1	0.0	1,100.3	5.9	1,422.6	39.9
1.4	180.3	0.0	289.6	2.9	1,230.3	183.2
523.3	0.0	0.0	0.0	0.0	1,485.1	0.0

Energy balance, 2019 (Petajoules)

Asia	Primary coal	Coal products	Primary oil	Oil products
Primary production	113,869.4	0.0	79,344.3	0.0
Imports	27,579.8	247.2	54,765.0	23,140.9
Exports	-13,057.0	-249.9	-45,489.0	-25,993.9
International bunkers	0.0	0.0	0.0	-8,146.6
Stock changes	-1,581.7	-48.4	-211.3	-137.8
Total energy supply	126,810.6	-51.1	88,408.9	-11,137.4
Statistical difference	3,442.3	-156.9	-161.3	149.7
Transfers	0.0	0.0	5,819.4	-1,881.5
Transformation	-94,529.3	10,296.3	-93,890.9	85,320.0
Electricity plants	-67,346.2	-1,980.2	-1,232.1	-2,954.4
CHP and heat plants	-8,413.6	-502.2	-0.5	-371.8
Coke ovens	-16,790.1	19,017.6	0.0	-13.1
Oil refineries	0.0	0.0	-87,852.4	88,154.6
Other transformation	-1,979.4	-6,239.0	-4,806.0	504.6
Energy industries own use	-3,730.4	-868.2	-375.4	-5,291.9
Losses	-19.4	-8.9	-42.8	-3.0
Final consumption	25,089.2	9,525.0	80.5	66,856.4
Final energy consumption	22,449.2	9,094.7	53.3	51,088.1
Industry	18,611.6	8,963.9	53.3	7,177.5
Iron and steel	3,540.8	6,698.8	0.0	213.2
Chemical and petrochemical	453.4	873.8	24.2	1,767.7
Non-ferrous metals	74.5	10.3	0.1	153.4
Non-metallic minerals	990.6	15.3	0.04	662.6
Other industries	13,552.3	1,365.8	29.0	4,380.6
Transport	97.5	0.9	0.0	28,478.5
of which Road	0.0	0.0	0.0	23,816.8
Households	1,715.3	69.8	0.0	7,311.6
Commerce, public services	230.8	16.0	0.0	949.1
Other energy use	1,793.9	44.1	0.0	7,171.4
Non-energy use	2,640.0	430.3	27.2	15,768.3

(10) See notes on pages 66-67.

Natural gas	Biofuels and waste	Nuclear	Electricity	Heat	Total	of which: renewables[10]
49,331.5	19,750.7	7,077.4	10,242.9	1,444.7	281,060.9	30,753.0
18,079.0	306.0	0.0	401.8	0.0	124,519.7	304.9
-12,681.3	-219.5	0.0	-348.9	0.0	-98,039.6	-219.5
0.0	0.0	0.0	0.0	0.0	-8,146.6	0.0
49.9	-18.4	0.0	0.0	0.0	-1,947.7	-18.4
54,779.0	19,818.8	7,077.4	10,295.8	1,444.7	297,446.6	30,820.1
770.5	-111.4	0.0	-167.2	38.2	3,804.1	10,265.6
0.0	0.0	0.0	0.0	0.0	3,937.9	0.0
-22,502.2	-3,098.3	-7,077.4	40,823.6	5,198.8	-79,459.4	-3,771.1
-19,605.6	-1,704.7	-7,077.4	39,673.5	-2,406.1	-64,633.2	-2,474.7
-1,538.5	-823.8	0.0	1,150.1	7,604.9	-2,895.2	-731.5
0.0	-4.9	0.0	0.0	0.0	2,209.6	0.0
-113.8	0.0	0.0	0.0	0.0	188.4	0.0
-1,244.3	-564.9	0.0	0.0	0.0	-14,328.9	-564.9
-4,429.4	-12.7	0.0	-4,435.9	-864.7	-20,008.4	-12.7
-509.5	0.0	0.0	-3,638.2	-102.1	-4,323.9	0.0
26,567.4	16,819.3	0.0	43,212.4	5,638.4	193,788.6	16,770.7
23,224.7	16,819.3	0.0	43,212.4	5,638.4	171,580.1	16,770.7
11,760.9	5,365.4	0.0	22,381.2	3,428.8	77,742.6	5,217.6
949.0	32.9	0.0	3,222.5	232.5	14,889.7	31.0
2,413.3	58.6	0.0	2,657.1	1,618.9	9,866.9	35.4
56.1	5.5	0.0	209.8	0.8	510.4	3.7
306.0	94.7	0.0	231.7	2.3	2,303.2	18.1
8,036.5	5,173.7	0.0	16,060.1	1,574.3	50,172.3	5,129.4
2,099.3	730.8	0.0	830.5	41.5	32,279.0	730.8
1,669.6	730.5	0.0	145.6	0.0	26,362.5	730.5
6,067.2	8,609.8	0.0	9,642.7	1,613.3	35,029.7	8,722.3
1,737.1	333.2	0.0	4,583.9	157.1	8,007.2	312.3
1,560.2	1,780.1	0.0	5,774.2	397.7	18,521.7	1,787.8
3,342.7	0.0	0.0	0.0	0.0	22,208.5	0.0

Energy balance, 2019 (Petajoules)

Europe	Primary coal	Coal products	Primary oil	Oil products
Primary production	16,238.0	0.0	30,681.0	0.0
Imports	4,887.4	339.2	24,984.2	17,418.9
Exports	-5,863.6	-388.1	-16,386.8	-22,507.4
International bunkers	0.0	0.0	0.0	-4,850.8
Stock changes	-465.4	-27.4	-18.0	-183.2
Total energy supply	14,796.5	-76.2	39,260.4	-10,122.5
Statistical difference	2.2	-19.7	-11.4	-654.9
Transfers	0.0	0.0	2,027.6	-1,924.6
Transformation	-13,540.1	2,157.9	-40,984.7	41,053.4
Electricity plants	-3,970.8	-227.0	-1.6	-302.6
CHP and heat plants	-5,294.6	-348.8	-21.3	-551.6
Coke ovens	-3,529.3	3,254.1	0.0	-11.9
Oil refineries	0.0	0.0	-40,790.9	41,454.7
Other transformation	-745.4	-520.4	-171.0	464.7
Energy industries own use	-55.2	-323.8	-4.3	-1,875.8
Losses	-1.6	-51.8	-246.6	-0.8
Final consumption	1,197.5	1,725.7	63.7	27,784.6
Final energy consumption	1,165.1	1,659.1	2.5	22,657.2
Industry	687.9	1,609.5	1.9	2,027.0
Iron and steel	231.6	1,497.1	0.6	40.4
Chemical and petrochemical	113.3	11.7	0.9	743.7
Non-ferrous metals	17.6	4.8	0.1	19.3
Non-metallic minerals	204.2	70.4	0+	278.6
Other industries	121.2	25.5	0.3	945.1
Transport	0.8	0.0	0.0	16,861.7
of which Road	0.0	0.0	0.0	15,638.6
Households	357.8	42.3	0.0	2,031.9
Commerce, public services	79.3	4.4	0.0	647.1
Other energy use	39.2	3.0	0.5	1,089.5
Non-energy use	32.4	66.6	61.3	5,127.4

(10) See notes on pages 66-67.

Natural gas	Biofuels and waste	Nuclear	Electricity	Heat	Total	of which: renewables[10]
34,974.6	7,483.3	12,336.9	4,714.6	830.8	107,259.2	11,980.1
18,412.2	1,044.4	0.0	1,669.9	0.2	68,756.6	1,023.7
-15,708.3	-635.5	0.0	-1,673.9	-0.1	-63,163.7	-633.8
-8.2	-1.9	0.0	0.0	0.0	-4,860.9	-1.9
-1,170.8	-13.0	0.0	0.0	0.0	-1,877.7	-10.8
36,499.5	7,877.3	12,336.9	4,710.6	831.0	106,113.5	12,357.2
-330.0	-43.6	0.0	14.0	1.0	-1,042.4	4,786.2
0.0	0.0	0.0	0.0	0.0	102.9	0.0
-15,389.8	-3,209.6	-12,336.9	12,594.1	7,766.6	-21,889.2	-3,069.0
-3,091.9	-967.4	-12,192.0	7,568.6	-385.1	-13,569.8	-1,103.9
-11,778.4	-2,173.4	-144.9	5,025.4	8,151.7	-7,135.7	-1,896.3
-0.9	0.0	0.0	0.0	0.0	-288.0	0.0
0.0	0.0	0.0	0.0	0.0	663.8	0.0
-518.6	-68.8	0.0	0.0	0.0	-1,559.4	-68.8
-1,764.4	-29.2	0.0	-1,876.2	-769.9	-6,698.9	-23.4
-356.9	-3.9	0.0	-1,246.2	-682.4	-2,590.2	-3.9
19,318.4	4,678.2	0.0	14,168.2	7,144.2	76,080.6	4,474.8
16,614.7	4,678.2	0.0	14,168.2	7,144.2	68,089.3	4,474.8
5,355.7	1,382.4	0.0	5,490.1	2,430.5	18,985.0	1,069.3
889.2	55.0	0.0	729.2	327.6	3,770.8	0.9
1,203.6	48.7	0.0	893.5	911.3	3,926.7	18.3
167.2	0.4	0.0	707.7	18.3	935.3	0.1
959.8	222.0	0.0	340.8	105.8	2,181.5	61.6
2,135.8	1,056.3	0.0	2,818.9	1,067.5	8,170.6	988.3
1,427.4	747.3	0.0	570.9	0.0	19,608.2	747.3
89.5	744.9	0.0	14.5	0.0	16,487.6	744.9
7,452.0	2,159.8	0.0	3,963.6	3,201.4	19,208.8	2,248.2
2,117.8	253.1	0.0	3,810.8	1,307.2	8,219.7	263.6
261.9	135.6	0.0	332.9	205.0	2,067.6	146.4
2,703.7	0.0	0.0	0.0	0.0	7,991.4	0.0

Energy balance, 2019 (Petajoules)

Oceania	Primary coal	Coal products	Primary oil	Oil products
Primary production	12,672.4	0.0	790.1	0.0
Imports	57.3	12.1	1,010.9	1,592.9
Exports	-10,619.5	-17.7	-577.9	-177.5
International bunkers	0.0	0.0	0.0	-320.7
Stock changes	-241.9	0.0	-1.1	-17.7
Total energy supply	1,868.3	-5.6	1,222.0	1,077.0
Statistical difference	2.6	0.0	-111.7	-59.0
Transfers	0.0	0.0	103.0	37.8
Transformation	-1,739.9	65.7	-1,434.0	1,302.0
Electricity plants	-1,593.9	0.0	0.0	-121.3
CHP and heat plants	-20.2	-8.1	0.0	-1.7
Coke ovens	-124.0	104.2	0.0	0.0
Oil refineries	0.0	0.0	-1,361.8	1,349.9
Other transformation	-1.7	-30.4	-72.2	75.1
Energy industries own use	-0.7	-38.4	-2.1	-218.8
Losses	0.0	-0.3	0.0	0.0
Final consumption	125.2	21.3	0.6	2,257.0
Final energy consumption	119.6	21.3	0.6	2,063.7
Industry	116.4	21.3	0.6	224.2
Iron and steel	0.6	12.7	0.0	0.9
Chemical and petrochemical	6.4	0.5	0.0	4.5
Non-ferrous metals	46.7	3.9	0.0	14.7
Non-metallic minerals	25.5	0.1	0.0	10.3
Other industries	37.3	4.2	0.6	193.8
Transport	0.0	0.0	0.0	1,667.9
of which Road	0.0	0.0	0.0	1,421.2
Households	0.3	0.02	0.0	23.3
Commerce, public services	0.9	0.04	0.0	38.1
Other energy use	2.0	0.0	0.0	110.2
Non-energy use	5.6	0.0	0.0	193.3

(10) See notes on pages 66-67.

Natural gas	Biofuels and waste	Nuclear	Electricity	Heat	Total	of which: renewables[10]
5,210.7	336.9	0.0	282.5	331.5	19,624.0	947.3
181.8	2.9	0.0	0.0	0.0	2,857.9	2.9
-3,775.3	0-	0.0	0.0	0.0	-15,168.0	0-
0.0	0.0	0.0	0.0	0.0	-320.7	0.0
0.6	-0.01	0.0	0.0	0.0	-260.0	-0.01
1,617.8	339.8	0.0	282.5	331.5	6,733.2	950.2
18.5	-0.1	0.0	1.8	0.0	-148.0	312.9
0.0	0.0	0.0	0.0	0.0	140.8	0.0
-562.1	-52.8	0.0	875.1	-305.5	-1,851.4	-327.7
-429.6	-22.3	0.0	809.6	-304.5	-1,662.1	-295.3
-132.4	-30.0	0.0	65.5	-1.0	-127.9	-31.9
0.0	0.0	0.0	0.0	0.0	-19.8	0.0
0.0	0.0	0.0	0.0	0.0	-11.9	0.0
-0.03	-0.5	0.0	0.0	0.0	-29.6	-0.5
-390.2	0.0	0.0	-138.1	0.0	-788.2	0.0
-0.7	0.0	0.0	-60.2	0.0	-61.2	0.0
646.4	287.1	0.0	957.5	26.0	4,321.1	309.5
553.3	287.1	0.0	957.5	26.0	4,029.2	309.5
312.0	149.0	0.0	347.3	4.8	1,175.6	150.2
8.4	0.0	0.0	17.2	0.0	39.8	0.0
61.2	3.9	0.0	15.5	0.0	92.0	0.5
114.9	1.9	0.0	144.0	0.0	326.0	1.9
48.1	3.1	0.0	12.6	0.0	99.7	3.1
79.5	140.1	0.0	157.9	4.8	618.1	144.8
19.4	5.6	0.0	22.9	0.0	1,715.9	5.6
3.1	5.6	0.0	0.2	0.0	1,430.2	5.6
158.1	78.9	0.0	267.0	17.7	545.3	96.6
61.4	11.2	0.0	299.4	3.1	414.2	14.3
2.4	42.3	0.0	20.8	0.4	178.3	42.8
93.0	0.0	0.0	0.0	0.0	291.9	0.0

Energy indicators, 2019

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	**601,658**	**78.0**	**4.6**	**101.9**	**17.76**	**2,927.3**
Africa	**34,302**	**26.2**	**5.3**	**140.2**	**53.4**	**511.7**
Northern Africa	9,453	39.1	4.0	146.6	9.5	1,246.3
Sub-Saharan Africa	24,849	23.3	6.1	137.8	67.7	344.9
Americas	**139,998**	**138.1**	**4.3**	**112.1**	**15.9**	**5,629.3**
Latin America & Caribbean	34,667	53.6	3.3	109.5	29.2	2,079.3
Northern America	105,331	287.3	4.7	112.9	11.3	11,894.5
Asia	**297,447**	**64.6**	**5.0**	**94.5**	**15.2**	**2,608.7**
Central Asia	6,559	89.6	7.3	197.3	4.7	2,255.5
Eastern Asia	172,154	102.9	5.5	67.6	11.3	4,821.1
South-eastern Asia	30,309	45.8	3.7	115.7	25.5	1,504.0
Southern Asia	59,286	30.9	4.7	73.5	25.4	925.6
Western Asia	29,139	105.8	4.4	251.2	4.4	3,644.4
Europe	**106,113**	**141.6**	**3.7**	**101.1**	**14.6**	**5,251.9**
Eastern Europe	46,710	159.2	6.1	155.9	6.6	4,249.9
Northern Europe	14,041	132.8	2.6	121.3	28.2	6,819.2
Southern Europe	15,086	99.0	2.7	29.9	19.2	4,701.6
Western Europe	30,277	153.1	2.9	42.6	16.7	6,325.0
Oceania	**6,733**	**159.8**	**4.4**	**291.5**	**14.6**	**6,313.3**
Australia and New Zealand	6,384	212.9	4.4	303.4	13.1	8,462.7
Melanesia	304	27.9	4.5	83.2	41.8	822.1
Micronesia	18	32.6	7.2	5.7	5.8	3,931.1
Polynesia	27	40.2	4.1	9.9	12.0	1,594.6

Country or area	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	189.0	5.0	2.4	43.6	18.5	151.9
Albania	91.5	31.7	2.3	78.2	43.1	2,144.9
Algeria	2,508.6	58.3	5.1	237.3	0.2	1,444.4
American Samoa	4.27	77.2	-	0.4	0.5	2,633.8
Andorra	9.2	118.9	-	7.5	18.4	6,349.4
Angola	552.7	17.4	2.6	658.3	57.9	418.9
Anguilla	2.2	147.4	-	0.4	0.5	5,581.0
Antigua and Barbuda	7.2	74.3	3.5	0.6	0.9	2,965.6
Argentina	3,293.2	73.5	3.3	100.0	12.7	2,805.2
Armenia	141.2	47.7	3.5	26.7	12.0	1,974.2
Aruba	13.1	122.9	3.2	4.7	7.5	7,800.8
Australia	5,424.5	215.2	4.3	343.3	10.2	8,512.3
Austria	1,395.7	155.9	2.8	35.7	35.5	7,092.3
Azerbaijan	663.7	66.1	4.6	372.9	1.6	1,857.8
Bahamas	36.5	93.8	2.5	0.8	1.1	5,725.5
Bahrain	668.8	407.5	9.0	156.2	0.1	19,975.5
Bangladesh	2,067.7	12.7	2.7	75.5	36.0	483.9
Barbados	15.9	55.4	3.5	17.5	4.3	3,288.2
Belarus	1,080.7	114.3	6.0	16.4	7.9	3,272.2
Belgium	2,288.2	198.3	3.8	28.7	10.4	7,103.3
Belize	17.3	44.4	6.1	43.0	29.1	1,588.0
Benin	219.9	18.6	5.7	54.9	46.5	106.5
Bermuda	8.6	137.9	1.6	7.0	0.8	8,864.5
Bhutan	71.5	93.6	7.9	118.8	82.3	2,987.0
Bolivia (Plurinational State of)	382.1	33.2	3.8	191.8	8.7	713.7
Bonaire, Sint Eustatius and Saba	1.7	66.1	-	8.6	12.4	4,233.5

Country or area	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	303.0	91.8	6.2	74.7	37.1	3,330.2
Botswana	97.8	42.5	2.6	57.5	7.6	1,392.5
Brazil	12,186.3	57.7	3.9	106.5	44.9	2,430.1
British Virgin Islands	2.4	79.4	-	0.8	1.2	5,227.6
Brunei Darussalam	168.9	389.9	6.3	377.3	0.3	9,014.9
Bulgaria	771.0	110.1	4.8	63.9	19.2	4,302.6
Burkina Faso	198.7	9.8	4.5	66.6	64.8	83.0
Burundi	66.0	5.7	7.6	84.8	84.8	25.6
Cabo Verde	10.3	18.6	2.6	16.9	22.2	673.2
Cambodia	338.3	20.5	4.7	48.0	53.3	619.8
Cameroon	408.1	15.8	4.2	133.2	79.7	250.6
Canada	12,779.2	341.6	6.9	175.4	22.0	14,158.0
Cayman Islands	9.9	152.0	2.1	0.0	0+	10,608.5
Central African Republic	37.6	7.9	8.4	91.3	91.3	29.3
Chad	94.9	5.9	3.8	377.8	77.8	15.6
Chile	1,728.1	91.2	3.7	33.1	25.4	3,909.7
China	136,602.4	95.3	6.1	80.3	12.7	4,393.1
China, Hong Kong SAR	584.6	78.6	1.3	0.0	0.03	6,040.6
China, Macao SAR	40.4	63.1	0.5	9.6	8.4	8,665.8
Colombia	2,043.1	40.6	2.8	269.5	23.3	1,334.4
Comoros	8.3	9.8	3.2	46.2	53.4	76.8
Congo	134.9	25.1	6.6	618.4	68.7	296.7
Cook Islands	1.2	67.5	-	3.0	3.7	2,205.5
Costa Rica	213.9	42.4	2.0	49.6	33.0	1,993.5
Côte d'Ivoire	443.8	17.3	3.3	98.2	62.3	283.7
Croatia	360.6	87.3	3.0	45.5	31.6	3,911.4

Country or area	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	367.4	32.4	1.2	50.1	15.3	1,352.7
Curaçao	31.9	195.5	8.3	2.6	2.7	4,355.2
Cyprus	94.9	79.2	2.6	7.0	12.1	3,941.0
Czechia	1,789.0	167.4	4.1	62.6	16.0	5,467.1
Democratic People's Rep. of Korea	652.7	25.4	-	92.8	11.3	395.3
Democratic Rep. of the Congo	1,266.5	14.6	13.3	101.4	96.2	95.4
Denmark	669.3	116.0	2.0	76.5	37.3	5,404.2
Djibouti	10.2	10.5	1.9	36.2	27.9	482.8
Dominica	2.5	35.3	3.0	5.6	8.0	1,754.0
Dominican Republic	395.1	36.8	2.0	7.2	9.1	1,694.4
Ecuador	626.1	36.0	3.2	204.6	18.1	1,455.6
Egypt	4,081.2	40.7	3.5	97.6	9.3	1,557.4
El Salvador	187.8	29.1	3.3	43.9	19.3	982.8
Equatorial Guinea	75.4	55.6	3.0	756.2	6.6	468.3
Eritrea	37.4	10.7	-	72.1	61.9	112.1
Estonia	220.1	166.0	4.6	102.7	31.6	5,519.5
Eswatini	46.3	40.3	4.7	66.6	65.9	1,170.0
Ethiopia	1,614.7	14.4	6.5	87.9	86.9	98.1
Falkland Islands (Malvinas)	0.6	171.9	-	13.1	4.7	5,278.8
Faroe Islands	10.8	221.0	-	5.2	5.4	7,199.0
Fiji	26.1	29.4	2.1	25.5	26.5	1,067.5
Finland	1,387.6	250.8	5.2	57.4	45.3	14,759.2
France	10,113.7	150.1	3.3	53.8	15.5	6,409.7
French Polynesia	13.2	47.3	-	6.3	7.7	2,334.0
Gabon	104.0	47.9	3.2	514.7	67.8	1,039.4
Gambia	15.5	6.6	3.0	45.8	49.2	103.0

Country or area	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	215.0	53.8	3.9	21.3	25.1	3,017.3
Germany	12,314.4	147.4	2.7	35.4	17.2	5,981.0
Ghana	443.6	14.6	2.6	154.7	41.1	500.8
Gibraltar	11.2	332.0	-	0+	0.02	6,190.7
Greece	915.2	87.4	2.9	27.6	18.4	4,792.8
Greenland	7.9	140.0	-	19.0	12.9	5,815.4
Grenada	5.1	45.7	2.7	7.3	10.4	1,939.8
Guam[11]	0.2	1.1	-	0.0	3.0	9,374.5
Guatemala	571.2	32.5	4.0	61.3	57.6	606.3
Guernsey[11]	0.7	11.8	-	0.3	0.4	5,579.1
Guinea	182.6	14.3	5.6	64.8	65.4	131.2
Guinea-Bissau	32.0	16.7	8.6	82.6	86.2	44.6
Guyana	40.8	52.1	4.0	8.8	11.4	1,110.6
Haiti	189.6	16.8	5.5	77.7	76.2	38.6
Honduras	241.2	24.7	4.3	40.5	39.8	758.0
Hungary	1,114.3	115.1	3.5	41.1	13.6	4,162.9
Iceland	363.4	1,071.8	17.7	92.1	80.8	53,760.5
India	40,565.6	29.7	4.4	59.2	29.3	945.2
Indonesia	11,145.8	41.2	3.5	190.8	28.3	953.7
Iran (Islamic Republic of)	11,460.3	138.2	11.2	129.0	1.8	3,152.3
Iraq	2,292.2	58.3	5.3	449.7	0.4	1,129.9
Ireland	574.1	117.6	1.3	29.8	12.5	5,821.6
Isle of Man[11]	4.9	58.4	-	11.2	1.9	4,326.8
Israel	911.2	107.0	2.5	36.9	4.5	7,051.5
Italy	6,220.6	102.7	2.4	23.1	17.2	4,818.6
Jamaica	115.3	39.1	4.0	7.3	8.5	1,098.1

Country or area	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	17,436.5	137.4	3.3	11.9	7.9	7,312.4
Jersey[11]	3.0	27.6	-	25.2	17.7	5,746.7
Jordan	399.3	39.5	3.9	4.3	4.5	1,772.9
Kazakhstan	3,002.8	161.9	6.2	232.6	1.9	3,878.6
Kenya	1,007.5	19.2	4.3	76.6	60.0	168.4
Kiribati	1.6	13.5	5.9	35.6	41.0	218.5
Kosovo	112.3	62.6	5.5	68.9	25.9	2,627.0
Kuwait	1,598.2	379.9	7.6	423.4	0.1	10,405.6
Kyrgyzstan	158.6	24.7	4.7	63.1	28.4	1,925.9
Lao People's Democratic Rep.	246.0	34.3	4.4	112.1	48.4	919.9
Latvia	188.4	98.8	3.2	62.8	41.4	3,488.6
Lebanon	350.2	51.1	3.5	3.0	4.6	3,156.1
Lesotho	44.7	21.0	8.1	36.0	39.5	372.3
Liberia	101.0	20.5	14.3	86.1	87.3	79.0
Libya	908.1	134.0	8.8	351.0	2.8	2,635.8
Liechtenstein[11]	3.4	89.9	-	41.4	56.1	10,783.8
Lithuania	318.0	115.2	3.1	26.0	34.0	3,819.7
Luxembourg	167.4	271.9	2.3	5.8	17.8	10,388.5
Madagascar	373.8	13.9	8.6	85.2	82.8	74.1
Malawi	89.8	4.8	3.2	78.6	73.0	87.7
Malaysia	3,896.2	121.9	4.3	104.9	6.1	4,967.3
Maldives	27.9	52.5	2.7	0.9	1.1	1,512.4
Mali	209.5	10.7	4.6	77.4	76.6	130.7
Malta	30.5	69.2	1.4	3.4	7.5	5,661.4
Marshall Islands	2.3	39.2	9.7	8.9	11.7	1,330.1
Mauritania	76.3	16.9	3.2	27.1	24.7	242.9

Country or area	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	69.4	54.7	2.4	13.9	7.4	2,169.1
Mexico	7,764.5	60.9	3.1	81.5	9.9	2,195.4
Micronesia (Federated States of)	2.2	19.1	5.5	1.8	1.8	404.3
Mongolia	541.4	167.9	13.4	260.3	1.5	2,122.8
Montenegro	46.9	74.7	3.5	68.2	38.5	4,863.5
Montserrat	0.4	70.4	-	0.3	0.4	2,326.2
Morocco	943.4	25.5	3.4	11.1	12.2	902.8
Mozambique	464.2	15.3	11.9	179.8	78.1	422.7
Myanmar	964.9	17.9	3.8	125.8	57.9	345.7
Namibia	83.9	33.6	3.4	28.4	31.7	1,619.5
Nauru	0.7	68.5	5.1	0.5	0.6	2,954.3
Nepal	597.4	20.9	5.3	76.5	78.6	230.0
Netherlands	2,971.2	173.8	3.0	46.3	8.4	6,407.7
New Caledonia	65.7	232.2	-	2.9	5.4	11,914.1
New Zealand	959.6	200.6	4.5	77.6	29.6	8,201.6
Nicaragua	167.8	25.6	4.7	57.2	50.6	567.3
Niger	104.9	4.5	3.7	106.9	74.2	53.2
Nigeria	6,585.7	32.8	6.4	163.9	81.5	135.7
Niue	0.1	66.2	-	17.1	22.4	2,106.6
North Macedonia	120.9	58.0	3.5	41.8	20.1	2,995.3
Northern Mariana Islands	7.7	133.8	-	0.0	0.0	5,348.4
Norway	1,160.1	215.7	3.4	705.8	61.8	21,496.0
Oman	1,021.0	205.2	7.5	337.7	0.1	6,793.2
Other Asia	4,557.7	191.7	-	10.4	3.4	10,355.5
Pakistan	3,849.0	17.8	3.8	61.5	27.4	524.3
Palau	3.0	169.4	9.6	0.2	0.3	4,472.0

Country or area	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	209.9	49.4	1.6	16.0	17.2	2,304.4
Papua New Guinea	201.5	23.0	5.3	119.3	53.1	512.1
Paraguay	304.1	43.2	3.4	101.5	58.4	1,822.6
Peru	1,048.3	32.2	2.5	91.9	25.2	1,532.8
Philippines	2,520.2	23.3	2.6	50.5	26.2	805.8
Poland	4,324.4	114.1	3.4	57.4	12.2	3,706.0
Portugal	909.9	89.0	2.5	27.0	28.3	4,682.1
Puerto Rico[11]	69.9	23.8	0.6	2.3	2.4	5,480.8
Qatar	1,722.8	608.3	6.8	543.5	0.1	15,416.4
Republic of Korea	11,738.3	229.1	5.3	17.0	3.5	10,225.7
Republic of Moldova	119.1	29.5	3.4	25.0	25.8	943.1
Romania	1,392.5	71.9	2.4	74.0	23.8	2,353.4
Russian Federation	31,677.9	217.2	7.9	202.8	3.2	5,180.1
Rwanda	110.7	8.8	3.9	79.6	77.9	57.2
Saint Helena	0.2	34.5	-	7.6	9.4	1,686.5
Saint Kitts and Nevis	3.6	67.7	2.6	1.1	1.6	3,577.2
Saint Lucia	8.0	43.9	2.8	7.6	9.7	2,018.3
Saint Pierre and Miquelon	0.9	159.1	-	0.6	0.9	8,459.0
Saint Vincent and the Grenadines	3.4	30.9	2.5	4.7	5.7	1,340.0
Samoa	5.7	28.9	4.5	30.4	34.2	769.7
Sao Tome and Principe	3.0	13.9	3.5	35.6	37.1	346.0
Saudi Arabia	10,128.7	295.6	6.3	270.7	0.1	7,705.6
Senegal	209.5	12.9	3.8	35.9	34.0	243.0
Serbia	633.2	90.7	5.0	67.3	22.1	4,011.8
Seychelles	8.3	84.7	3.1	0.9	1.5	4,968.2
Sierra Leone	72.6	9.3	5.4	76.8	75.4	22.1

Country or area	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	822.6	141.7	1.5	3.3	0.9	8,909.4
Sint Maarten (Dutch part)	10.8	255.8	8.6	0.0	0.1	6,459.2
Slovakia	704.9	129.2	4.0	40.7	17.5	4,616.4
Slovenia	285.5	137.3	3.5	50.7	20.9	6,580.8
Solomon Islands	7.6	11.3	4.3	43.8	48.4	131.9
Somalia	155.9	10.1	11.6	94.2	95.0	22.7
South Africa	5,990.8	102.3	7.5	112.0	12.1	3,195.7
South Sudan	30.2	2.7	-	1,229.2	26.8	48.4
Spain	5,035.6	107.7	2.6	27.5	17.2	5,018.1
Sri Lanka	457.2	21.4	1.6	38.9	45.4	691.2
State of Palestine	80.4	16.1	2.747	12.0	13.9	1,247.3
Sudan	534.5	12.5	3.0	76.4	47.3	329.4
Suriname	43.1	74.1	3.9	93.5	18.9	3,399.6
Sweden	2,002.0	199.5	3.7	75.6	52.0	12,410.6
Switzerland	1,022.7	119.0	1.7	53.2	25.0	6,657.5
Syrian Arab Republic	390.1	22.9	10.6	47.8	1.0	737.9
Tajikistan	207.7	22.3	6.2	81.8	54.4	1,519.8
Thailand	5,795.3	83.2	4.5	53.9	23.8	2,774.5
Timor-Leste	9.8	7.6	2.1	2,294.6	11.7	297.1
Togo	137.6	17.0	8.0	83.2	76.1	164.3
Tonga	2.3	21.8	3.4	1.8	1.8	601.0
Trinidad and Tobago	718.2	514.9	19.9	201.0	0.2	6,042.6
Tunisia	477.1	40.8	3.6	45.6	12.2	1,487.6
Turkey	6,117.6	73.3	2.6	30.9	14.4	3,035.0
Turkmenistan	1,191.3	200.5	12.9	285.3	0.1	2,099.6
Turks and Caicos Islands	5.3	137.9	4.7	0.3	0.4	6,315.1

Country or area	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	11.1	2.6	5.6	8.2	643.5
Uganda	966.2	21.8	10.0	92.0	90.2	73.0
Ukraine	3,736.0	84.9	6.9	67.0	8.1	2,652.4
United Arab Emirates	2,188.7	224.0	3.3	444.2	0.7	12,867.0
United Kingdom	7,138.6	105.7	2.3	71.3	12.2	4,374.0
United Republic of Tanzania	933.3	16.1	6.2	89.4	85.4	115.1
United States	92,534.4	281.2	4.5	104.3	9.9	11,638.9
United States Virgin Islands[11]	0.1	0.8	-	0.0	3.7	5,307.9
Uruguay	220.9	63.8	2.8	64.1	60.8	3,270.4
Uzbekistan	1,998.8	60.6	8.1	114.4	1.6	1,642.6
Vanuatu	3.3	11.0	3.6	27.5	31.9	249.3
Venezuela (Bolivarian Rep. of)	1,361.6	47.7	-	237.8	17.1	1,987.0
Viet Nam	4,400.7	45.6	5.7	63.1	26.8	2,146.4
Wallis and Futuna Islands	0.4	32.1	-	0.5	0.7	1,764.6
Yemen	155.2	5.3	-	72.5	3.0	77.4
Zambia	454.6	25.4	7.3	86.0	81.6	690.9
Zimbabwe	464.4	31.7	8.7	89.3	81.5	495.4

(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 (35.4 GW in 2019) 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/2019/05gn.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/2019/05gn.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 category *other primary oil* (chart 27 and table 28) refers 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 and heat generation are not accounted directly in TFC, but accounted for indirectly as final electricity and heat consumption. For coal specifically, around 65% of TES in 2019 is used as input for electricity and heat 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 2018 and 2019 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 Guam, Guernsey, Isle of Man, Jersey, Liechtenstein, Puerto Rico and United States Virgin Islands are partially covered by another country (see geographical notes at: https://unstats.un.org/unsd/energystats/pubs/yearbook/2019/05gn.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.

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