

2021 Energy Statistics Yearbook



Department of Economic and Social Affairs

The Department of Economic and Social Affairs of the United Nations Secretariat is a vital interface between global policies in the economic, social and environmental spheres and national action. The Department works in three main interlinked areas: (i) it compiles, generates and analyses a wide range of economic, social and environmental data and information on which States Members of the United Nations draw to review common problems and to take stock of policy options; (ii) it facilitates the negotiations of Member States in many intergovernmental bodies on joint courses of action to address ongoing or emerging global challenges; and (iii) it advises interested Governments on the ways and means of translating policy frameworks developed in United Nations conferences and summits into programmes at the country level and, through technical assistance, helps build national capacities.

Note

Symbols of United Nations documents are composed of capital letters combined with figures. Mention of such a symbol indicates reference to a United Nations document.

General Disclaimer

The designations employed and the presentation of material 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.

Where the designation "country or area" appears in the headings of tables, it covers countries, territories, cities or areas. In prior issues of this publication, where the designation "country" appears in the headings of tables, it should be interpreted to cover countries, territories, cities or areas.

The Energy Statistics Yearbook is published by 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.J/65

Sales number: E.23.XVII.2

ISBN: 978-92-1-003000-7
PDF ISBN: 978-92-1-358690-7
EPUB ISBN: 978-92-1-358691-4
ISSN: 0256-6400
Online ISSN: 2412-1053

Copyright © United Nations 2023
All rights reserved

CONTENTS

	Page	
Introduction	vi	
Abbreviations and symbols.....	viii	
Energy product definitions	ix	
Energy flow definitions.....	xvi	
Capacities and other definitions	xviii	
General notes	xx	
Geographical notes.....	xxi	
Country-specific information	xxiii	
Units of measurement and conversion	xxv	
Conversion factors		
I. Standard net calorific values of energy products.....	xxvi	
II. Selected conversion factors for crude oil and oil products.....	xxvii	
TABLES		
Summary tables		
1. Total energy supply... ..	2	
2. Components of total energy supply	10	
3. Total final consumption and its components.....	47	
4. CO ₂ emissions from fossil fuel combustion.....	66	
Solid fuels		
5. Production, trade and supply of coal.....	87	
6. Production, trade and supply of hard coal	101	
7. International trade of hard coal (Principal importers/exporters), 2020 and 2021.....	112	
8. Production, trade and supply of brown coal and oil shale	117	
9. Production, trade and supply of coke	125	
10. Production, trade and supply of patent fuel	133	
11. Production, trade and supply of brown coal briquettes and peat products	137	
12. Production, trade and supply of peat	141	
13. Production of biofuels and wastes.....	145	
Liquid fuels		
14. Production, trade and supply of conventional crude oil.....	180	
15. Production of additives and other hydrocarbons	193	
16. International trade of conventional crude oil (Principal importers/exporters), 2020 and 2021	198	
17. Refinery distillation capacity, throughput and output	202	
18. Production, trade and supply of liquefied petroleum gases (LPG)	215	
19. Production, trade and supply of motor gasoline.....	233	
20. Production, trade and supply of other kerosene	253	
21. Production, trade and supply of jet fuels	269	
22. Production, trade and supply of gas oil/diesel oil	287	
23. Production, trade and supply of fuel oil	307	
24. Production of minor oil products from refineries – by type.....	325	
25. Production of oil products from refineries – by type.....	337	
26. Production, trade and supply of oil products....	349	
27. Production of natural gas liquids – by end use	369	
Gaseous fuels		
28. Production, trade and supply of natural gas	377	
29. International trade of natural gas (Principal importers/exporters), 2020 and 2021	390	
30. Production of manufactured and recovered gases - by type	395	
Electricity and Heat		
31. Net installed capacity of electricity plants – by type	403	
32. Utilization of installed electricity capacity – by type.....	439	
33. Production of electricity – by type	474	
34. Electricity supply and consumption	511	
35. Production of heat - by type	531	

Nuclear fuels

36. Production of uranium (uranium content).....	541
--	-----

Energy resources

37. Selected energy resources and reserves	545
--	-----

FIGURES

Page

Total energy supply and final consumption

1. Total energy supply by region, 1990.....	2
2. Total energy supply by region, 2021.....	2
3. Total energy supply by region, 1990-2021.....	3
4. Total per capita energy supply by region, selected years	10
5. Production of solids by region, 2021.....	11
6. Production of liquids by region, 2021.....	11
7. Production of gases by region, 2021	11
8. Primary electricity production by region, 2021	11
9. World total final consumption by component, 2021	47
10. Total final consumption by region, 1990-2021	47
11. CO ₂ emissions from fossil fuel combustion, 1990-2021.....	67
12. CO ₂ emissions from fossil fuel combustion by region, 1990.....	67
13. CO ₂ emissions from fossil fuel combustion by region, 2021	67

Solid fuels

14. Production of coal by region, 1990-2021	87
15. Production of hard coal by region, 1990-2021 ..	101
16. Major hard coal producing countries, 2021.....	101
17. Major hard coal consuming countries, 2021	101
18. Production of brown coal and oil shale by region, 1990-2021	117
19. Major brown coal producing countries, 2021	117
20. Major brown coal consuming countries, 2021... ..	117
21. Per capita supply of coke by region, 2021	125
22. Major coke producing countries, 2021	125
23. Major coke consuming countries, 2021	125
24. Major peat fuel producing countries, 2021.....	133
25. Major peat fuel consuming countries, 2021	133
26. Production of BKB and peat products by region, 1990-2021	137
27. Major BKB and peat products producing countries, 2021.....	137
28. Major BKB and peat products consuming countries, 2021.....	137
29. World production of peat, 1990-2021.....	141

30. Major peat producing countries, 2021.....	141
31. Major peat consuming countries, 2021	141
32. Production of fuelwood by region, 1990-2021 ..	146
33. Production of charcoal by region, 1990-2021 ...	146
34. Production of total solid biofuels by region, 2021.....	147
35. Production of biogases by region, 2021.....	147
36. Production of bagasse by region, 2021.....	147
37. Production of liquid biofuels by region, 2021	147
38. Production of energy from wastes by region, 2021	147

Liquid fuels

39. Production of conventional crude oil by region, 1990-2021	180
40. Exports of conventional crude oil by region, 1990-2021	180
41. Production, trade and supply of conventional crude oil by region, 2021	181
42. Major crude oil producing countries, 2021	181
43. Major crude oil consuming countries, 2021	181
44. Major additives producing countries, 2021.....	193
45. Major other hydrocarbons producing countries, 2021	193
46. Refinery distillation capacity, throughput and output by region, 2021.....	202
47. Total refinery distillation capacity by region, 1990-2021	203
48. Production of LPG by region, 1990-2021.....	215
49. Major LPG producing countries, 2021.....	215
50. Major LPG consuming countries, 2021	215
51. Production of motor gasoline by region, 1990-2021	233
52. Major motor gasoline producing countries, 2021.....	233
53. Major motor gasoline consuming countries, 2021.....	233
54. Production of other kerosene by region, 1990-2021	253
55. Major other kerosene producing countries, 2021.....	253
56. Major other kerosene consuming countries, 2021.....	253
57. Production of jet fuels by region, 1990-2021	269
58. Major jet fuels producing countries, 2021	269
59. Major jet fuels consuming countries, 2021.....	269
60. Production of gas oil/diesel oil by region, 1990-2021	287
61. Major gas oil/diesel oil producing countries, 2021.....	287
62. Major gas oil/diesel oil consuming countries, 2021.....	287
63. Production of fuel oil by region, 1990-2021	307
64. Major fuel oil producing countries, 2021	307
65. Major fuel oil consuming countries, 2021.....	307

66. Production of minor oil products from refineries, 2021	325	77. Utilization of installed electric generating capacity by source and region, 2021	439
67. Production of selected oil products from refineries, 1990-2021	337	78. World electricity generation by source, 1990-2021	474
68. Production of oil products by region, 1990-2021	349	79. World production of electricity by source and region, 2021	475
69. Production of natural gas liquids by region, 1990-2021	369	80. Major countries producing electricity from combustible fuels, 2021	475
70. Production of natural gas liquids by end-use product, 2021	369	81. Major countries producing hydro electricity, 2021.....	475
Gaseous fuels		82. Major countries producing nuclear electricity, 2021.....	475
71. Production of natural gas by region, 1990-2021	377	83. Major countries producing electricity from other sources, 2021.....	475
72. Major natural gas producing countries, 2021	377	84. World electricity generation by region, 1990-2021	511
73. Major natural gas consuming countries, 2021 ..	377	85. Major electricity producing countries, 2021.....	511
74. Production of manufactured and recovered gases by region, 1990-2021.....	395	86. Major electricity consuming countries, 2021	511
75. World production of manufactured and recovered gases by type, 2021	395	87. Heat production by region, 1990-2021.....	531
Electricity and Heat		88. Major heat producing countries, 2021	531
76. Change in net installed capacity of electricity generating plants by source, 2018-2021.....	403	89. World heat production by type, 2021	531

Statistics compiled as of November 2023