

NPO Overview



– NOTICE –

UxC, LLC (“UxC”) shall have title to, ownership of, and all proprietary rights in this Report. Under United States federal copyright law (17 USC 101 et seq.) it is illegal to reproduce this Report by any means without written permission from UxC.

The information contained in this Report is obtained from sources that UxC believes to be reliable. UxC makes no warranty or representation, express or implied, with respect to the accuracy, completeness or usefulness of the information contained in this Report and UxC, to the maximum extent permitted by law, assumes no liability for the use or effects of any of the information or data contained in this Report.

It is UxC’s strict policy not to endorse, promote, or recommend any particular securities, currencies, or other financial products or instruments. Nothing contained in this Report is intended to constitute investment, legal, tax, accounting or other professional advice and the reader should not rely on the information provided in this Report for making financial decisions.

The Ux U₃O₈ Price[®] and other Ux Price indicators are developed by UxC, LLC (UxC) and are proprietary and exclusive intellectual property of UxC. These price indicators are provided to UxC’s customers through the Ux Weekly[®] publication and are made available on UxC’s public website solely at UxC’s discretion. They may not be reproduced or otherwise used without UxC’s express permission.

UxC[®], Ux Weekly[®], Ux U₃O₈ Price[®], UxC BAP[®], U-PRICE[®], and SWU-PRICE[®] are trademarks of UxC, LLC.

Table of Contents

Introduction & Overview	5
1 – Global Nuclear Power Status	6
Recent Nuclear Power Trends	6
UxC Nuclear Power Regions	7
Country Selections and Classifications	8
Current Status of Global Nuclear Power	9
Changes from Previous Reports	10
Changes Since 2011	10
Changes Since Last Year	10
Overview Data on Operating and Shutdown Nuclear Power Plants	11
Regional Distribution of Operating Reactors	11
Operating Reactors by Startup Year	12
Statistics on Operating Reactor Technologies	13
Regional Distribution of Shutdown Reactors	14
Statistics on Shutdown Reactor Technologies	15
2 – Regional & Country Summaries: North America	16
North America Overall Reactor Data	16
Existing Nuclear Power Countries	16
Canada	17
United States	21
Mexico	26
3 – Regional & Country Summaries: Western Europe	28
Western Europe Overall Reactor Data	28
Existing Nuclear Power Countries	29
France	29
United Kingdom	33
Germany	36
Sweden	37
Finland	39
Spain	41
Switzerland	43
Belgium	44
Netherlands	46
4 – Regional & Country Summaries: Eastern Europe	48
Eastern Europe Overall Reactor Data	48
Existing Nuclear Power Countries	49
Russia	49
Ukraine	53
Czech Republic	56
Slovakia	59
Hungary	61
Bulgaria	63
Romania	65
Slovenia	67
Armenia	69
Belarus	71
Potential New Nuclear Power Countries	72
Poland	73
Estonia	75
Serbia	76
5 – Regional & Country Summaries: Asia & Oceania	77
Asia & Oceania Overall Reactor Data	77
Existing Nuclear Power Countries	78
Japan	78
South Korea	83

China.....	86
Taiwan.....	90
India	93
Pakistan	96
Potential New Nuclear Power Countries	97
Bangladesh	97
Uzbekistan	100
Kazakhstan	101
Kyrgyzstan	102
Indonesia.....	103
Philippines.....	104
Vietnam	106
Malaysia	107
Singapore.....	108
Thailand	109
Australia	110
6 – Regional & Country Summaries: Africa & Middle East	111
Africa & Middle East Overall Reactor Data.....	111
Existing Nuclear Power Countries.....	111
South Africa.....	112
Iran.....	114
United Arab Emirates	115
Potential New Nuclear Power Countries	117
Kenya	117
Ghana	118
Nigeria.....	119
Algeria.....	120
Egypt.....	121
Jordan	122
Turkey	123
Saudi Arabia.....	124
7 – Regional & Country Summaries: South America	126
South America Overall Reactor Data	126
Existing Nuclear Power Countries.....	126
Brazil	126
Argentina.....	128
Appendix A – Operating Reactors in 2022	130
Appendix B – Shutdown Reactors.....	140

List of Figures

Figure 1. Map of NPO Countries by Region.....	7
Figure 2. Map of NPO Countries by Ranking.....	8
Figure 3. Percentage of Operating Units by Region.....	11
Figure 4. Percentage of Operating Nuclear Capacity by Region.....	12
Figure 5. Operating Reactors by Startup Year.....	12
Figure 6. Percentages of Different Operating Reactor Types.....	13
Figure 7. Percentage of Shutdown Units by Region.....	14
Figure 8. Percentage of Shutdown Nuclear Capacity by Region.....	14
Figure 9. Percentages of Shutdown Reactor Types.....	15

List of Tables

Table 1. List of NPO Countries by Region.....	7
Table 2. List of NPO Countries by Ranking.....	8
Table 3. Global Nuclear Power Data in Early 2022.....	9
Table 4. World Nuclear Power Status by Region in Early 2022.....	9
Table 5. World Nuclear Power Status, 2011 vs. 2022.....	10
Table 6. World Nuclear Power Status, 2021 vs. 2022.....	10
Table 7. Regional Breakdown for Operating Reactors.....	11
Table 8. Operating Reactor Types.....	13
Table 9. Regional Breakdown for Shutdown Reactors.....	14
Table 10. Shutdown Reactor Types.....	15
Table 11. North America Nuclear Power Data.....	16
Table 12. Canada Nuclear & Electric Power Data.....	17
Table 13. United States Nuclear & Electric Power Data.....	21
Table 14. Mexico Nuclear & Electric Power Data.....	26
Table 15. Western Europe Nuclear Power Data.....	28
Table 16. France Nuclear & Electric Power Data.....	29
Table 17. United Kingdom Nuclear & Electric Power Data.....	33
Table 18. Germany Nuclear & Electric Power Data.....	36
Table 19. Sweden Nuclear & Electric Power Data.....	37
Table 20. Finland Nuclear & Electric Power Data.....	39
Table 21. Spain Nuclear & Electric Power Data.....	41
Table 22. Switzerland Nuclear & Electric Power Data.....	43
Table 23. Belgium Nuclear & Electric Power Data.....	44
Table 24. Netherlands Nuclear & Electric Power Data.....	46
Table 25. Eastern Europe Nuclear Power Data.....	48
Table 26. Russia Nuclear & Electric Power Data.....	49
Table 27. Ukraine Nuclear & Electric Power Data.....	53
Table 28. Czech Republic Nuclear & Electric Power Data.....	56
Table 29. Slovakia Nuclear & Electric Power Data.....	59
Table 30. Hungary Nuclear & Electric Power Data.....	61
Table 31. Bulgaria Nuclear & Electric Power Data.....	63
Table 32. Romania Nuclear & Electric Power Data.....	65
Table 33. Slovenia Nuclear & Electric Power Data.....	67
Table 34. Armenia Nuclear & Electric Power Data.....	69
Table 35. Belarus Nuclear & Electric Power Data.....	71
Table 36. Probabilities for New Nuclear Countries in Eastern Europe.....	72
Table 37. Poland Nuclear & Electric Power Data.....	73
Table 38. Poland Nuclear & Electric Power Data.....	75
Table 39. Serbia Nuclear & Electric Power Data.....	76

Table 40. Asia & Oceania Nuclear Power Data	77
Table 41. Japan Nuclear & Electric Power Data	78
Table 42. South Korea Nuclear & Electric Power Data	83
Table 43. China Nuclear & Electric Power Data	86
Table 44. Taiwan Nuclear & Electric Power Data	90
Table 45. India Nuclear & Electric Power Data	93
Table 46. Pakistan Nuclear & Electric Power Data	96
Table 47. Probabilities for New Nuclear Countries in Asia & Oceania	97
Table 48. Bangladesh Nuclear & Electric Power Data	97
Table 49. Uzbekistan Nuclear & Electric Power Data	100
Table 50. Kazakhstan Nuclear & Electric Power Data	101
Table 51. Kyrgyzstan Nuclear & Electric Power Data	102
Table 52. Indonesia Nuclear & Electric Power Data	103
Table 53. Philippines Nuclear & Electric Power Data	104
Table 54. Vietnam Nuclear & Electric Power Data	106
Table 55. Malaysia Nuclear & Electric Power Data	107
Table 56. Singapore Nuclear & Electric Power Data	108
Table 57. Thailand Nuclear & Electric Power Data	109
Table 58. Australia Nuclear & Electric Power Data	110
Table 59. Africa & Middle East Nuclear Power Data	111
Table 60. South Africa Nuclear & Electric Power Data	112
Table 61. Iran Nuclear & Electric Power Data	114
Table 62. UAE Nuclear & Electric Power Data	115
Table 63. Probabilities for New Nuclear Countries in Africa & Mideast	117
Table 64. Kenya Nuclear & Electric Power Data	117
Table 65. Ghana Nuclear & Electric Power Data	118
Table 66. Nigeria Nuclear & Electric Power Data	119
Table 67. Algeria Nuclear & Electric Power Data	120
Table 68. Egypt Nuclear & Electric Power Data	121
Table 69. Jordan Nuclear & Electric Power Data	122
Table 70. Turkey Nuclear & Electric Power Data	123
Table 71. Saudi Arabia Nuclear & Electric Power Data	124
Table 72. South America Nuclear Power Data	126
Table 73. Brazil Nuclear & Electric Power Data	126
Table 74. Argentina Nuclear & Electric Power Data	128
Table A-1. Worldwide Reactors in Operation by Country in Early 2022	130
Table B-1. Worldwide Shutdown Reactors by Country as of Early 2022	140

Introduction & Overview

UxC, LLC (UxC) publishes this *NPO Overview* report as an annual compendium covering the status of nuclear power around the world as of the start of the current year. This 2022 *Overview* report is part of UxC's *Nuclear Power Outlook* (NPO) reporting service, which includes in-depth analysis of key trends impacting the global nuclear industry, quarterly updates on nuclear power developments in 55 countries around the world, as well as nuclear power forecasts for each of these countries through 2050.

In **Chapter 1 – Global Nuclear Power Status**, we provide a brief review of the current status of world nuclear power with data on operating and shutdown reactors as of early 2022. Furthermore, a review of global nuclear trends shaping the market over the past decade is also included.

In the subsequent six chapters, we offer information on each country that either has an active nuclear power program or is considering the use of nuclear power. For each nation, we provide general energy and nuclear power data as well as an overview of the status of nuclear power in the country. In this 2022 edition of the report, we have updated our detailed coverage for operating nuclear power countries and serious newcomers. Countries are grouped into six separate geographic regions as determined by UxC. The chapters are ordered as follows:

Chapter 2 – Regional & Country Summaries: North America

Chapter 3 – Regional & Country Summaries: Western Europe

Chapter 4 – Regional & Country Summaries: Eastern Europe

Chapter 5 – Regional & Country Summaries: Asia & Oceania

Chapter 6 – Regional & Country Summaries: Africa & Middle East

Chapter 7 – Regional & Country Summaries: South America

Additional useful data tables on operating reactors as well as shutdown units can also be found in the **Appendices** at the end of this report.

It is important to understand that this report provides an overview of the current status of nuclear power (as of early 2022) and does not endeavor to offer UxC's multi-scenario nuclear power forecasts for each country around the world. All reactor forecasting is found in the accompanying *Nuclear Power Outlook* (NPO) quarterly reports, which cover the various ongoing developments in global nuclear power and the regularly changing nature of future reactor prospects around the world. On the other hand, this *NPO Overview* report is only issued once at the beginning of each year.