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REFERENCE DATA SERIES No. 1

Energy, Electricity and Nuclear Power Estimates for the Period up to 2050

2025 Edition

ENERGY, ELECTRICITY AND NUCLEAR POWER ESTIMATES FOR THE PERIOD UP TO 2050

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2025 Edition

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ENERGY, ELECTRICITY AND
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Introduction

Reference Data Series No. 1 (RDS-1) is an annual publication — currently in its 45th edition — containing estimates of energy, electricity and nuclear power trends up to the year 2050. The estimates of RDS-1 constitute a low and a high case projection.

Relative to a global nuclear operational capacity of 377 GW(e) at the end of 2024, the low case projects an increase of about 50% to 561 GW(e) by 2050. In the high case, global nuclear operational capacity is projected to increase to 2.6 times the 2024 capacity, reaching 992 GW(e) by 2050. Power uprates were also considered as part of the projections. Small modular reactors (SMRs) are estimated to account for 24% of the 676 GW(e) new capacity added by 2050 in the high case and for 5% of the 320 GW(e) new capacity added in the low case.

Worldwide, coal remains the primary energy source for electricity production, accounting for about one third of the electricity produced in 2024. While coal's share in electricity production has changed little since 1980, that of natural gas — the world's second largest source of electricity — has almost doubled over the same time frame.

Hydro is the largest and nuclear is the second largest source of low carbon electricity. Nuclear contributed about 9% of global electricity production in 2024.

In recent years there has been an increase in the use of wind and solar, with their combined share reaching almost 15% in 2024.

By 2050 global final energy consumption is projected to decrease by about 3% and electricity production is projected to double from 2024 levels.

Data, Assumptions and Methods

The publication is organized into world and regional subsections and starts with a summary of the status of nuclear power in IAEA Member States as of the end of 2024 based on the latest statistical data collected by the IAEA's Power Reactor Information System (PRIS).

The publication provides global and regional energy and electricity projections up to 2050, estimated using the IAEA's Model for Analysis of Energy Demand (MAED). These projections are based on current regional and national policies, as well as considering emerging policy measures. While the energy and electricity projections move

towards net zero emissions by 2050, they do not quite meet this goal. Additionally, the energy and electricity projections do not specifically align with scenarios limiting global warming to 1.5°C or 2°C above pre-industrial levels. References [1, 2] are considered in the development of the energy and electricity projections.

The energy, electricity and nuclear power projections presented in RDS-1 are for countries grouped according to the geographical regions used by the Statistics Division of the United Nations Secretariat (see annex I to Ref. [3]).

The fundamental narrative underlying the energy and electricity projections considers the unique starting point of each region and the specific factors influencing the development of its energy sector. Both the high and the low cases assume the same economic and electricity demand growth outlook, as estimated using MAED.

The energy and electricity data for 2024 are estimated, as the latest data available from the United Nations Department of Economic and Social Affairs [4] and the International Energy Agency [5] are for 2022.

Population data are from World Population Prospects 2024 [6], published by the Population Division of the United Nations Department of Economic and Social Affairs.

Global and regional nuclear power projections are presented as low and high cases, encompassing the uncertainties inherent in projecting trends. The projections are based on three sources: the nuclear data collected by the IAEA's PRIS; the estimate of the nuclear generating capacity established by a group of external experts participating in the IAEA's annual Consultancy Meeting on Nuclear Capacity Projections up to 2050; and national projections supplied by countries for the OECD Nuclear Energy Agency and IAEA publication on uranium resources, production and demand through 2050 [7].

The nuclear electrical generating capacity estimates presented in Table 5 on page 24 of the publication are derived using a country by country 'bottom-up' approach. In deriving these estimates, the group of experts considered all operating reactors, possible licence renewals, planned shutdowns, power uprates, and plausible construction projects foreseen for the next few decades. The experts built the estimates project by project by assessing the plausibility of each considering a low and high case.

The low and high estimates reflect contrasting underlying assumptions about the different driving factors that have an impact on nuclear power deployment. These factors, and the way they might evolve, vary from country to country. The estimates provide a plausible range of nuclear capacity development by region and worldwide. They are not intended to be predictive, nor do they reflect the whole range of possible futures from the lowest to the highest feasible.

The assumptions of the low case nuclear power projections are that current market, technology and resource trends continue and there are few additional changes in laws, policies and regulations affecting nuclear power. This case was designed to produce a conservative and plausible projection. Additionally, the low case does not assume that targets for nuclear power in a particular country will necessarily be achieved.

National policies on climate change are considered in the high case, as are national intentions for expanding the use of nuclear power. The high case is more ambitious than the low case, while remaining plausible and technically feasible, and it is possible that capacity could increase beyond that projected in the high case. However, enabling factors would be necessary to help facilitate reaching — or exceeding — the high case, including national policies and strategies, supporting investment, demonstration projects for new reactor technologies, realization of accelerated technological learning, investment in grids, supply chain management for reactor construction, regulatory collaboration and global harmonization (particularly for SMR development), work force development, and renumeration of nuclear energy's contributions to the power system (e.g. reliability). Each region and country faces different challenges that need to be overcome to increase nuclear power capacity. With different national contexts, different policies would be needed.

In addition, there is uncertainty related to the future growth in demand for electricity, for example the potential for a substantial increase in demand for secure low carbon electricity to power the digital economy and the projected level of electrification in transport and industry. This uncertainty could impact the growth of nuclear capacity.

Background Information

Nuclear power is a well established, stable, dispatchable low carbon technology. For many regions of the world, having a clean and secure source of energy continues to be a major policy concern that drives interest in nuclear power. In addition, transitioning to a sustainable energy future will be challenging without nuclear power's contribution. To achieve such a future, the world needs an abundance of clean, reliable and sustainable energy.

SMRs continue to attract considerable interest in countries embarking or expanding their nuclear power programmes. Nuclear power could contribute to the decarbonization of hard to abate sectors, such as industrial applications that require high temperature process steam.

Recently, there has been growing interest from financial institutions (e.g. multilateral development banks) and from large technology companies in supporting nuclear energy, including advanced technologies such as SMRs. Many of these large technology companies support the pledge made by 31 countries to triple nuclear capacity by 2050, as announced at COP28 in December 2023 [8]. Engagement with multilateral development banks, including the World Bank, regarding policies on nuclear energy has resulted in positive changes.

Currently, about two thirds of the nuclear power capacity has been in operation for more than 30 years and about 40% for more than 40 years, highlighting the need for significant new nuclear capacity to offset retirements in the long term. Extending the lifetime of existing reactors is the most cost effective way to produce low emission electricity and is particularly important for those regions with ageing nuclear fleets. Initiatives supporting lifetime extensions are under way in several regions and countries with large nuclear fleets. An increasing number of ageing management programmes have been implemented for long term operation. New policy measures are also being implemented to support the competitiveness of existing reactors in deregulated electricity markets.

Geographical Regions

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 IAEA concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Notes

The estimates of nuclear electricity production in 2024 are from the 2025 edition of Nuclear Power Reactors in the World, Reference Data Series No. 2 (RDS-2) [9]. The estimates for energy and electricity were made by the IAEA Secretariat on the basis of different international and national data sources available as of July 2025.

In accordance with the International Recommendations for Energy Statistics [10], the estimates for the breakdown of historical electricity production by energy source are expressed in gross figures. Gross electricity production is the total electrical energy produced by all generating units and installations measured at the output terminals of the generators. Current data on nuclear electrical production and future estimates of nuclear and total electrical production are expressed in net values, as the data are adapted from the RDS-2 publication.

Owing to rounding, numbers presented throughout this publication might not add up precisely to the totals provided, and percentages might not precisely reflect the absolute figures.

Total final energy consumption refers to all fuel and energy delivered to end users for their energy use.

Nuclear electrical generating capacity estimates consider the scheduled retirement of older units at the end of their lifetimes.

The global and regional nuclear electrical production data and the nuclear electrical generating capacity data cannot be used to calculate average annual capacity factors for nuclear power plants, as the nuclear electrical generating capacity data are year-end capacities.

World

8 162

million people

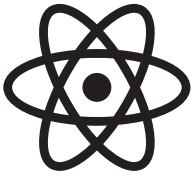
Energy Overview 2024

20.5%

of final energy consumed was electricity

30 529 TW·h

of electricity produced



8.7%

of electricity produced by nuclear

Nuclear Power Development in 2024

- At the end of 2024, 417 nuclear power reactors were operational, with a global nuclear operational capacity of 377.0 GW(e).
- In addition, 62 reactors with a total capacity of 64.4 GW(e) were under construction, and 23 reactors with a total capacity of 19.7 GW(e) were in suspended operation.
- Six new nuclear power reactors with a total capacity of 6.8 GW(e) were connected to the grid, and four reactors with a total capacity of 2.9 GW(e) were retired. Two reactors with a total capacity of 1.6 GW(e) restarted after suspended operation. Construction began on nine new reactors that are expected to add a total capacity of 10.1 GW(e).
- Compared with 2023, total electricity production from all energy sources increased by about 3.4% and electricity production from nuclear power reactors increased by 2.8% to 2670 TW·h.
- Nuclear power accounted for 8.7% of total electricity production in 2024, a slight reduction compared with nuclear electricity production in 2023.

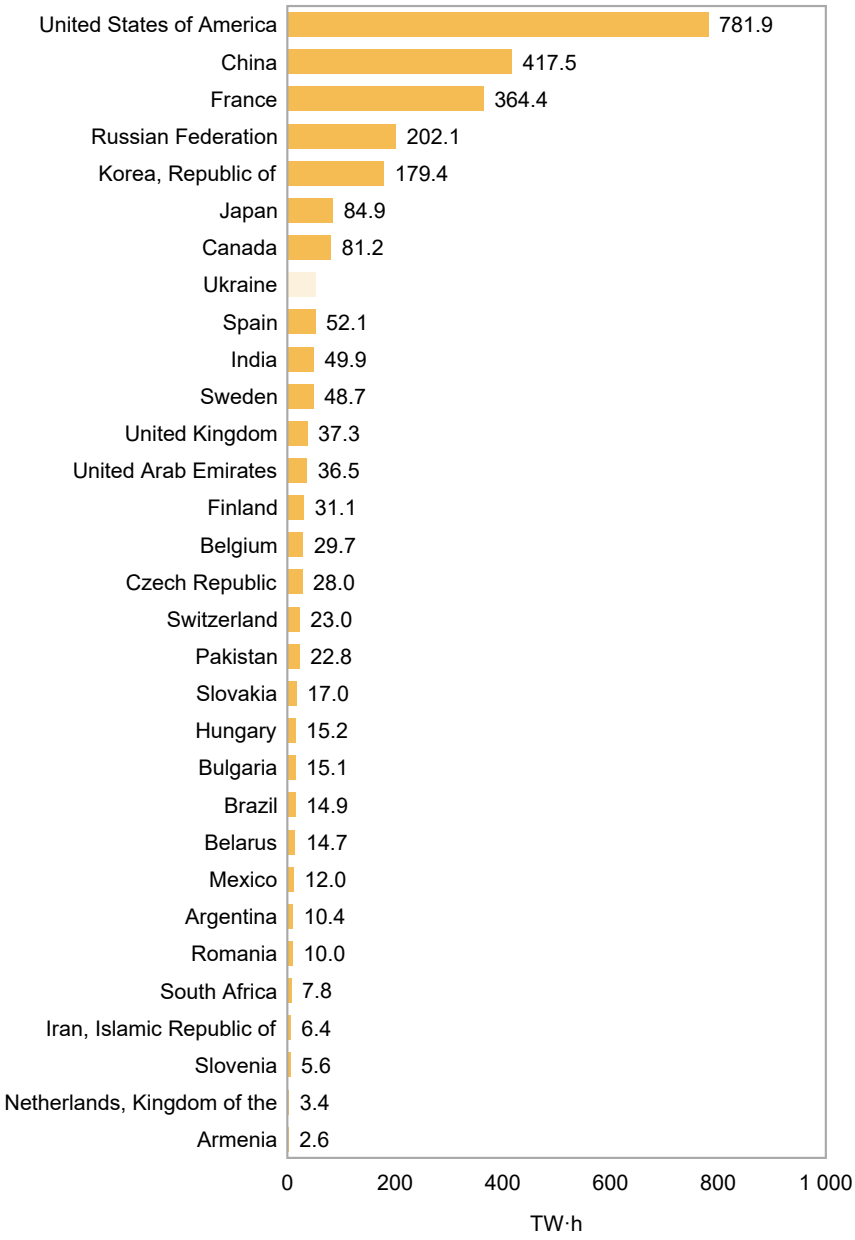
TABLE 1. NUCLEAR POWER REACTORS IN THE WORLD (end of 2024)

Country	Operational		Under Construction		Nuclear Electricity Production in 2024	
	Number of units	Net capacity (MW(e))	Number of units	Net capacity (MW(e))	TW·h	% of total
World Total [a,b]	**417**	**377 014**	**62**	**64 461**	**2670.3**	**8.7**
Argentina	3	1 641	1	25	10.4	6.6
Armenia	1	416			2.6	28.9
Bangladesh			2	2 160		
Belarus	2	2 220			14.7	36.3
Belgium	5	3 908			29.7	39.0
Brazil	2	1 884	1	1 340	14.9	2.0
Bulgaria	2	2 006			15.1	37.7
Canada	17	12 714			81.2	13.2
China	57	55 320	28	29 638	417.5	4.1
Czech Republic	6	3 963			28.0	38.3
Egypt			4	4 400		
Finland	5	4 369			31.1	41.5
France	57	63 000			364.4	64.1
Hungary	4	1 916			15.2	43.4
India	20	6 920	7	5 398	49.9	2.5
Iran, Islamic Republic of	1	915	1	974	6.4	1.6

Japan	14	12 631	2	2 653	84.9	8.4
Korea, Republic of	26	25 609	2	2 680	179.4	29.2
Mexico	2	1 552			12.0	3.3
Netherlands, Kingdom of the	1	482			3.4	2.8
Pakistan	6	3 262	1	1 117	22.8	16.9
Romania	2	1 300			10.0	19.1
Russian Federation	36	26 802	4	3 850	202.1	17.1
Slovakia	5	2 302	1	440	17.0	57.8
Slovenia	1	696			5.6	37.3
South Africa	2	1 854			7.8	3.3
Spain	7	7 123			52.1	18.3
Sweden	6	7 008			48.7	28.2
Switzerland	4	2 973			23.0	35.4
Türkiye			4	4 456		
United Arab Emirates	4	5 348			36.5	20.4
United Kingdom	9	5 883	2	3 260	37.3	13.1
Ukraine [c]	15	13 107	2	2 070	—	—
United States of America	94	96 952			781.9	17.2

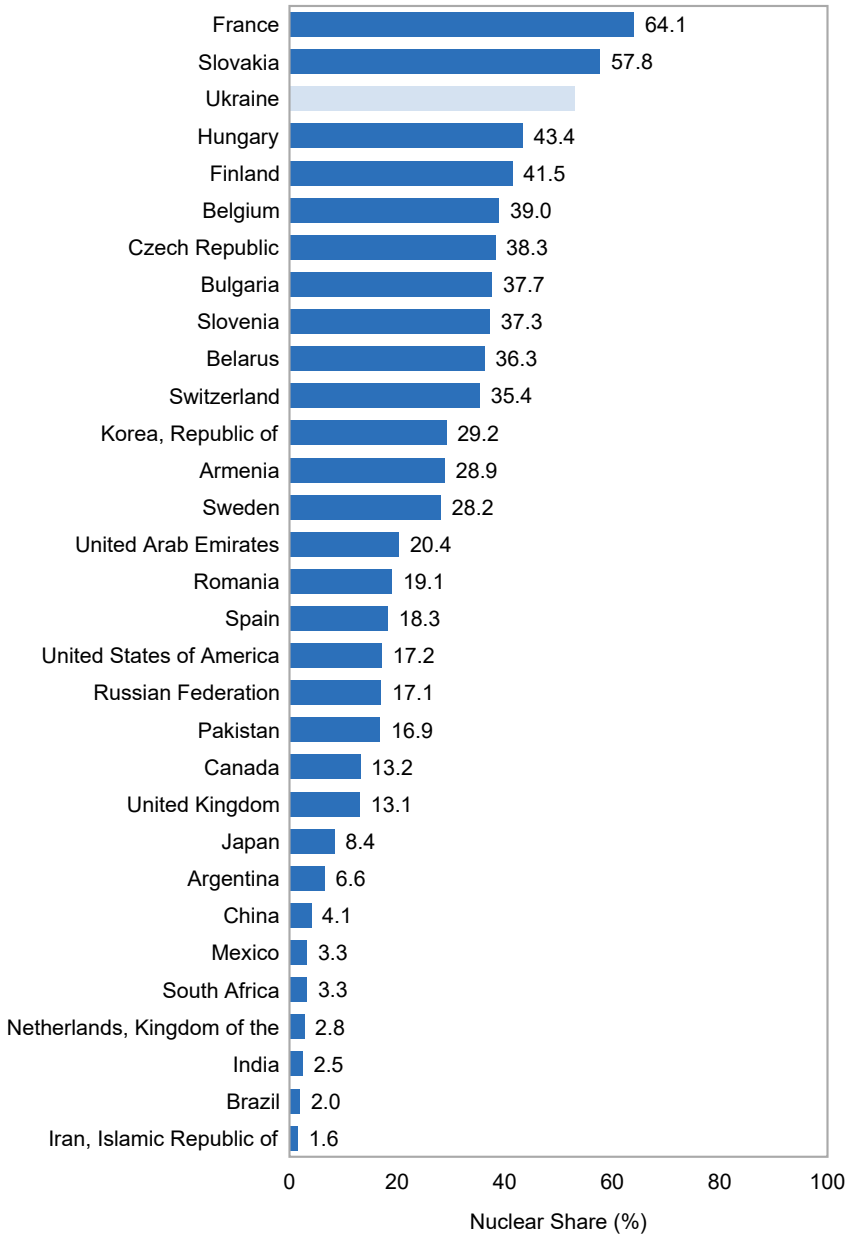
[a] Includes the following data from Taiwan, China: 1 unit in operation with a total capacity of 938 MW(e) and 11.7 TW·h of nuclear electricity generation, representing 4.7% of the total electricity produced.
[b] All missing data are internal estimates by the Secretariat.
[c] Ukrainian operational data were not available for the year 2024 in the 2025 edition of Nuclear Power Reactors in the World [9].

FIGURE 1. WORLD NUCLEAR ELECTRICITY PRODUCTION IN 2024



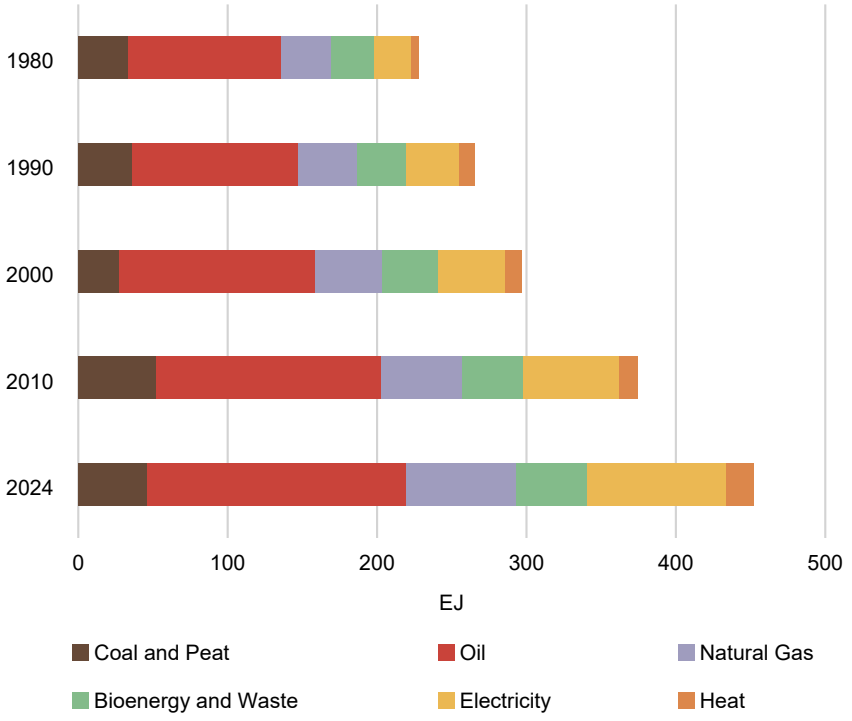
Note: The nuclear electricity production in Taiwan, China, was 11.7 TW·h.

FIGURE 2. SHARE OF NUCLEAR IN TOTAL ELECTRICITY PRODUCTION IN THE WORLD IN 2024



Note: The share of nuclear in the total electricity production of Taiwan, China, was 4.7%.

FIGURE 3. WORLD FINAL ENERGY CONSUMPTION BY ENERGY SOURCE



Final Energy Consumption

The share of electricity in world final energy consumption has almost doubled since 1980.

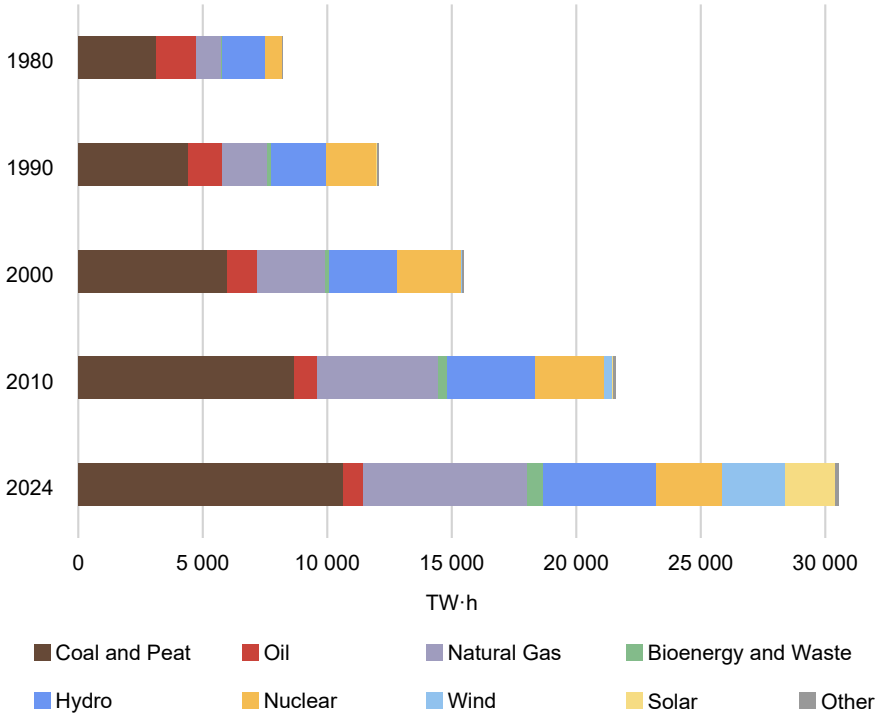
Fossil fuels have dominated final energy consumption since 1980, although there has been a gradual reduction in their combined share from about 75% in 1980 to about 65% in 2024.

In 2024, the share of coal was about 5 percentage points less than in 1980. It declined slightly from 1980 to 2000 and then increased from 2000 to 2010; the trend from 2010 onwards has been a decline, reaching a share of 10% in 2024. Natural gas has maintained a consistent share of about 15%. The share of oil has declined slightly since 1980, stabilizing at about 40% since 2010.

The share of heat in final energy consumption has doubled since 1980, while remaining small at only 4%.

The share of bioenergy and waste has remained about the same over the past 40 years, at about 10%.

FIGURE 4. WORLD TOTAL ELECTRICITY PRODUCTION BY ENERGY SOURCE



Electricity Production

Nuclear was the second largest source of low carbon electricity in 2024. The share of nuclear in total electricity production grew rapidly from 1980 to 1990 — almost doubling — but from 1990 onwards it has declined to about 9% for 2024.

With a combined share of about 60%, fossil fuels — particularly coal — have remained dominant energy sources for electricity production since 1980. Coal appears to have peaked with a share of 40% in 2010, and has been gradually declining since. The share of natural gas has remained stable at just over 20% since 2010. Oil's share has significantly declined from 20% in 1980 to about 3% in 2024.

Hydro continues to be the largest source of low carbon electricity, accounting for about 15% of total electricity production. Its share has gradually declined six percentage points since 1980.

Over the prevous 15 years, the share of solar and wind has undergone a rapid increase. In 2024 the share of wind was 8% and that of solar was 7%.

Energy and Electricity Projections

- Final energy consumption is projected to decrease by about 3% by 2050, owing to increased electrification of end-uses and higher efficiency of appliances and processes.
- Electricity consumption is projected to increase at an average annual rate of 2.8% from 2024 to 2050, doubling over that time period.
- By 2050 the share of electricity in final energy consumption is projected to increase by more than 20 percentage points from its 2024 share to reach 43%.

FIGURE 5. WORLD FINAL CONSUMPTION OF ENERGY AND ELECTRICITY

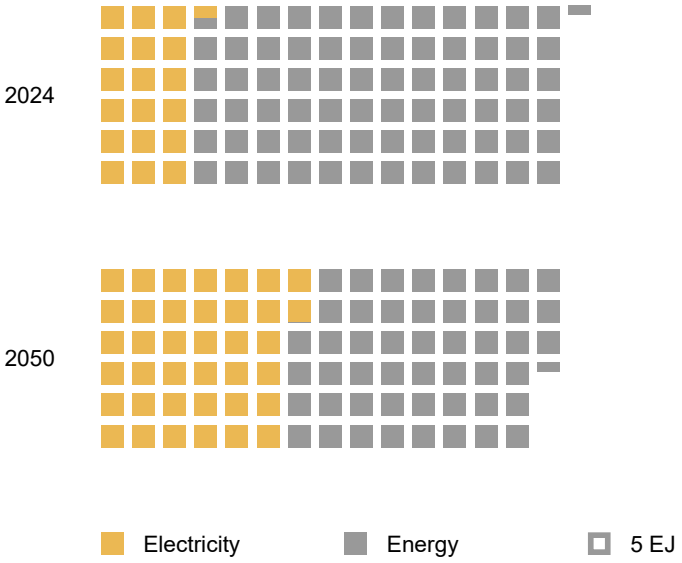


TABLE 2. WORLD FINAL CONSUMPTION OF ENERGY AND ELECTRICITY, EJ

Final Consumption	2024	2030	2040	2050
Energy	452.0	471.2	447.1	437.0
Electricity	92.6	111.1	140.0	189.8
Electricity as % of Energy	*20.5%*	*23.6%*	*31.3%*	*43.4%*

Nuclear Electrical Generating Capacity Projections

- Total electrical generating capacity is projected to increase by about 17% by 2030 and to more than double by 2050.
- In the high case, nuclear electrical generating capacity is projected to increase 18% by 2030 and increase by 2.6 times the 2024 capacity by 2050.
- In the low case, nuclear electrical generating capacity is projected to increase by about 13% by 2030 and then increase by 32% by 2050.
- In the low case, the share of nuclear in total electrical generating capacity is projected to decrease by about 1 percentage point by 2050. In the high case, the share of nuclear in total electrical generating capacity is projected to increase by almost 1 percentage point by 2050.

FIGURE 6. WORLD NUCLEAR ELECTRICAL GENERATING CAPACITY

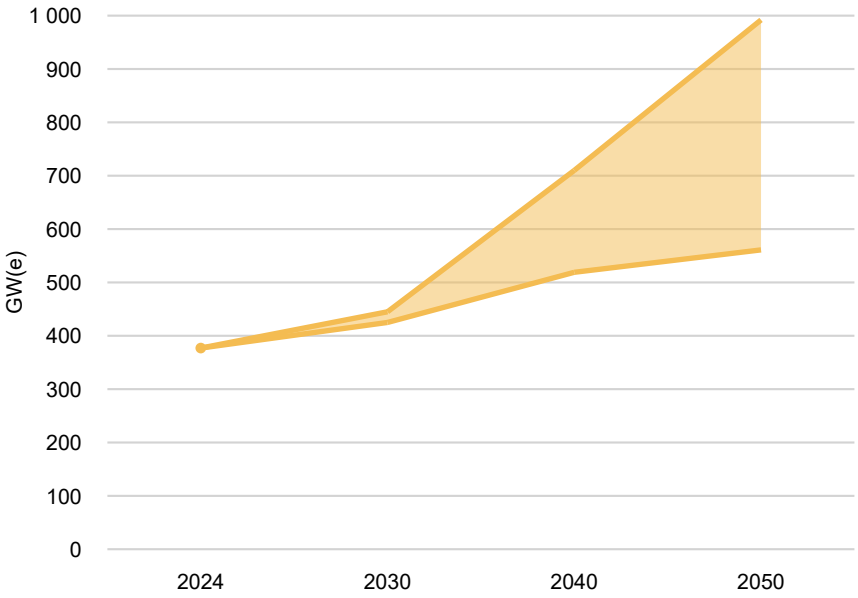


TABLE 3. WORLD TOTAL AND NUCLEAR ELECTRICAL GENERATING CAPACITY, GW(e)

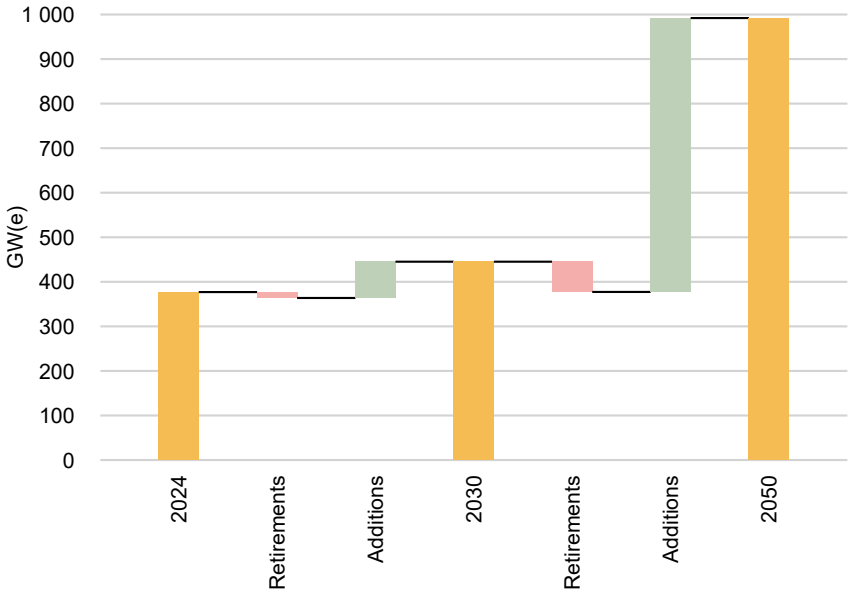
Electrical Capacity	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	9 581	11 215	11 215	14 727	14 727	21 140	21 140
Nuclear	377	425	445	519	710	561	992
Nuclear as % of Electrical Capacity	*3.9%*	*3.8%*	*4.0%*	*3.5%*	*4.8%*	*2.7%*	*4.7%*

Reactor Retirements and Additions

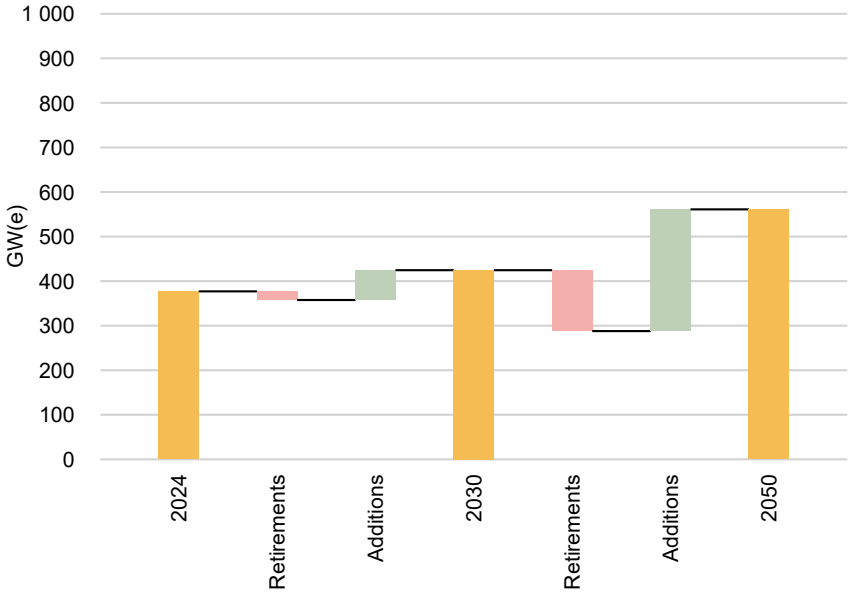
- Two out of every three nuclear power reactors have been in operation for more than 30 years and about 40% have been in operation for more than 40 years.
- In the high case, it is assumed that the operating lifetimes of most nuclear power reactors will be extended such that only about 81 GW(e) of the 2024 nuclear electrical generating capacity is retired by 2050. This is projected to result in net capacity additions (newly installed less retired) of 615 GW(e) by 2050.
- In the low case, more retirements are assumed, with 156 GW(e) of the 2024 nuclear electrical generating capacity retired by 2050. This is projected to result in net capacity additions (newly installed less retired) of 184 GW(e) by 2050.

FIGURE 7. WORLD NUCLEAR CAPACITY: ACTUAL, RETIREMENTS AND ADDITIONS

HIGH CASE



LOW CASE



Electricity and Nuclear Production Projections

- Total electricity production is projected to increase by 20% by 2030 and to double by 2050 compared with the 2024 level.
- In the high case, nuclear electricity production is projected to triple from the 2024 level by 2050. The share of nuclear in total electricity production is projected to increase by about 4 percentage points.
- In the low case, nuclear electricity production is projected to increase by 70% from the 2024 level by 2050. The share of nuclear in total electricity production is projected to decline by 1.5 percentage points.

FIGURE 8. WORLD NUCLEAR ELECTRICITY PRODUCTION

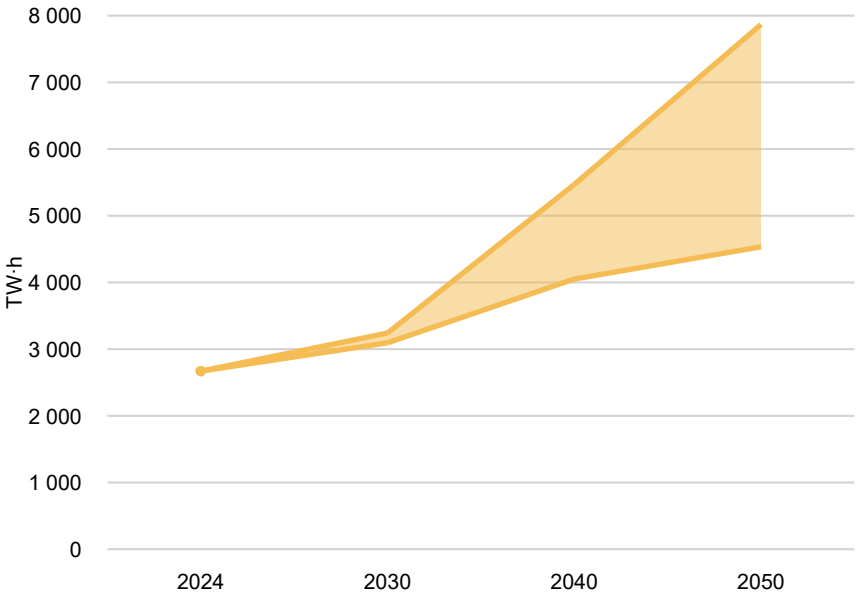


TABLE 4. WORLD TOTAL AND NUCLEAR ELECTRICITY PRODUCTION, TW·h

Electricity Production	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	30 529	36 602	36 602	46 302	46 302	62 944	62 944
Nuclear	2 670	3 095	3 241	4 051	5 469	4 534	7 867
Nuclear as % of Electricity Production	*8.7%*	*8.5%*	*8.9%*	*8.7%*	*11.8%*	*7.2%*	*12.5%*

TABLE 5. WORLD NUCLEAR ELECTRICAL GENERATING CAPACITY, GW(e)

Region	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
World Total	**377.0**	**425**	**445**	**519**	**710**	**561**	**992**
Northern America	109.6	108	110	111	157	98	236
Latin America and the Caribbean	5.1	5	5	8	11	8	20
Northern, Western and Southern Europe	95.4	86	92	81	114	68	136
Eastern Europe	53.6	57	57	58	82	68	103
Africa	1.9	4	5	7	12	12	30
Western Asia	5.8	11	11	12	20	15	35
Southern Asia	11.1	18	22	25	43	45	85
Central and Eastern Asia	94.5	136	144	215	264	242	328
South-eastern Asia				3	7	4	18
Oceania							2

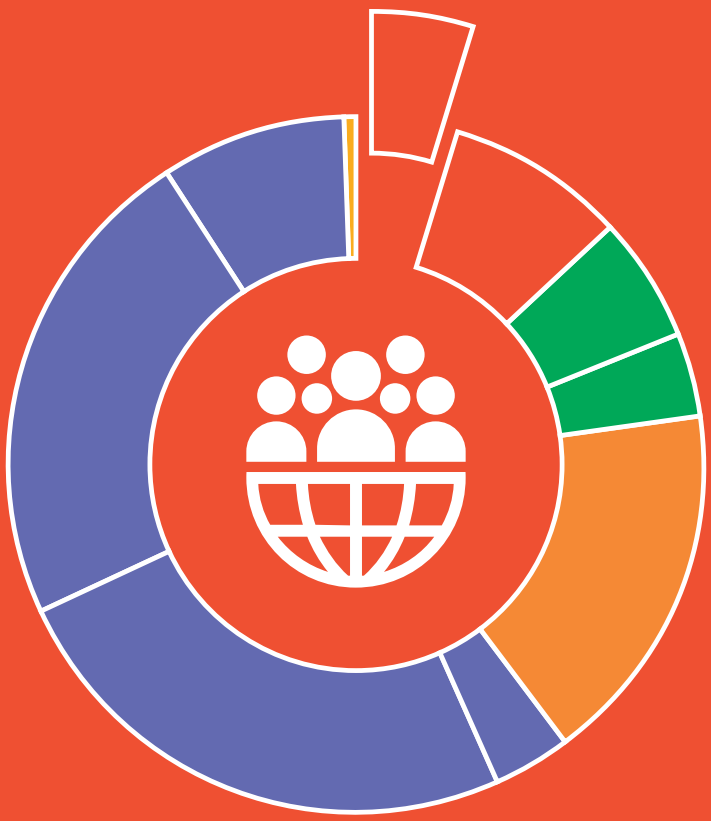
TABLE 6. WORLD NUCLEAR ELECTRICITY PRODUCTION, TW·h

Region	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
World Total	**2670.3**	**3 095**	**3 241**	**4 051**	**5 469**	**4 534**	**7 867**
Northern America	863.1	853	863	893	1 262	809	1 945
Latin America and the Caribbean	37.3	39	39	61	87	63	155
Northern, Western and Southern Europe	595.3	564	602	583	758	524	917
Eastern Europe	355.1	423	427	446	631	549	831
Africa	7.8	33	42	53	95	97	237
Western Asia	39.1	82	82	89	156	117	275
Southern Asia	79.1	126	153	188	319	348	652
Central and Eastern Asia	693.5	975	1 032	1 711	2 105	1 993	2 701
South-eastern Asia				27	57	35	140
Oceania							16

Northern America

385

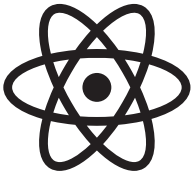
million people



Energy Overview 2024

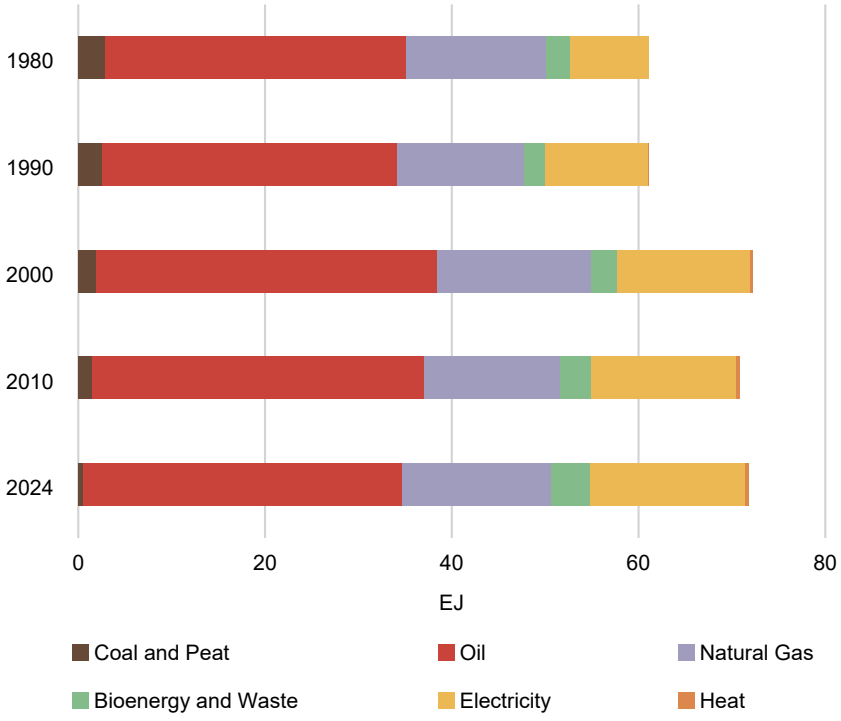
23.0%
of final energy consumed was electricity

5 157 TW·h
of electricity produced



16.7%
of electricity produced by nuclear

FIGURE 9. FINAL ENERGY CONSUMPTION BY ENERGY SOURCE IN THE NORTHERN AMERICA REGION



Final Energy Consumption

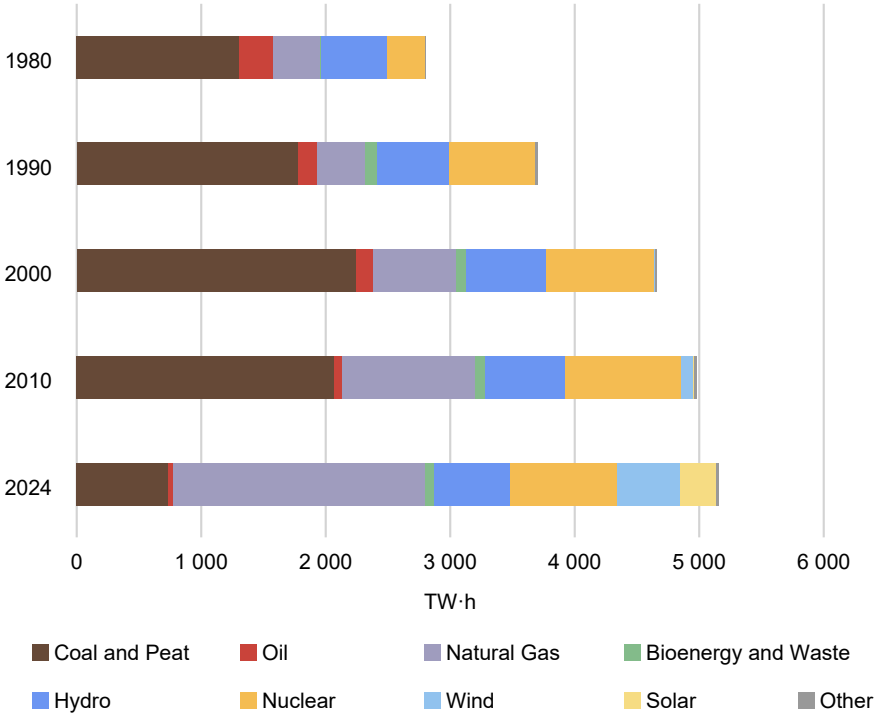
From 1980 to 2010, the share of electricity gradually increased by 9 percentage points. Its share in 2024 was 23% of final energy consumption, a slight increase from the previous year. Electricity was the second largest energy source in 2024.

From 1980 until 1990 the combined share of fossil fuels in final energy consumption was about 80%; since 2000 there has been a downward trend and in 2024 the combined share fell to about 70%.

Of all fossil fuels, oil has the largest share, having remained at about 50% since 1980. Natural gas had a share of 22% in 2024, having remained relatively stable since 1980.

Since 2010 the share of heat in final energy consumption has remained small at less than 1%.

FIGURE 10. ELECTRICITY PRODUCTION BY ENERGY SOURCE IN THE NORTHERN AMERICA REGION



Electricity Production

Nuclear is the largest source of low carbon electricity. Its share of total electricity production nearly doubled from 1980 to 1990 and has remained relatively stable since then, reaching about 17% in 2024.

Fossil fuels accounted for more than half the electricity produced in 2024.

The share of coal was 14%, a decrease of more than 30 percentage points since 1980, whereas the share of natural gas has almost tripled to about 40% over the same time period. The share of oil has decreased from 10% in 1980 to around 1% in 2024.

The share of hydro has decreased by 7 percentage points over the past 40 years, reaching 12% in 2024.

The share of wind has increased rapidly since 2000, reaching about 10% in 2024. In recent years, the share of solar has also undergone a rapid increase, rising from less than 1% in 2010 to about 6% in 2024.

Energy and Electricity Projections

- Final energy consumption is projected to remain approximately stable until 2050.
- By 2050 electricity consumption is projected to double from the 2024 level, at an average annual rate of 3%.
- The share of electricity in final consumption of energy is projected to increase from 23% to 45% by 2050.

FIGURE 11. FINAL CONSUMPTION OF ENERGY AND ELECTRICITY IN THE NORTHERN AMERICA REGION

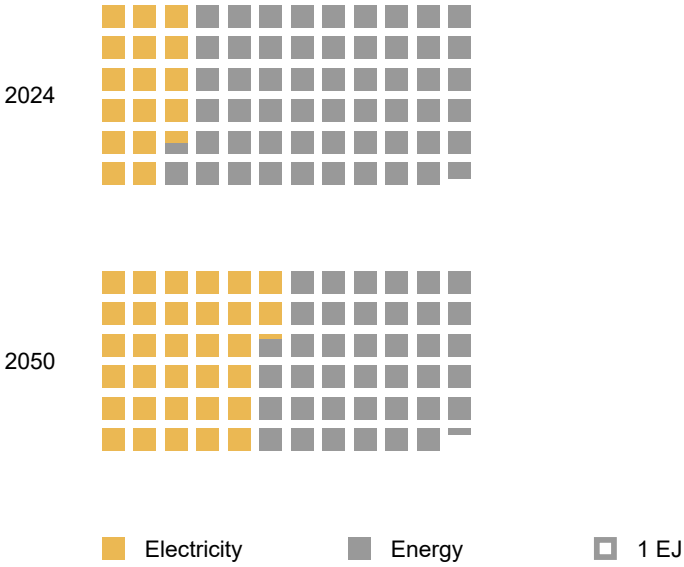


TABLE 7. FINAL CONSUMPTION OF ENERGY AND ELECTRICITY IN THE NORTHERN AMERICA REGION, EJ

Final Consumption	2024	2030	2040	2050
Energy	71.7	71.4	71.4	71.3
Electricity	16.5	18.1	23.1	32.2
Electricity as % of Energy	*23.0%*	*25.4%*	*32.4%*	*45.2%*

Nuclear Electrical Generating Capacity Projections

- Total electrical generating capacity is projected to increase by 4% by 2030 and to approximately double by 2050 compared with the 2024 level.
- In the high case nuclear electrical generating capacity will increase by around 47 GW(e) by 2040, with a further addition of approximately 80 GW(e) by 2050. This would mean that nuclear electrical generating capacity would more than double by 2050 relative to the 2024 level. The share of nuclear in total electrical capacity is projected to remain approximately the same to 2050 compared with the 2024 level.
- In the low case this region is projected to have a reduction of about 11 GW(e) of nuclear electrical generating capacity by 2050 compared with 2024 capacity, predominantly due to retirements taking place from 2040 onwards. The share of nuclear in total electrical capacity is projected to more than halve, decreasing by about 4 percentage points by 2050.

FIGURE 12. NUCLEAR ELECTRICAL GENERATING CAPACITY IN THE NORTHERN AMERICA REGION

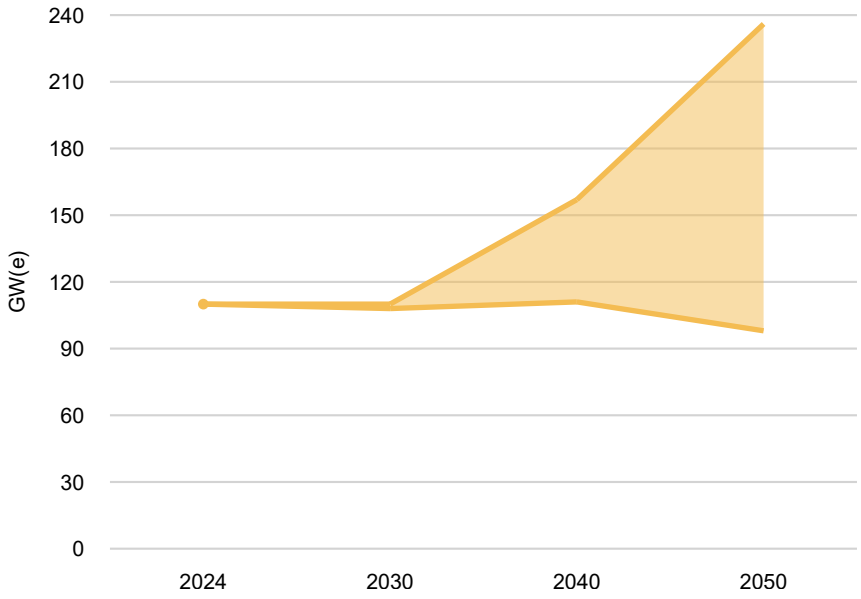


TABLE 8. TOTAL AND NUCLEAR ELECTRICAL GENERATING CAPACITY IN THE NORTHERN AMERICA REGION, GW(e)

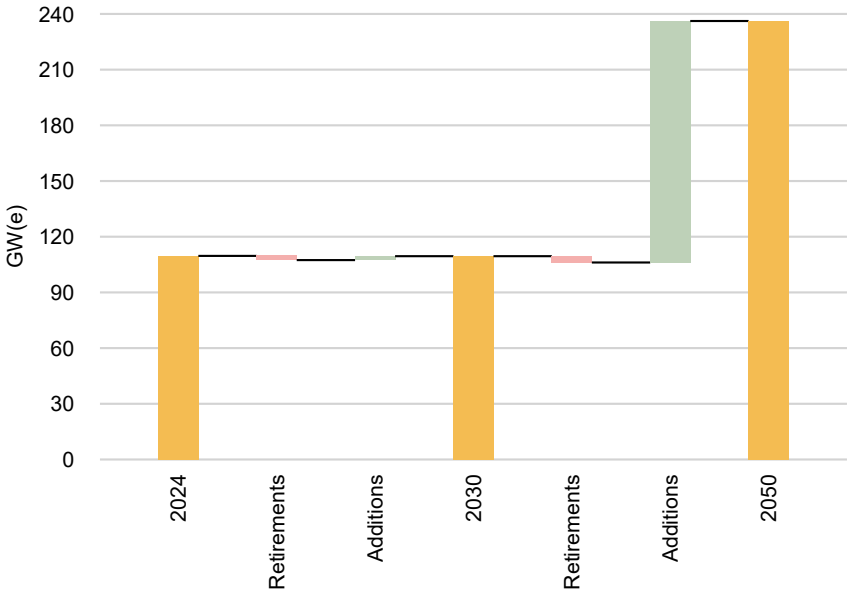
Electrical Capacity	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	1 500	1 553	1 553	2 154	2 154	3 189	3 189
Nuclear	110	108	110	111	157	98	236
Nuclear as % of Electrical Capacity	*7.3%*	*7.0%*	*7.1%*	*5.2%*	*7.3%*	*3.1%*	*7.4%*

Reactor Retirements and Additions

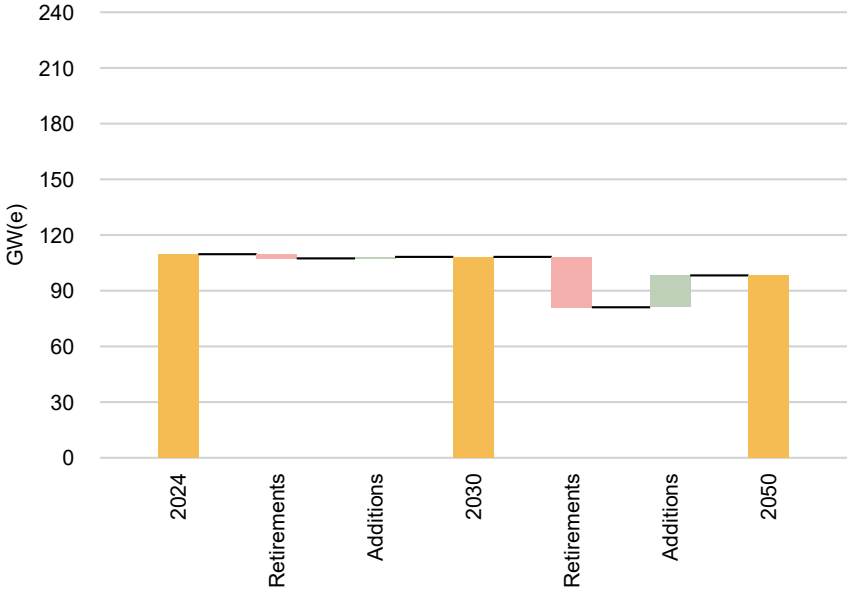
- The high case shows the importance of both operating lifetime extensions and new builds for this region. In this case, only about 5.7 GW(e) of nuclear capacity will be retired by 2050. Approximately 132 GW(e) nuclear capacity is projected to be added by 2050, resulting in a net capacity addition of about 127 GW(e) in the high case.
- In the low case, 29 GW(e) of nuclear capacity is projected to be retired by 2050. Approximately 18 GW(e) of nuclear capacity will be added by 2050, resulting in a net capacity reduction of about 11 GW(e) in the low case by 2050.

FIGURE 13. NUCLEAR CAPACITY IN THE NORTHERN AMERICA REGION: ACTUAL, RETIREMENTS AND ADDITIONS

HIGH CASE



LOW CASE



Electricity and Nuclear Production Projections

- Total electricity production is projected to approximately double by 2050 compared with the 2024 level.
- In the high case, nuclear electricity production is projected to more than double by 2050. The share of nuclear in total electricity production is projected to increase a few percentage points by 2050 compared with the 2024 level.
- In the low case, nuclear electricity production is projected to decrease 6% from the 2024 level by 2050. The share of nuclear in total electricity production in 2050 is projected to be about half the 2024 level.

FIGURE 14. NUCLEAR ELECTRICITY PRODUCTION IN THE NORTHERN AMERICA REGION

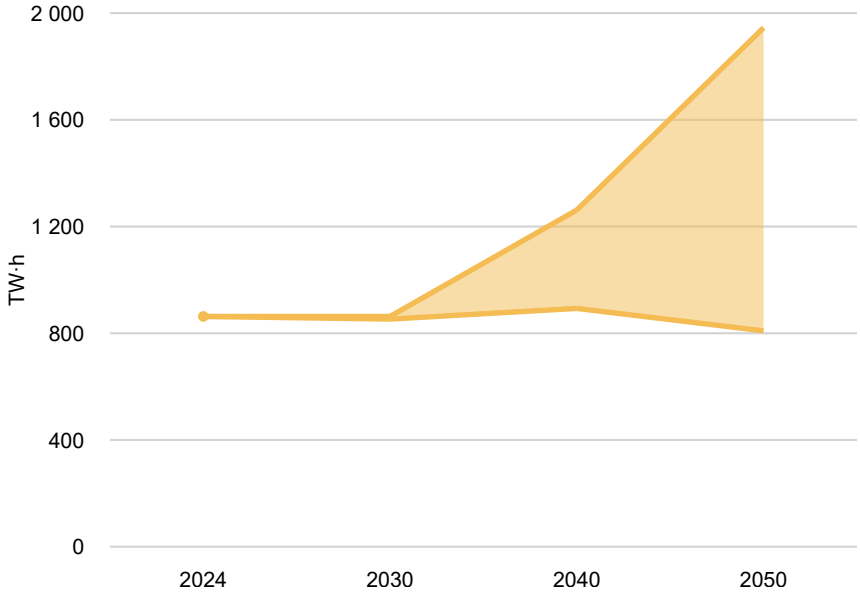


TABLE 9. TOTAL AND NUCLEAR ELECTRICITY PRODUCTION IN THE NORTHERN AMERICA REGION, TW·h

Electricity Production	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	5 157	5 657	5 657	7 220	7 220	10 064	10 064
Nuclear	863	853	863	893	1 262	809	1 945
Nuclear as % of Electricity Production	*16.7%*	*15.1%*	*15.3%*	*12.4%*	*17.5%*	*8.0%*	*19.3%*

Latin America and the Caribbean

663

million people

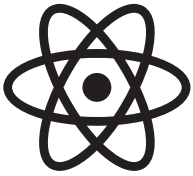
Energy Overview 2024

20.7%

of final energy consumed was electricity

1 873 TW·h

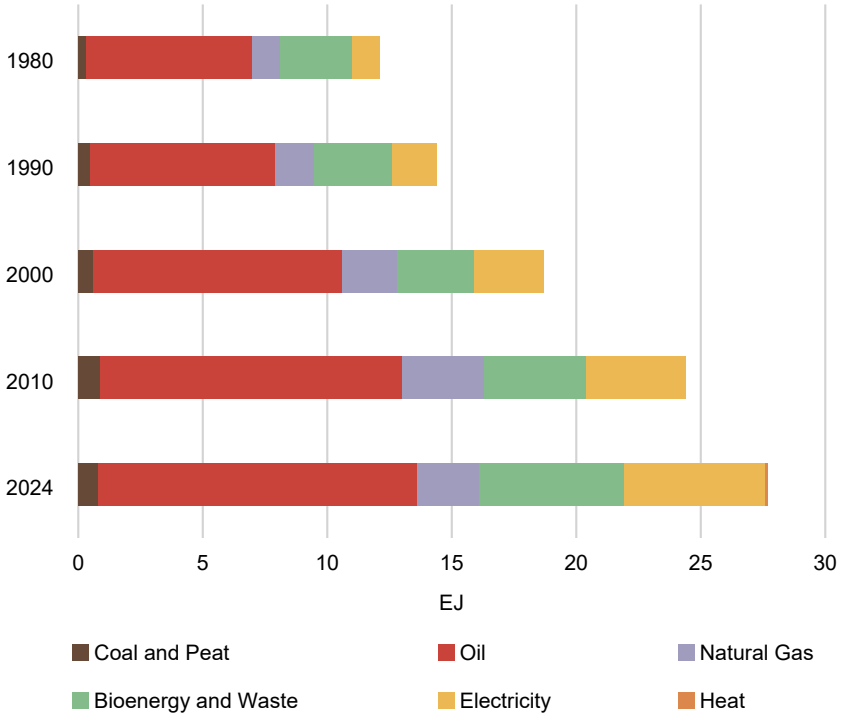
of electricity produced



2.0%

of electricity produced by nuclear

FIGURE 15. FINAL ENERGY CONSUMPTION BY ENERGY SOURCE IN THE LATIN AMERICA AND THE CARIBBEAN REGION



Final Energy Consumption

The share of electricity in final energy consumption has more than doubled since 1980, accounting for about 20% of final energy consumption in 2024.

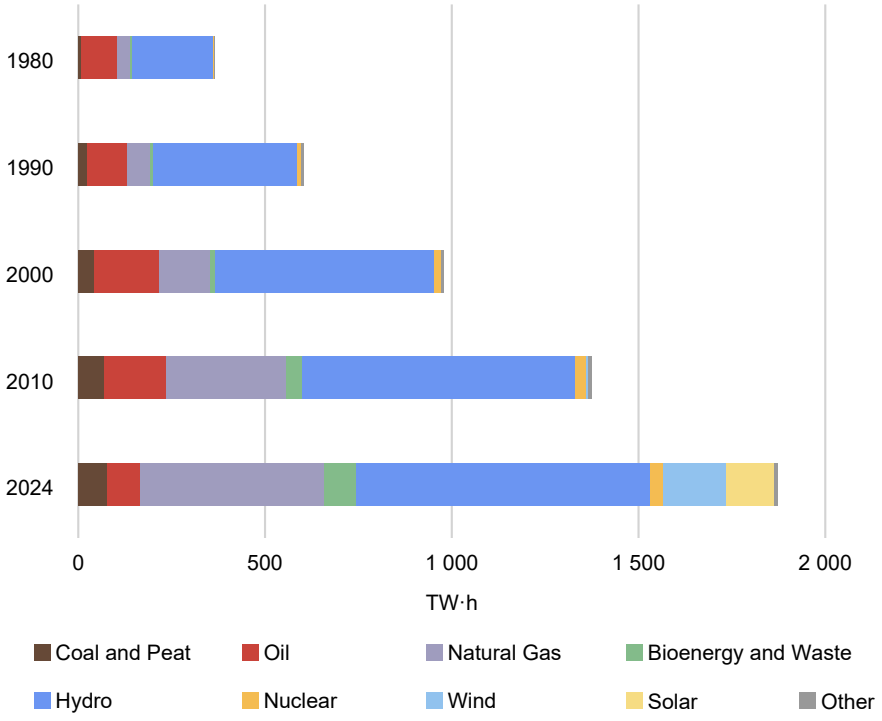
The share of fossil fuels in final energy consumption peaked in 2000 at 68% of the total; by 2024 its share had fallen to slightly less than 60%.

Since 1990 the share of coal has remained relatively stable at about 3%. The share of oil was the highest of all fossil fuels in 2024 at 46%. The share of natural gas increased from 1980 until 2010, when it peaked at about 14%. Over the past few years, the share of natural gas has been around 10%.

Bioenergy and waste had a share of about 20% in 2024.

In recent years the share of heat in final energy consumption has been less than 0.5%.

FIGURE 16. ELECTRICITY PRODUCTION BY ENERGY SOURCE IN THE LATIN AMERICA AND THE CARIBBEAN REGION



Electricity Production

The share of nuclear in total electricity production has remained at about 2% since 1990.

Since 1980 hydro has been the largest source of electricity and its share in 2024 was 42%. This was larger than the share of all fossil fuels combined, which together had a share of 35%. The share of hydro production peaked in 1990 at 64%.

Of all fossil fuels, natural gas accounted for the largest share of electricity production in 2024; over the past few years its share has remained at about 25%. The share of oil has decreased by about 20 percentage points since 1980, reaching about 5% in 2024. The share of coal remains relatively small at about 4%.

Energy and Electricity Projections

- Final consumption of energy is projected to increase by 11% by 2050, at an average annual rate of 0.4%.
- Electricity consumption is projected to grow at an average annual rate of about 4%, increasing to about 2.5 times the 2024 level.
- By 2050 the share of electricity in final energy consumption is projected to increase by almost 30 percentage points from its 2024 share.

FIGURE 17. FINAL CONSUMPTION OF ENERGY AND ELECTRICITY IN THE LATIN AMERICA AND THE CARIBBEAN REGION

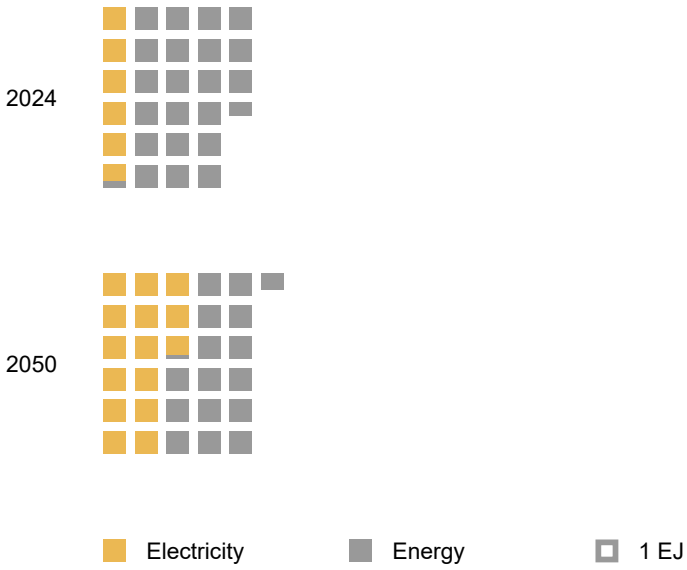


TABLE 10. FINAL CONSUMPTION OF ENERGY AND ELECTRICITY IN THE LATIN AMERICA AND THE CARIBBEAN REGION, EJ

Final Consumption	2024	2030	2040	2050
Energy	27.6	31.4	31.1	30.7
Electricity	5.7	7.3	9.9	14.8
Electricity as % of Energy	*20.7%*	*23.2%*	*31.8%*	*48.2%*

Nuclear Electrical Generating Capacity Projections

- Total electrical generating capacity is projected to increase by 25% by 2030 and to almost triple by 2050.
- In the high case, nuclear electrical generating capacity is projected to quadruple by 2050, with its share of total electrical capacity growing by 0.4 percentage points.
- In the low case, nuclear electrical generating capacity is projected to increase to about 1.5 times the 2024 capacity by 2050, with its share declining by 0.4 percentage points.

FIGURE 18. NUCLEAR ELECTRICAL GENERATING CAPACITY IN THE LATIN AMERICA AND THE CARIBBEAN REGION

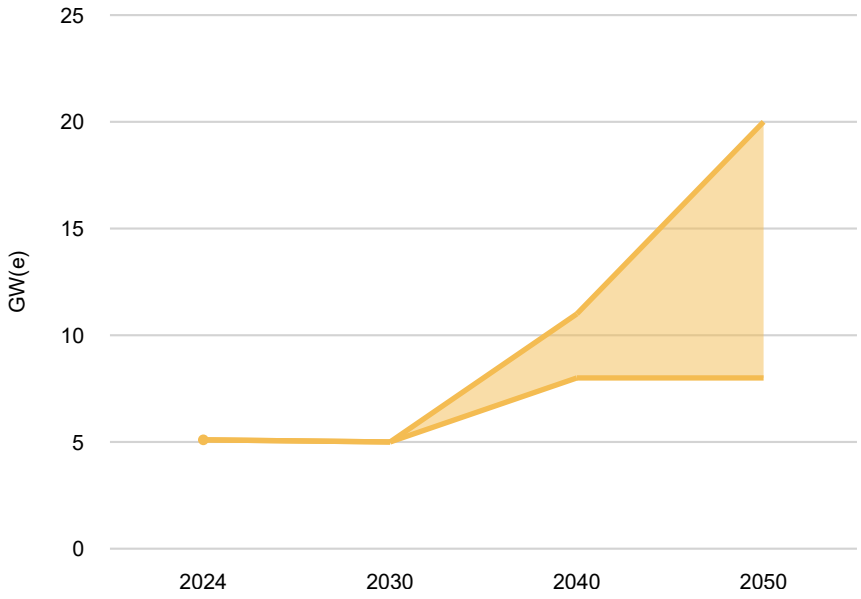


TABLE 11. TOTAL AND NUCLEAR ELECTRICAL GENERATING CAPACITY IN THE LATIN AMERICA AND THE CARIBBEAN REGION, GW(e)

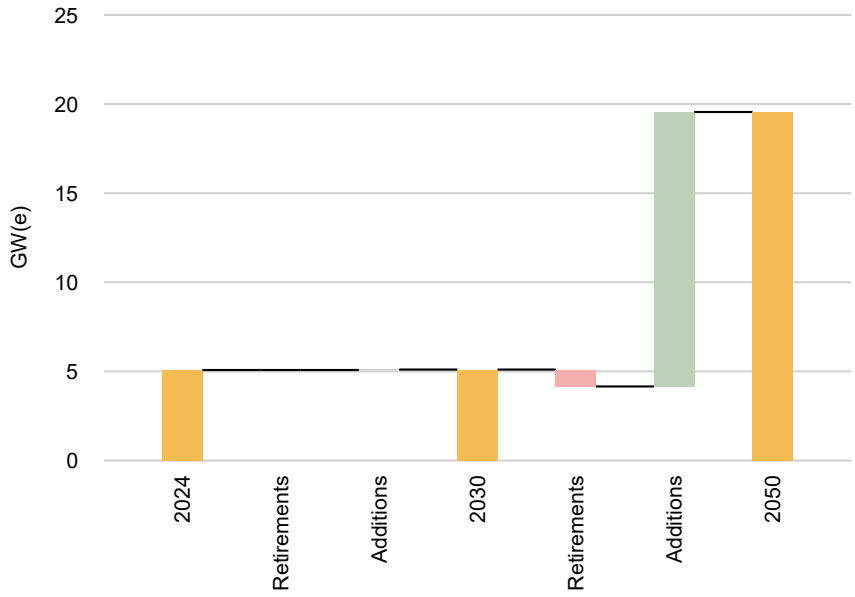
Electrical Capacity	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	560	701	701	973	973	1 563	1 563
Nuclear	5.1	5	5	8	11	8	20
Nuclear as % of Electrical Capacity	*0.9%*	*0.7%*	*0.7%*	*0.8%*	*1.1%*	*0.5%*	*1.3%*

Reactor Retirements and Additions

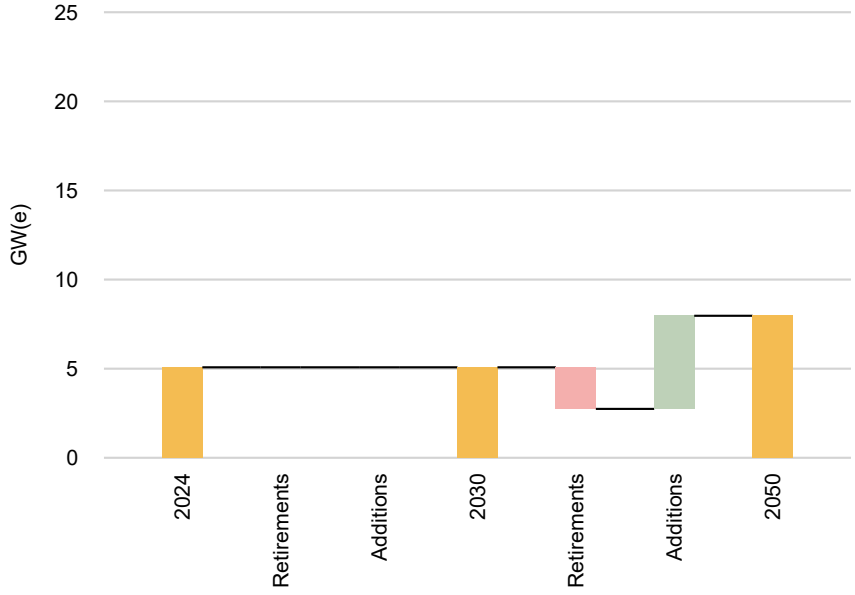
- In both the high and the low cases, no retirements or additions are projected until after 2030. In the high case it is projected that only about 1 GW(e) will be retired, resulting in net additions of about 14 GW(e) by 2050. This highlights the importance of new capacity additions for this region between 2030 and 2050.
- In the low case it is assumed that there will be a net increase in capacity of about 3 GW(e) by 2050, as there will be about 2 GW(e) retired and 5 GW(e) added.

FIGURE 19. NUCLEAR CAPACITY IN THE LATIN AMERICA AND THE CARIBBEAN REGION: ACTUAL, RETIREMENTS AND ADDITIONS

HIGH CASE



LOW CASE



Electricity and Nuclear Production Projections

- Total electricity production is projected to rise significantly by 2030, with an increase of 28% from the 2024 level. It is projected to increase to 2.6 times the 2024 level by 2050.
- In the high case, nuclear electricity production is projected to quadruple by 2050. The share of nuclear in total electricity production is projected to increase by 1.2 percentage points by 2050.
- In the low case, nuclear electricity production is projected to increase 1.7 times the 2024 level by 2050. The share of nuclear in total electricity production is projected to decrease by 0.7 percentage points.

FIGURE 20. NUCLEAR ELECTRICITY PRODUCTION IN THE LATIN AMERICA AND THE CARIBBEAN REGION

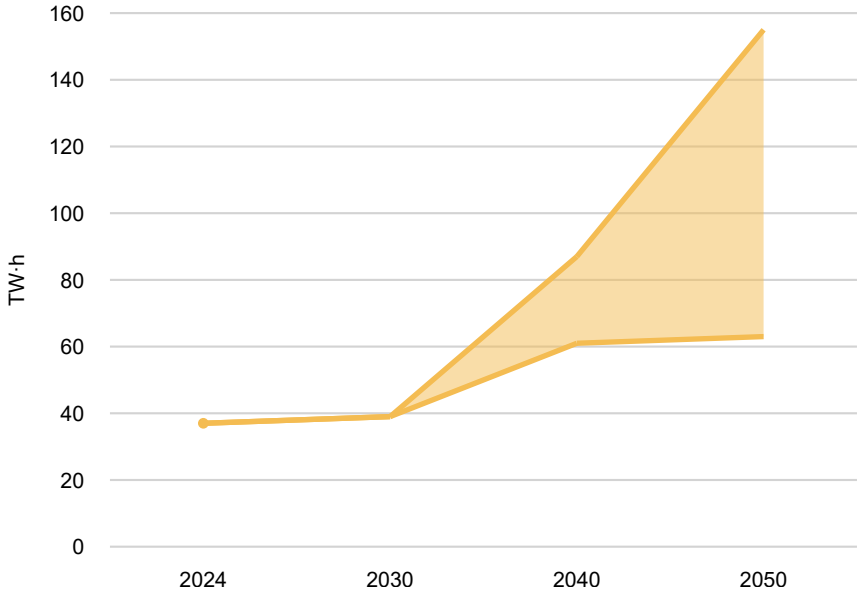


TABLE 12. TOTAL AND NUCLEAR ELECTRICITY PRODUCTION IN THE LATIN AMERICA AND THE CARIBBEAN REGION, TW·h

Electricity Production	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	1 873	2 398	2 398	3 252	3 252	4 862	4 862
Nuclear	37	39	39	61	87	63	155
Nuclear as % of Electricity Production	*2.0%*	*1.6%*	*1.6%*	*1.9%*	*2.7%*	*1.3%*	*3.2%*

Northern, Western and Southern Europe

460

million people

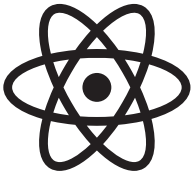
Energy Overview 2024

23.3%

of final energy consumed was electricity

2 867 TW·h

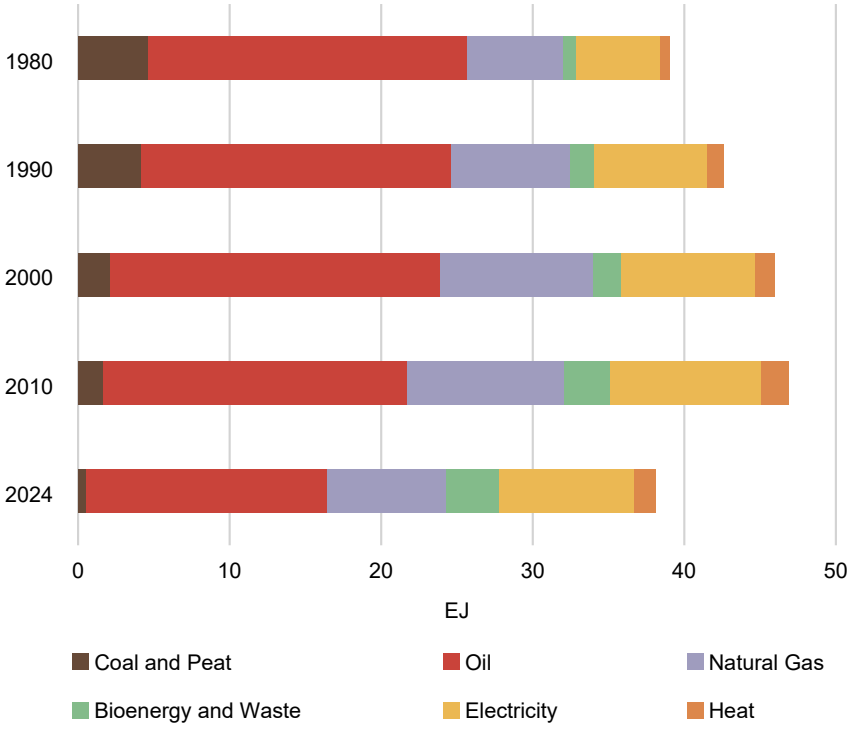
of electricity produced



20.8%

of electricity produced by nuclear

FIGURE 21. FINAL ENERGY CONSUMPTION BY ENERGY SOURCE IN THE COMBINED REGIONS OF NORTHERN, WESTERN AND SOUTHERN EUROPE



Final Energy Consumption

In 2024 the share of electricity in final energy consumption was about 23%.

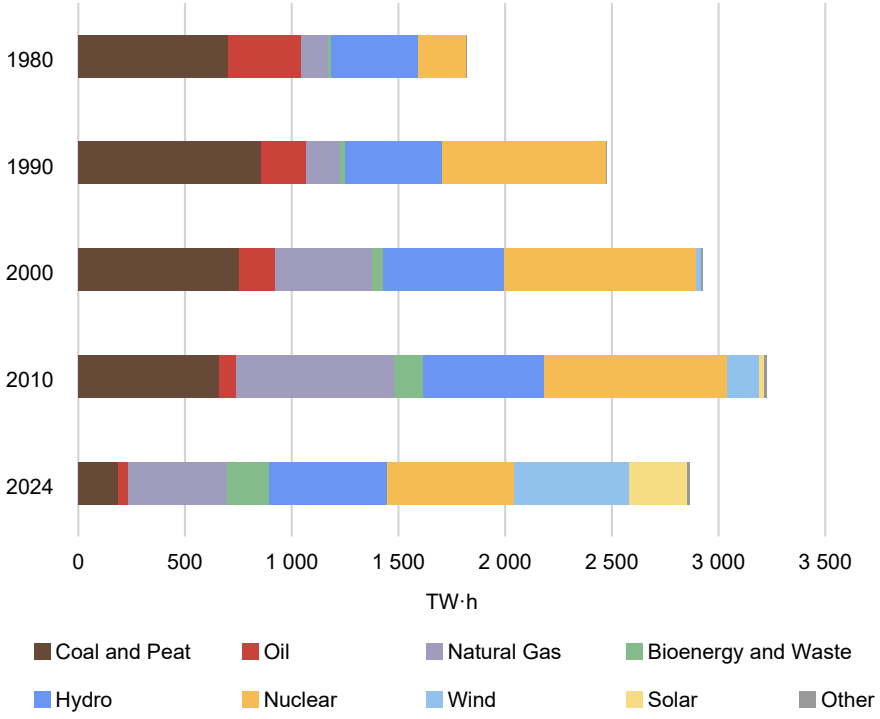
Since 1980 fossil fuels have continued to dominate final energy consumption, although there has been a gradual reduction in their combined share, which fell about 18 percentage points to 64% in 2024.

Of all fossil fuels, oil had the largest share in 1980 at more than 50%. Although its share has been declining over the past 40 years, in 2024 the share of oil remained significant at about 40%.

The share of natural gas has increased by about 5 percentage points compared with 1980. It accounted for about one fifth of the final energy consumed in 2024. The share of coal has decreased by about 11 percentage points over the past 40 years, but its share remained at 3–4% from 2010 until 2023. It has since declined to about 1% in 2024.

In 2024 the share of heat in final energy consumption was 4%, doubling since 1980.

FIGURE 22. ELECTRICITY PRODUCTION BY ENERGY SOURCE IN THE COMBINED REGIONS OF NORTHERN, WESTERN AND SOUTHERN EUROPE



Electricity Production

Nuclear is the largest contributor of low carbon electricity production, accounting for 21% of total electricity production in 2024. Its share more than doubled from 1980 to 1990 and then decreased from 2000 onwards.

In the past 40 years the combined share of fossil fuels in electricity production has declined by more than half; the share reduced by 40 percentage points since 1980. About 24% of electricity was produced by fossil fuels in 2024, with natural gas being the largest contributor at about 16%. The share of oil has declined from almost 20% in 1980 to 1.5% in 2024. Since 1980 the share of coal in electricity production has fallen by more than 30 percentage points, from about 40% to 7% in 2024.

In 2024 the share of hydro was about 19%, a reduction of 3 percentage points compared with 1980 levels. Wind and solar started to contribute to electricity production in 2000; the contributions of these energy sources have since increased substantially to reach a combined share of 28% in 2024.

Energy and Electricity Projections

- Final energy consumption is projected to decrease by about 11% by 2050 compared with the 2024 level, at an average annual rate of 0.4%.
- Electricity consumption is projected to almost double by 2050 relative to the 2024 level, at an average annual rate of approximately 2%.
- The share of electricity in final energy consumption is projected to increase by about 23 percentage points by 2050.

FIGURE 23. FINAL CONSUMPTION OF ENERGY AND ELECTRICITY IN THE COMBINED REGIONS OF NORTHERN, WESTERN AND SOUTHERN EUROPE

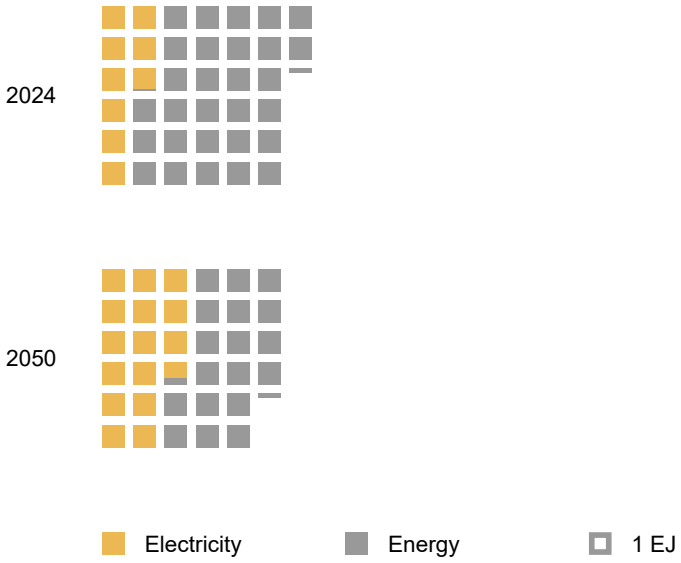


TABLE 13. FINAL CONSUMPTION OF ENERGY AND ELECTRICITY IN THE COMBINED REGIONS OF NORTHERN, WESTERN AND SOUTHERN EUROPE, EJ

Final Consumption	2024	2030	2040	2050
Energy	38.2	36.3	34.8	34.2
Electricity	8.9	9.9	12.0	15.7
Electricity as % of Energy	*23.3%*	*27.3%*	*34.5%*	*45.9%*

Nuclear Electrical Generating Capacity Projections

- Total electrical generating capacity is projected to increase by about 70% by 2050 compared with 2024 capacity.
- In the high case, nuclear electrical generating capacity is projected to decrease slightly by about 4% by 2030 and then to increase by about 40% by 2050 compared with the 2024 capacity. The share of nuclear in total electrical capacity is projected to decrease by 1.2 percentage points by 2050.
- In the low case, nuclear electrical generating capacity is projected to gradually decrease, with an projected reduction in capacity of approximately 30% by 2050 compared with 2024 capacity. The share of nuclear in total electrical capacity is projected to decline by almost 5 percentage points.

FIGURE 24. NUCLEAR ELECTRICAL GENERATING CAPACITY IN THE COMBINED REGIONS OF NORTHERN, WESTERN AND SOUTHERN EUROPE

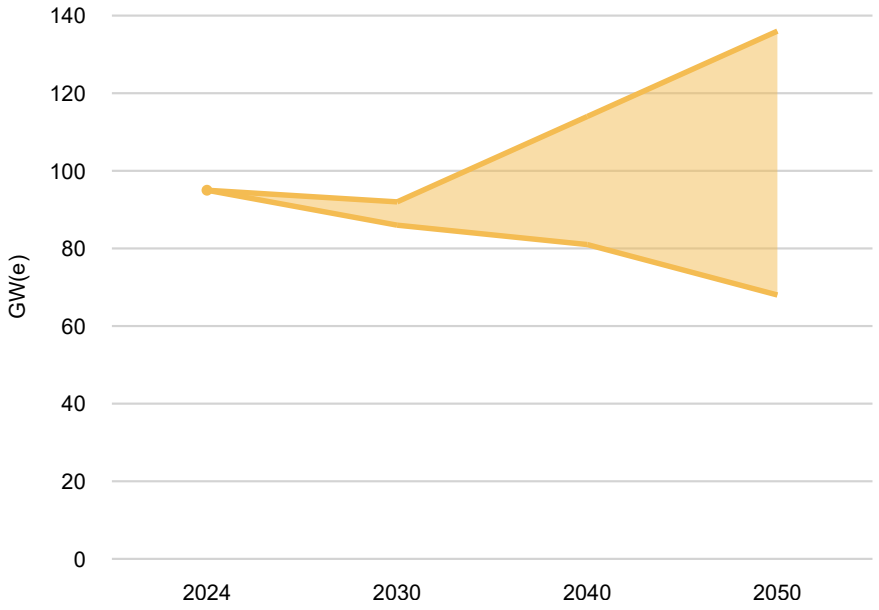


TABLE 14. TOTAL AND NUCLEAR ELECTRICAL GENERATING CAPACITY IN THE COMBINED REGIONS OF NORTHERN, WESTERN AND SOUTHERN EUROPE, GW(e)

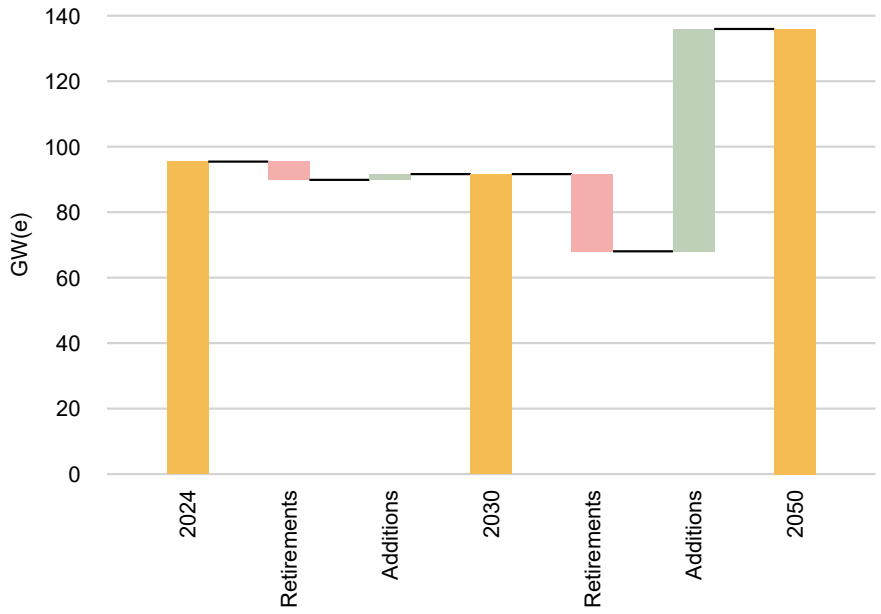
Electrical Capacity	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	1 170	1 152	1 152	1 439	1 439	1 982	1 982
Nuclear	95	86	92	81	114	68	136
Nuclear as % of Electrical Capacity	*8.1%*	*7.5%*	*8.0%*	*5.6%*	*7.9%*	*3.4%*	*6.9%*

Reactor Retirements and Additions

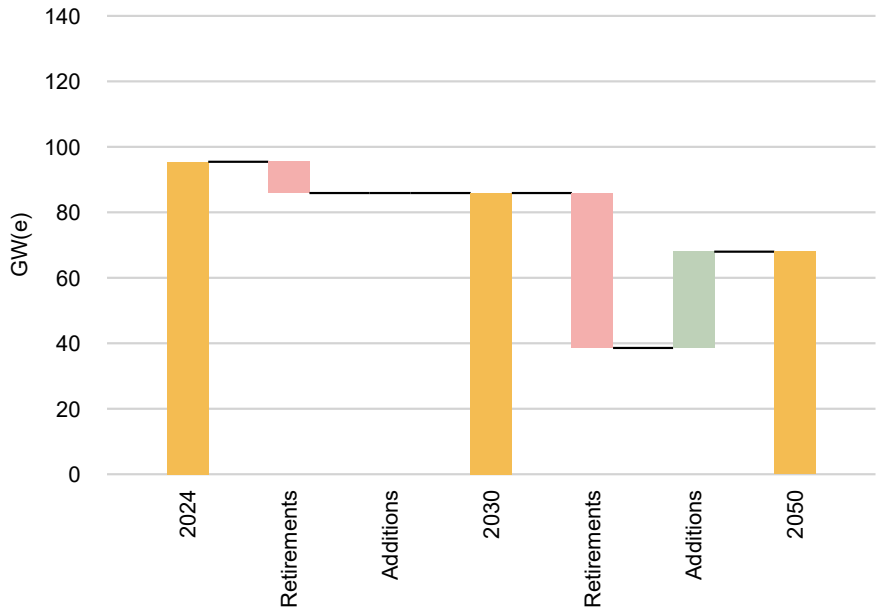
- In the high case, it is assumed that there will be a net increase in nuclear capacity of about 40 GW(e) for this region by 2050. About 29 GW(e) will be retired by 2050, with most of the retirements taking place after 2030. Most of the capacity additions will occur after 2030, with about 70 GW(e) of additions by 2050.
- In the low case, it is assumed that there will be a net decrease of about 27 GW(e) for this region by 2050. The main difference in assumptions for the low and the high case is the greater number of retired reactors in the low case case, with almost twice as much capacity — about 57 GW(e) — being retired by 2050 in the low case compared with the high case. This highlights the importance of operating lifetime extensions for this region to achieve the high case.

FIGURE 25. NUCLEAR CAPACITY IN THE COMBINED REGIONS OF NORTHERN, WESTERN AND SOUTHERN EUROPE: ACTUAL, RETIREMENTS AND ADDITIONS

HIGH CASE



LOW CASE



Electricity and Nuclear Production Projections

- Total electricity production is projected to increase by 11% by 2030 and by 76% by 2050 compared with 2024 production levels.
- In the high case, nuclear electricity production is projected to increase to 1.6 times the 2024 production levels by 2050. The share of nuclear in total electricity production is projected to decrease by almost 3 percentage points by 2050.
- In the low case, nuclear electricity production is projected to decrease by about 12% by 2050. The share of nuclear in total electricity production is projected to decline by about 10 percentage points by 2050.

FIGURE 26. NUCLEAR ELECTRICITY PRODUCTION IN THE COMBINED REGIONS OF NORTHERN, WESTERN AND SOUTHERN EUROPE

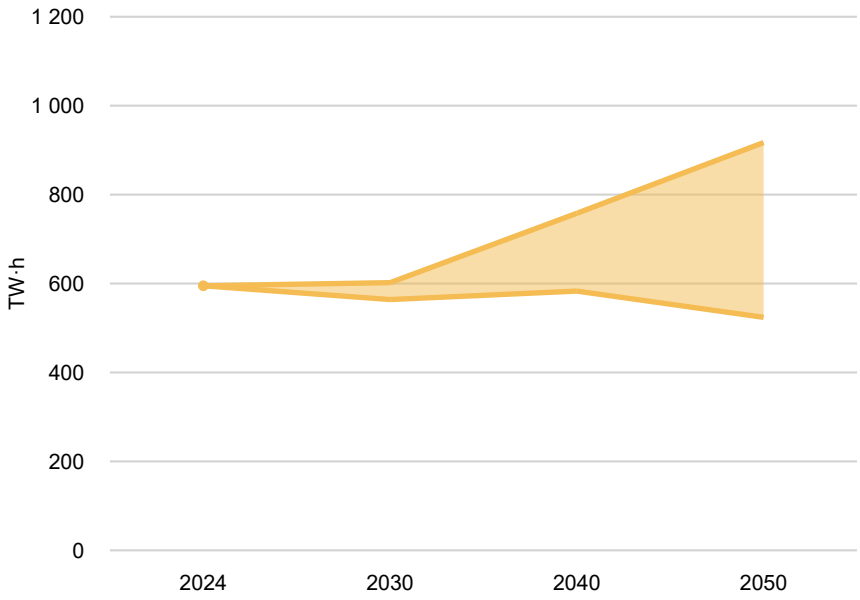


TABLE 15. TOTAL AND NUCLEAR ELECTRICITY PRODUCTION IN THE COMBINED REGIONS OF NORTHERN, WESTERN AND SOUTHERN EUROPE, TW·h

Electricity Production	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	2 867	3 189	3 189	3 866	3 866	5 058	5 058
Nuclear	595	564	602	583	758	524	917
Nuclear as % of Electricity Production	*20.8%*	*17.7%*	*18.9%*	*15.1%*	*19.6%*	*10.4%*	*18.1%*

Eastern Europe

285

million people

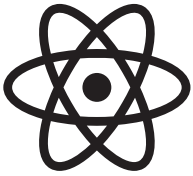
Energy Overview 2024

15.4%

of final energy consumed was electricity

1 721 TW·h

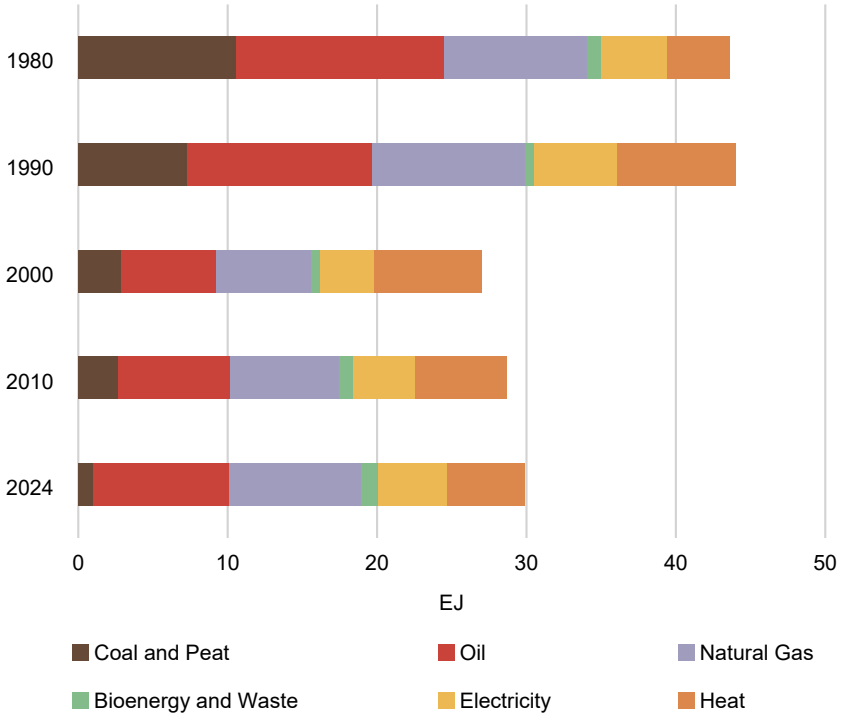
of electricity produced



20.6%

of electricity produced by nuclear

FIGURE 27. FINAL ENERGY CONSUMPTION BY ENERGY SOURCE IN THE EASTERN EUROPE REGION



Final Energy Consumption

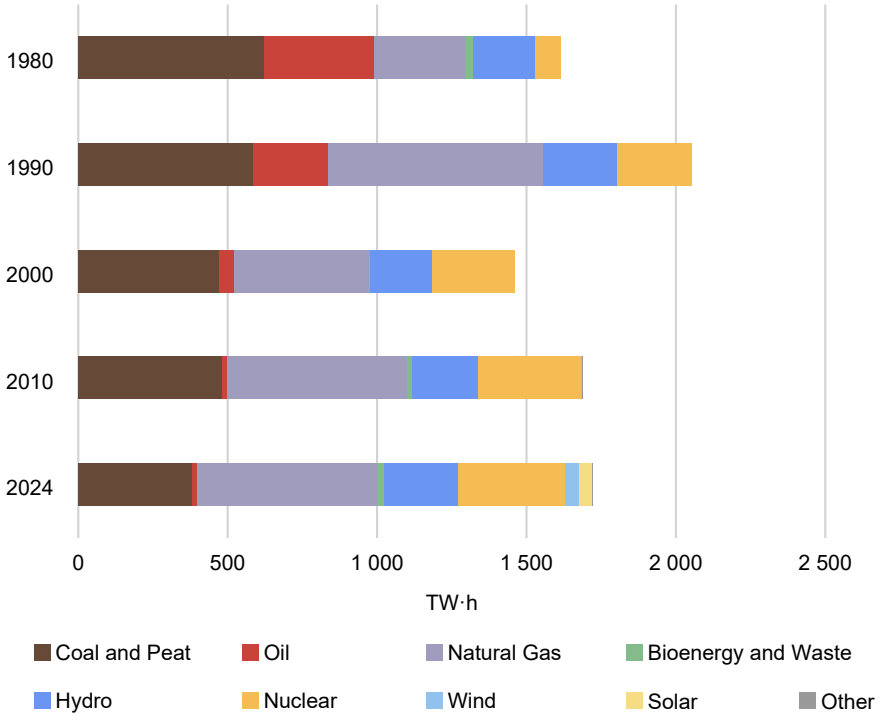
The share of electricity in final energy consumption has increased gradually by about 5 percentage points since 1980, reaching about 15% in 2024.

Since 1980 fossil fuels have accounted for the largest share of final energy consumption. From a level of almost 80% in 1980, the combined share of fossil fuels had declined by about 20 percentage points by 2000. In 2024 the combined share was 63%.

Oil has the largest share of all fossil fuels, accounting for 30% in 2024. The share of natural gas has increased by about 7 percentage points since 1980, reaching almost 30% in 2024. The share of coal has declined from 24% in 1980 to 3% in 2024.

Heat accounted for 10% of final energy consumption in 1980, increasing to almost 30% by 2000. Its share has since declined to about 18% in 2024. Bioenergy and waste has doubled its share since 1980, however its share remains small and relatively stable at 4%.

FIGURE 28. ELECTRICITY PRODUCTION BY ENERGY SOURCE IN THE EASTERN EUROPE REGION



Electricity Production

The share of nuclear has quadrupled since 1980, accounting for 21% of the electricity produced in 2024.

Although their combined share has declined by more than 20 percentage points since 1980, fossil fuels remain the principal energy sources for electricity production, with a share of 58% in 2024.

Over the years the share of natural gas has almost doubled. In 2024 more than one third of the electricity was produced from natural gas. Coal contributed 22% of the electricity produced in 2024, down from almost 40% in 1980. The share of oil has dropped significantly, from almost 23% in 1980 to 1% in 2024.

The share of hydro has remained relatively stable throughout the years at about 12–15%, with a share of 15% in 2024. The combined share of solar and wind remained small at about 5% in 2024, although these sources only started to contribute to electricity production since 2010.

Energy and Electricity Projections

- Final consumption of energy is projected to decrease by about 13% by 2050.
- Electricity consumption is projected to grow at about 2.5% per year, approximately doubling by 2050.
- The share of electricity in final consumption of energy is projected to increase by about 20 percentage points by 2050.

FIGURE 29. FINAL CONSUMPTION OF ENERGY AND ELECTRICITY IN THE EASTERN EUROPE REGION

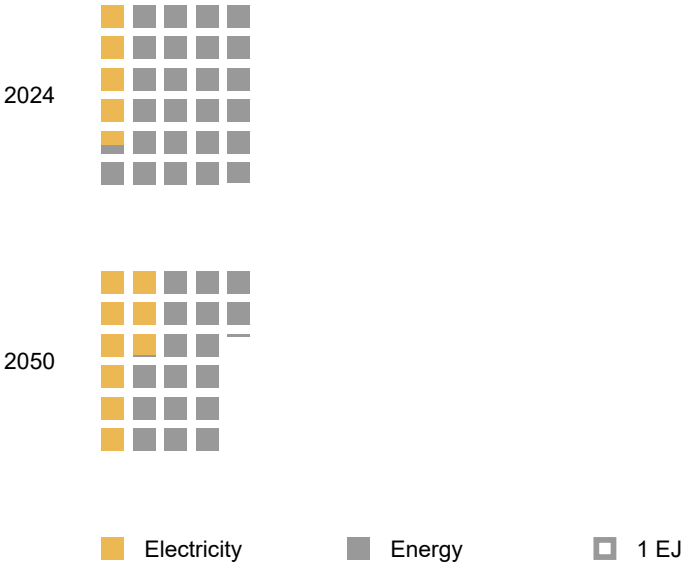


TABLE 16. FINAL CONSUMPTION OF ENERGY AND ELECTRICITY IN THE EASTERN EUROPE REGION, EJ

Final Consumption	2024	2030	2040	2050
Energy	29.9	30.8	28.4	26.1
Electricity	4.6	5.0	6.4	8.9
Electricity as % of Energy	*15.4%*	*16.2%*	*22.5%*	*34.1%*

Nuclear Electrical Generating Capacity Projections

- Total electrical generating capacity is projected to double by 2050 compared with 2024 capacity.
- In the high case, nuclear electrical generating capacity is projected to almost double by 2050 compared with 2024 capacity. The share of nuclear in total electrical capacity is projected to decrease about 1 percentage point by 2050.
- In the low case, nuclear electrical generating capacity is projected to increase by 7% by 2040 and by 26% by 2050 compared with 2024 capacity. The share of nuclear in total electrical capacity is projected to decline by 4.3 percentage points by 2050.

FIGURE 30. NUCLEAR ELECTRICAL GENERATING CAPACITY IN THE EASTERN EUROPE REGION

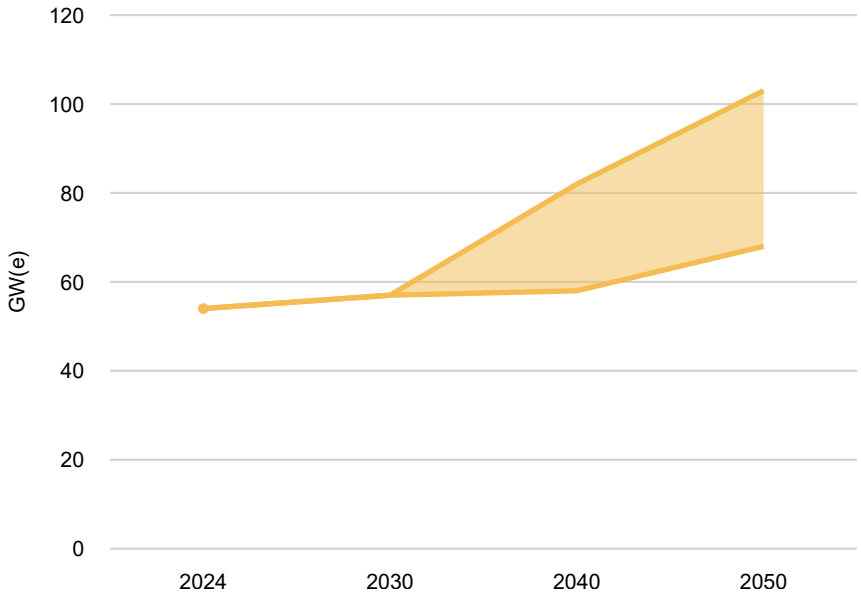


TABLE 17. TOTAL AND NUCLEAR ELECTRICAL GENERATING CAPACITY IN THE EASTERN EUROPE REGION, GW(e)

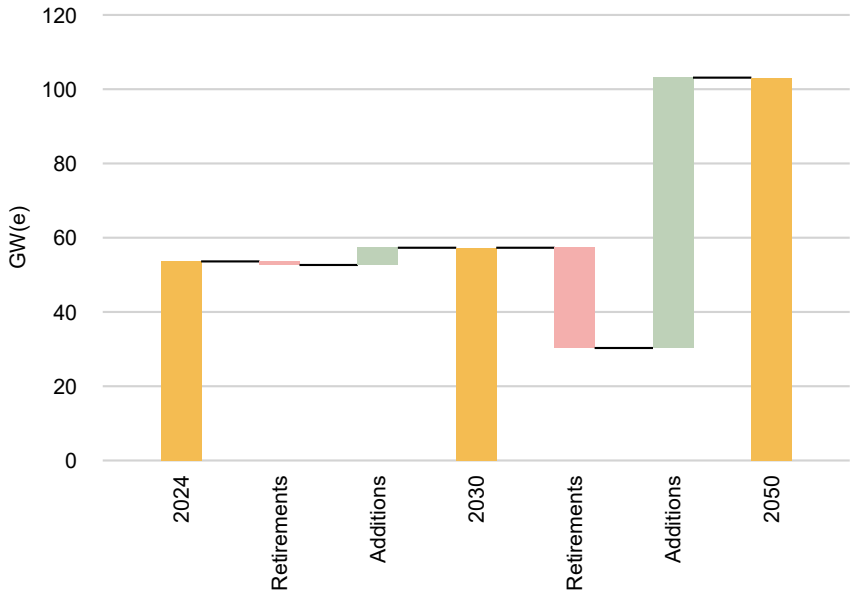
Electrical Capacity	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	498	539	539	722	722	1 047	1 047
Nuclear	54	57	57	58	82	68	103
Nuclear as % of Electrical Capacity	*10.8%*	*10.6%*	*10.6%*	*8.0%*	*11.4%*	*6.5%*	*9.8%*

Reactor Retirements and Additions

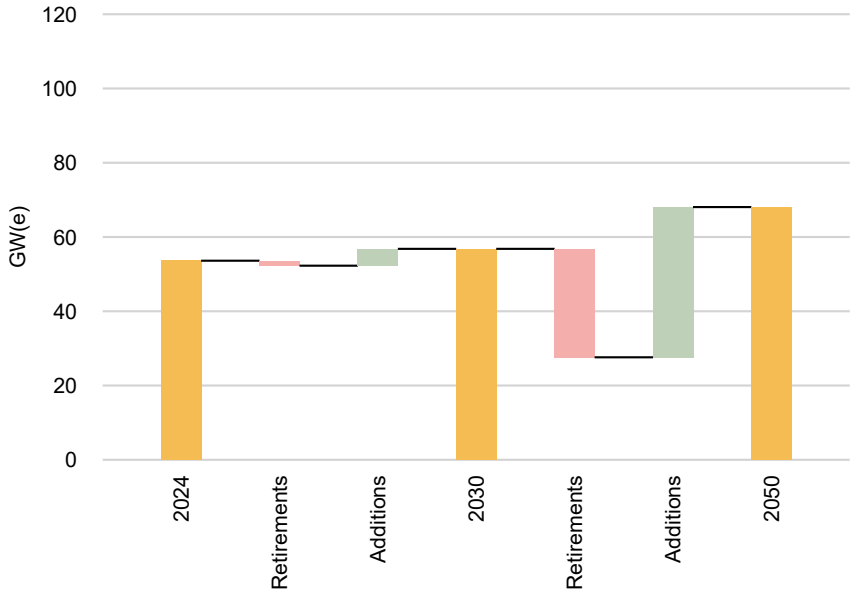
- In the high case, it is assumed that there will be a net increase of about 50 GW(e) for this region by 2050, with only about 1 GW(e) retired by 2030 and about 27 GW(e) retired between 2030 and 2050. Most of the capacity additions will also occur after 2030, with about 74 GW(e) of additions between 2030 and 2050.
- In the low case, it is assumed that there will be a net increase of about 14 GW(e) for this region by 2050. From 2030 onwards, 29 GW(e) will be retired and about 40 GW(e) will be added.

FIGURE 31. NUCLEAR CAPACITY IN THE EASTERN EUROPE REGION: ACTUAL, RETIREMENTS AND ADDITIONS

HIGH CASE



LOW CASE



Electricity and Nuclear Production Projections

- Total electricity production is projected to increase by 9% by 2030 and to almost double by 2050 compared with 2024 production.
- In the high case, nuclear electricity production is projected to more than double by 2050 compared with the 2024 level. The share of nuclear in total electricity production is projected to increase by 4.4 percentage points.
- In the low case, nuclear electricity production is projected to increase to 1.5 times the 2024 level by 2050. The share of nuclear in total electricity production is projected to decline by about 4 percentage points by 2050.

FIGURE 32. NUCLEAR ELECTRICITY PRODUCTION IN THE EASTERN EUROPE REGION

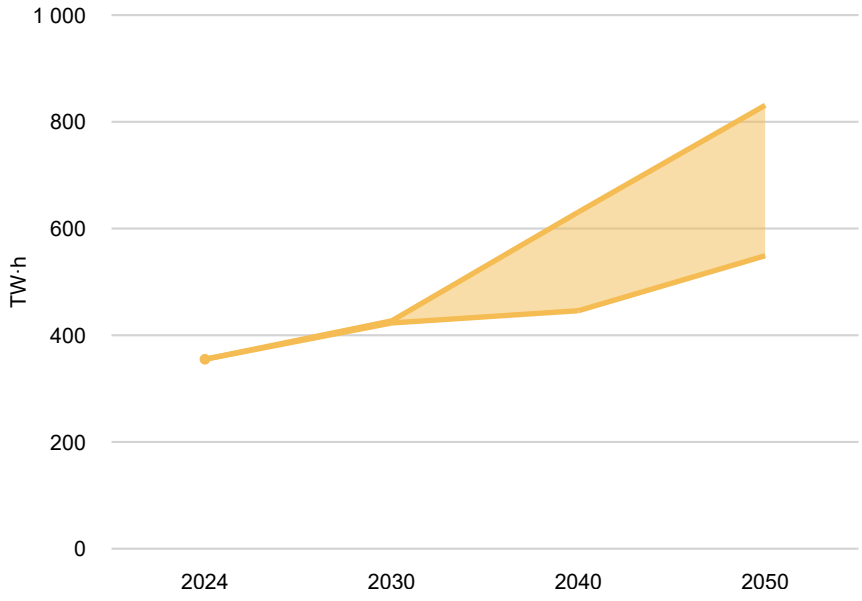


TABLE 18. TOTAL AND NUCLEAR ELECTRICITY PRODUCTION IN THE EASTERN EUROPE REGION, TW·h

Electricity Production	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	1 721	1 871	1 871	2 395	2 395	3 330	3 330
Nuclear	355	423	427	446	631	549	831
Nuclear as % of Electricity Production	*20.6%*	*22.6%*	*22.8%*	*18.6%*	*26.3%*	*16.5%*	*25.0%*

Africa

1 515

million people

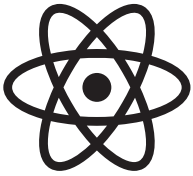
Energy Overview 2024

10.4%

of final energy consumed was electricity

919 TW·h

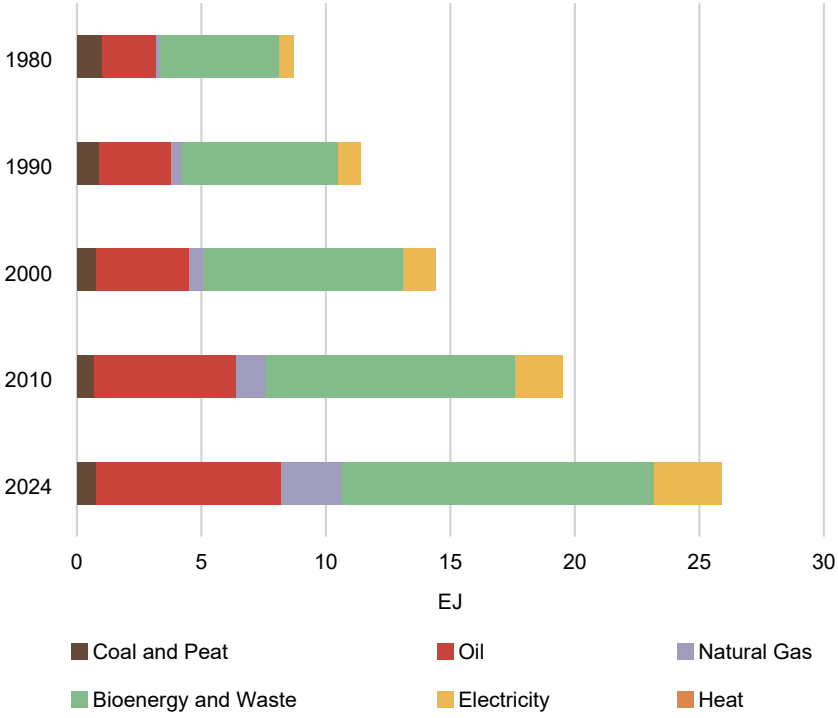
of electricity produced



0.9%

of electricity produced by nuclear

FIGURE 33. FINAL ENERGY CONSUMPTION BY ENERGY SOURCE IN THE AFRICA REGION



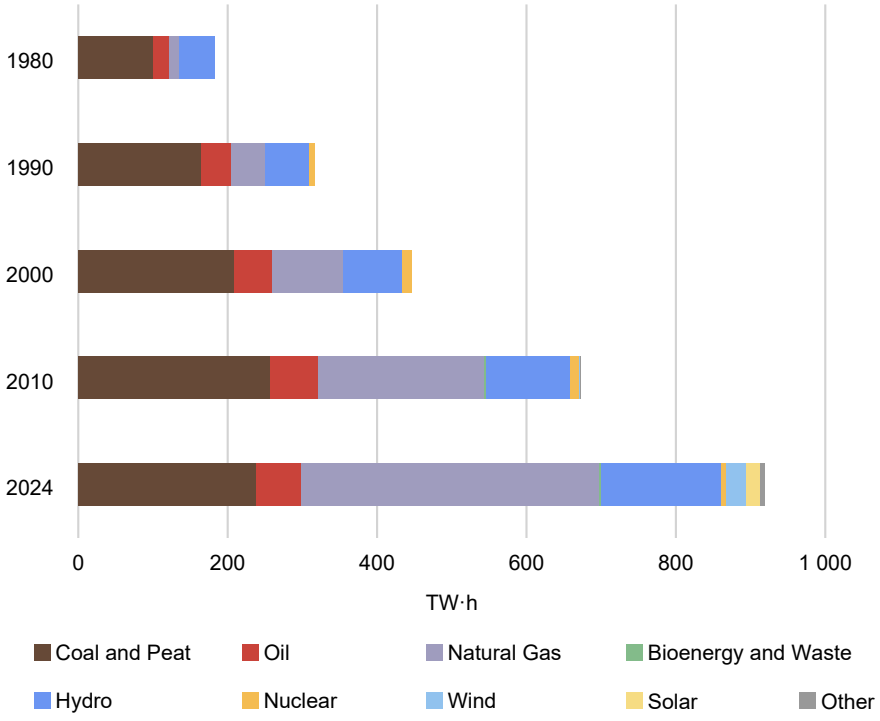
Final Energy Consumption

The share of electricity has increased 3 percentage points since 1980 to reach 10% in 2024.

Bioenergy and waste has accounted for the largest share of final energy consumption over the past 40 years at around 50%, although there is a general trend to gradually reduce its use. Its share has declined by 6 percentage points since 1980.

The combined share of fossil fuels has been relatively stable since 1980 at about 40%. The share of natural gas has increased over the past 40 years from 1% to about 9% in 2024. The share of oil is 29%; it has increased by 3 percentage points since 1980. The share of coal has gradually decreased by about 8 percentage points to only 3% and has been stable the past few years.

FIGURE 34. ELECTRICITY PRODUCTION BY ENERGY SOURCE IN THE AFRICA REGION



Electricity Production

The share of nuclear was around 2–3% from 1990 to 2010, but has since fallen to about 1% in 2024.

From 1980 until 2010 the combined share of fossil fuels in electricity production gradually increased by about 7 percentage points, peaking at 81% in 2010. In 2024 fossil fuels accounted for about three quarters of the electricity produced, similar to their combined share in 1980.

Since 1980 the share of natural gas has steadily increased by more than 35 percentage points reaching 43% in 2024. The share of coal has declined from 54% in 1980, reaching 26% in 2024. The share of oil has declined by almost half since 1980, reaching about 7% in 2024.

Hydro was the largest source of low carbon electricity, accounting for about 17% of total electricity production in 2024, although its share has decreased by 8 percentage points over the past 40 years. The share of wind and solar has increased slightly since 2000, increasing from less than 1% to about 5% in 2024.

Energy and Electricity Projections

- Final energy consumption is projected to increase by 54% by 2050 compared with the 2024 level, at an average annual rate of approximately 1.7%.
- Electricity consumption will grow much faster, at an average annual rate of approximately 7%, and is projected to increase sixfold by 2050 compared with the 2024 level.
- By 2050 the share of electricity in final energy consumption is projected to increase by more than 30 percentage points from its 2024 share.

FIGURE 35. FINAL CONSUMPTION OF ENERGY AND ELECTRICITY IN THE AFRICA REGION

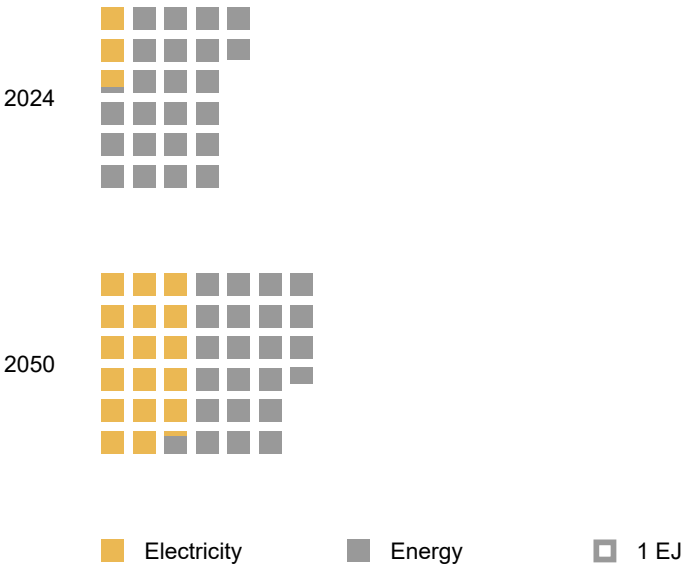


TABLE 19. FINAL CONSUMPTION OF ENERGY AND ELECTRICITY IN THE AFRICA REGION, EJ

Final Consumption	2024	2030	2040	2050
Energy	25.9	28.3	33.6	39.7
Electricity	2.7	4.3	8.4	17.2
Electricity as % of Energy	*10.4%*	*15.2%*	*25.0%*	*43.3%*

Per Capita Energy and Electricity

- Electricity consumption on a per capita basis is projected to increase almost fourfold from 0.5 MW·h per person in 2024 to almost 2.0 MW·h per person in 2050.
- By 2050 per capita final energy consumption in the Africa region is projected to decrease slightly from about 17 GJ per person to 16 GJ per person.

FIGURE 36. PER CAPITA ELECTRICITY CONSUMPTION IN THE AFRICA REGION

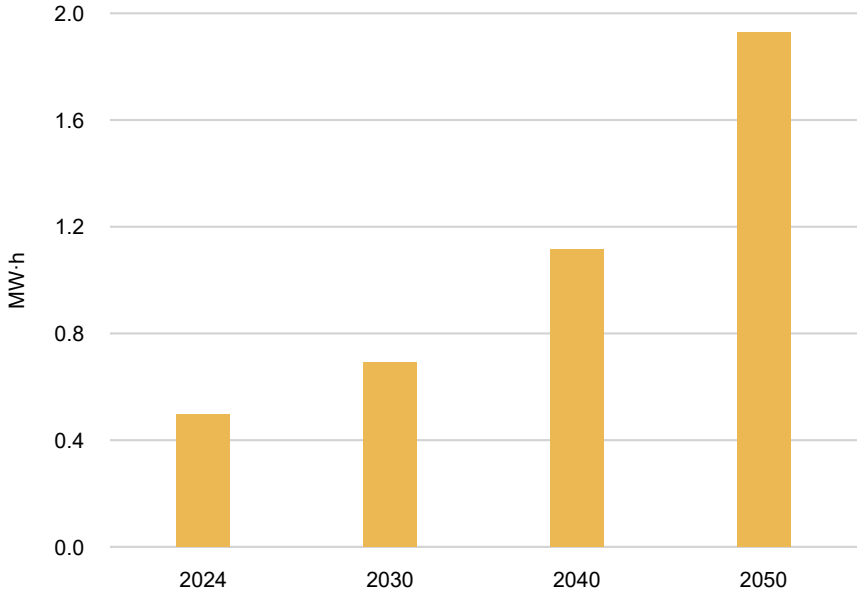
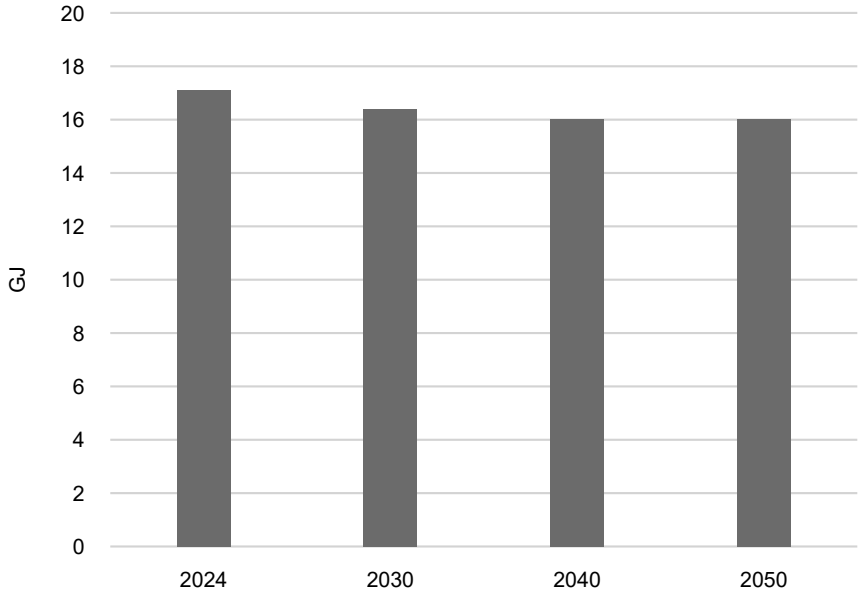


FIGURE 37. PER CAPITA FINAL ENERGY CONSUMPTION IN THE AFRICA REGION



Nuclear Electrical Generating Capacity Projections

- Total electrical generating capacity is projected to increase by 36% by 2030 and to increase sixfold by 2050.
- In the high case, nuclear electrical generating capacity is projected to approximately triple by 2030 and increase sixteenfold by 2050 compared with 2024 capacity.
- In the low case, nuclear electrical generating capacity is projected to approximately double by 2030 and to increase sixfold by 2050 compared with 2024 capacity.

FIGURE 38. NUCLEAR ELECTRICAL GENERATING CAPACITY IN THE AFRICA REGION

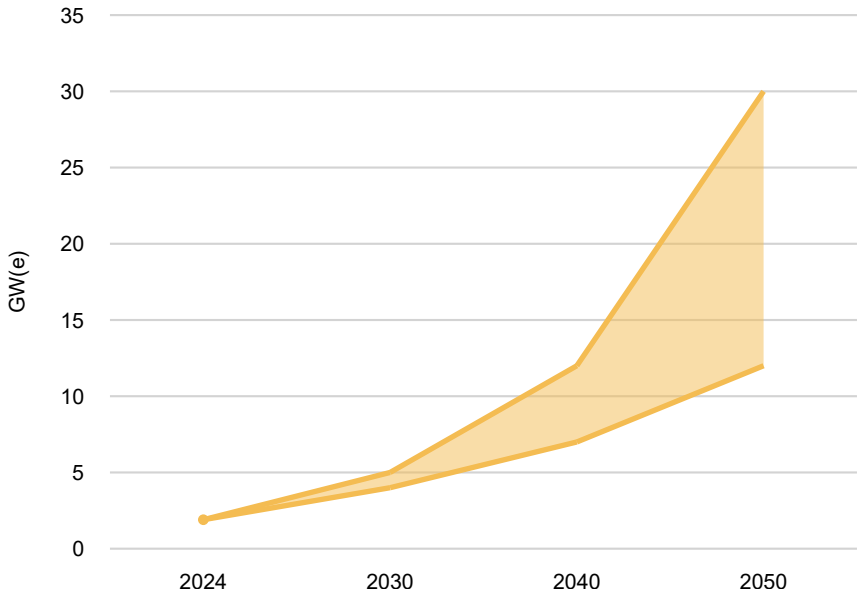


TABLE 20. TOTAL AND NUCLEAR ELECTRICAL GENERATING CAPACITY IN THE AFRICA REGION, GW(e)

Electrical Capacity	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	274	372	372	840	840	1 878	1 878
Nuclear	1.9	4	5	7	12	12	30
Nuclear as % of Electrical Capacity	*0.7%*	*1.1%*	*1.3%*	*0.8%*	*1.4%*	*0.6%*	*1.6%*

Electricity and Nuclear Production Projections

- Total electricity production is projected to increase by about 60% by 2030 and sixfold by 2050.
- In the high case, nuclear electricity production is projected to increase about thirtyfold by 2050. The share of nuclear in total electricity production is projected to approximately quadruple by 2050.
- In the low case, nuclear electricity production is projected to increase more than tenfold by 2050. The share of nuclear in total electricity production is projected to increase by almost 1 percentage point by 2050.

FIGURE 39. NUCLEAR ELECTRICITY PRODUCTION IN THE AFRICA REGION

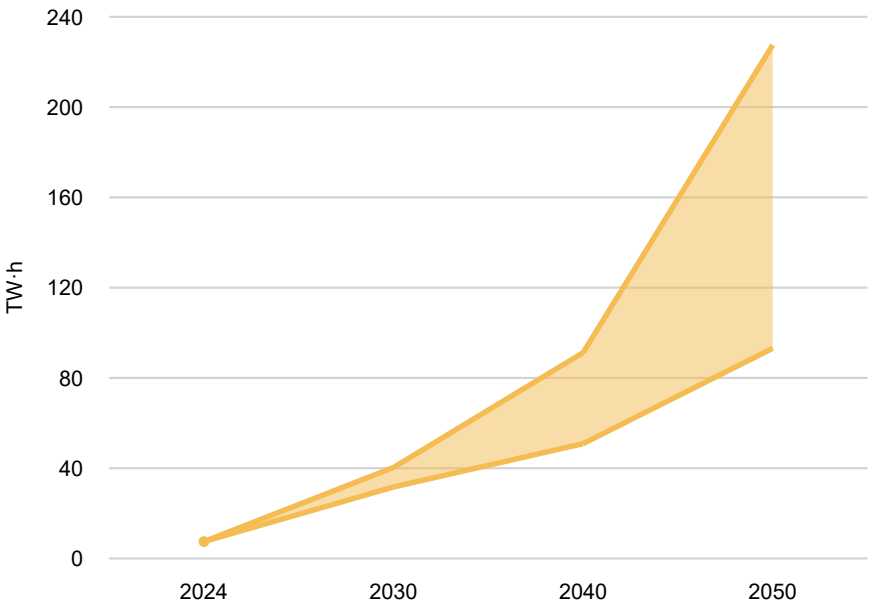


TABLE 21. TOTAL AND NUCLEAR ELECTRICITY PRODUCTION IN THE AFRICA REGION, TW·h

Electricity Production	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	919	1 463	1 463	2 858	2 858	5 852	5 852
Nuclear	8	33	42	53	95	97	237
Nuclear as % of Electricity Production	*0.9%*	*2.3%*	*2.9%*	*1.9%*	*3.3%*	*1.7%*	*4.0%*

Western Asia

309

million people

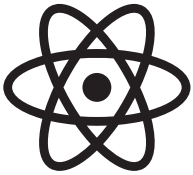
Energy Overview 2024

19.3%

of final energy consumed was electricity

1 583 TW·h

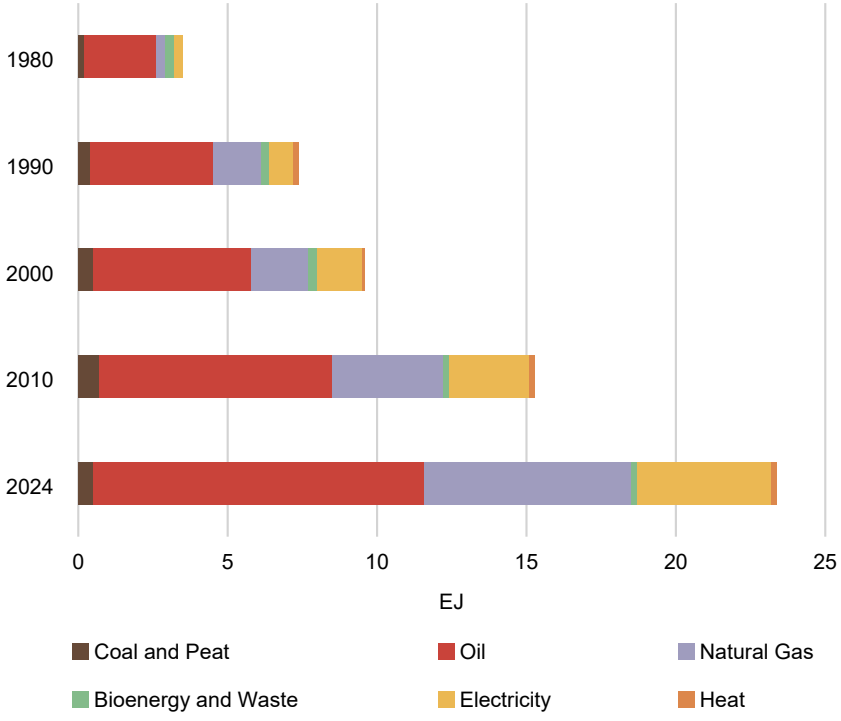
of electricity produced



2.5%

of electricity produced by nuclear

FIGURE 40. FINAL ENERGY CONSUMPTION BY ENERGY SOURCE IN THE WESTERN ASIA REGION



Final Energy Consumption

At about 20% in 2024, the share of electricity in final energy consumption has more than doubled since 1980.

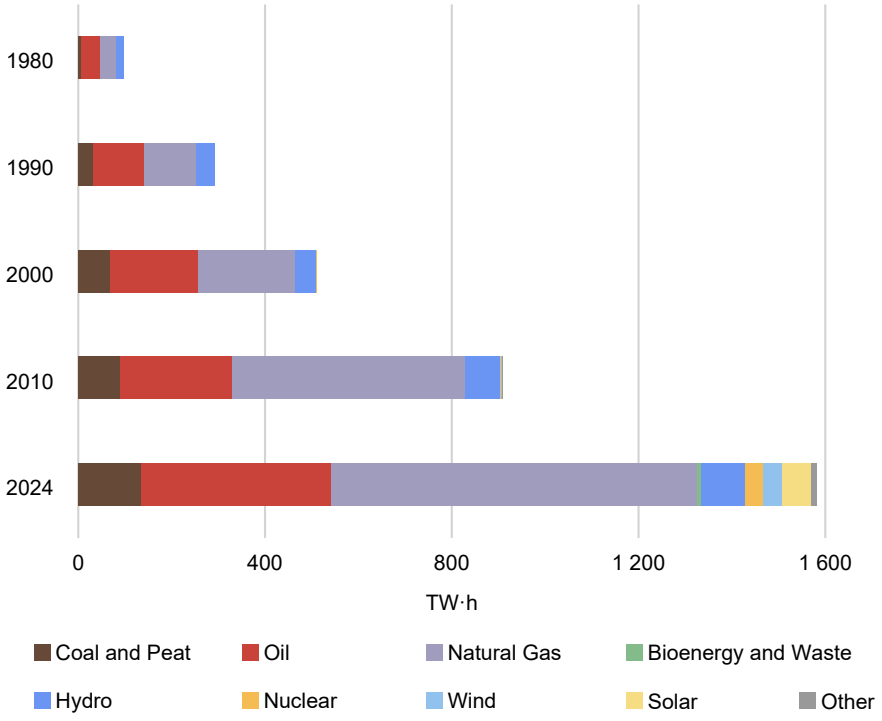
Fossil fuels have continued to dominate final energy consumption, with a stable share of about 80% since 1980.

At 47%, oil accounted for the largest share of final energy of all fossil fuels in 2024, despite a reduction of about 20 percentage points since 1980. The share of natural gas has tripled since 1980, accounting for about 30% of final energy consumption in 2024. The share of coal was 2% in 2024, decreasing by 4 percentage points since 1980.

The share of bioenergy and waste in final energy consumption has declined gradually over the years, decreasing from 9% in 1980 to about 1% in 2024.

The share of heat in final energy consumption was about 1% in 2024.

FIGURE 41. ELECTRICITY PRODUCTION BY ENERGY SOURCE IN THE WESTERN ASIA REGION



Electricity Production

The share of nuclear in total electricity production was 2.5% in 2024.

Hydro remains the largest source of low carbon electricity and accounted for about 6% of total production in 2024, although its share has declined by more than half since 1980.

With a share of about 84% in 2024, fossil fuels have remained dominant energy sources for electricity production since 1980, particularly natural gas, which had a share of about 50% in 2024. The share of oil has declined by 17 percentage points since 1980, although it remains high, accounting for a quarter of total electricity production for the region. Coal's share in electricity production has gradually increased since 1980, reaching a peak of about 13% in 2000. Its share was 9% in 2024.

In recent years, solar and wind have begun being used to generate electricity, and in 2024 their combined share was about 7%.

Energy and Electricity Projections

- Final energy consumption is projected to increase about 5% over the 2024 level by 2050, at an average annual rate of approximately 0.2%.
- Electricity consumption is projected to increase 2.5 times the 2024 level by 2050, at an average annual rate of 3.7%.
- The share of electricity in final energy consumption is projected to reach about 47% by 2050, an increase of about 28 percentage points from 2024.

FIGURE 42. FINAL CONSUMPTION OF ENERGY AND ELECTRICITY IN THE WESTERN ASIA REGION

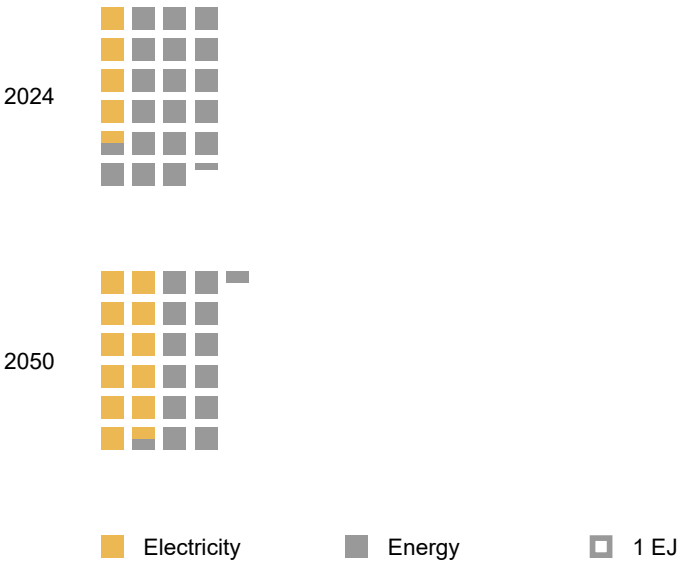


TABLE 22. FINAL CONSUMPTION OF ENERGY AND ELECTRICITY IN THE WESTERN ASIA REGION, EJ

Final Consumption	2024	2030	2040	2050
Energy	23.3	23.8	24.3	24.5
Electricity	4.5	5.9	8.3	11.5
Electricity as % of Energy	*19.3%*	*24.8%*	*34.2%*	*46.9%*

Nuclear Electrical Generating Capacity Projections

- Total electrical generating capacity is projected to increase by 50% by 2030 and to more than triple by 2050.
- In the high case, nuclear electrical generating capacity is projected to almost double by 2030 and to increase sixfold by 2050 compared with 2024 capacity.
- In the low case, nuclear electrical generating capacity is projected to almost double by 2030 and to increase to 2.6 times the 2024 capacity by 2050.
- The share of nuclear in total electrical generating capacity is projected to approximately double by 2050 in the high case, whereas in the low case the share is projected to decrease by 0.2 percentage points.

FIGURE 43. NUCLEAR ELECTRICAL GENERATING CAPACITY IN THE WESTERN ASIA REGION

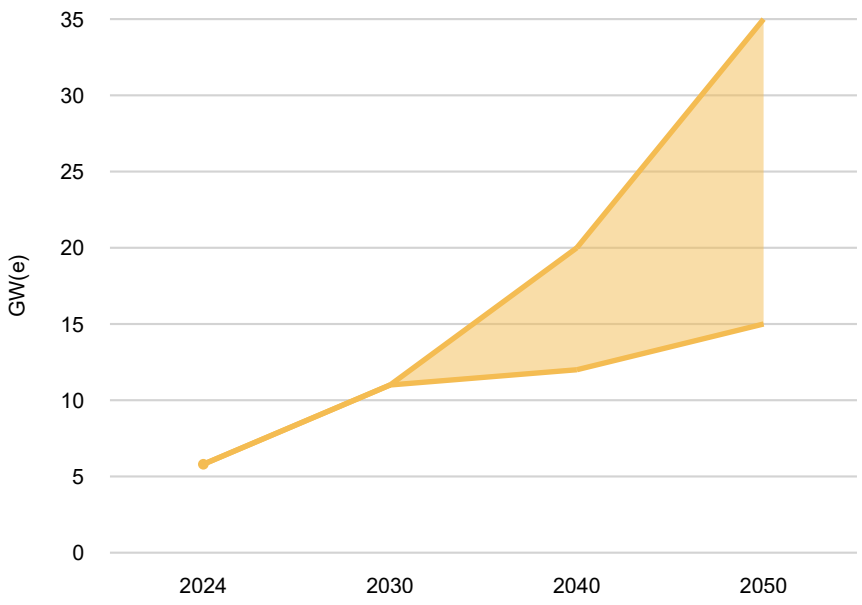


TABLE 23. TOTAL AND NUCLEAR ELECTRICAL GENERATING CAPACITY IN THE WESTERN ASIA REGION, GW(e)

Electrical Capacity	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	403	602	602	887	887	1 295	1 295
Nuclear	5.8	11	11	12	20	15	35
Nuclear as % of Electrical Capacity	*1.4%*	*1.8%*	*1.8%*	*1.4%*	*2.3%*	*1.2%*	*2.7%*

Electricity and Nuclear Production Projections

- Total electricity production is projected to increase by about 30% by 2030 and to increase to 2.5 times the 2024 level by 2050.
- In the high case, nuclear electricity production is projected to increase sevenfold by 2050. The share of nuclear in total electricity production is projected to increase by about 4 percentage points.
- In the low case, nuclear electricity production is projected to triple by 2050. The share of nuclear in total electricity production is projected to increase by 0.4 percentage points.

FIGURE 44. NUCLEAR ELECTRICITY PRODUCTION IN THE WESTERN ASIA REGION

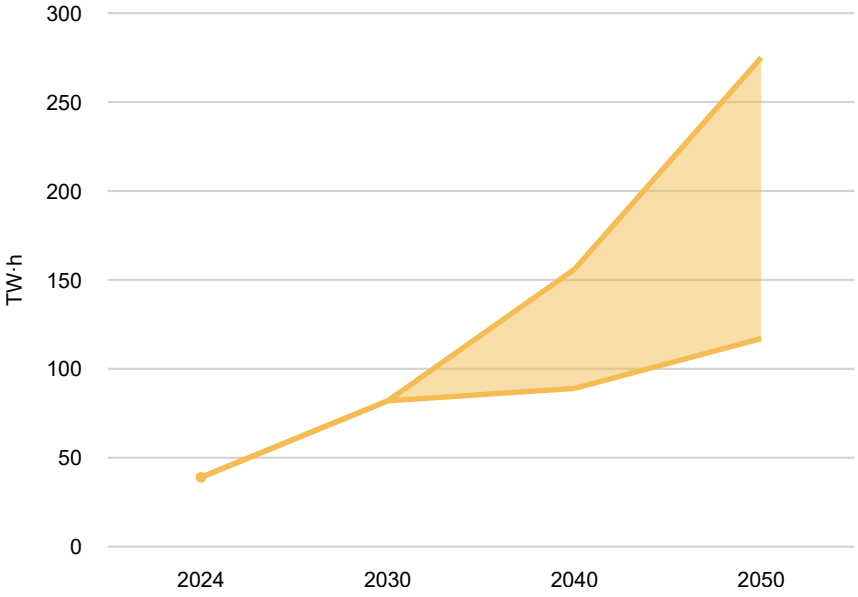


TABLE 24. TOTAL AND NUCLEAR ELECTRICITY PRODUCTION IN THE WESTERN ASIA REGION, TW·h

Electricity Production	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	1 583	2 075	2 075	2 919	2 919	4 044	4 044
Nuclear	39	82	82	89	156	117	275
Nuclear as % of Electricity Production	*2.5%*	*4.0%*	*4.0%*	*3.0%*	*5.3%*	*2.9%*	*6.8%*

Southern Asia

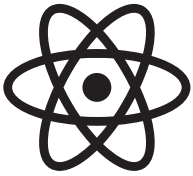
2 064

million people

Energy Overview 2024

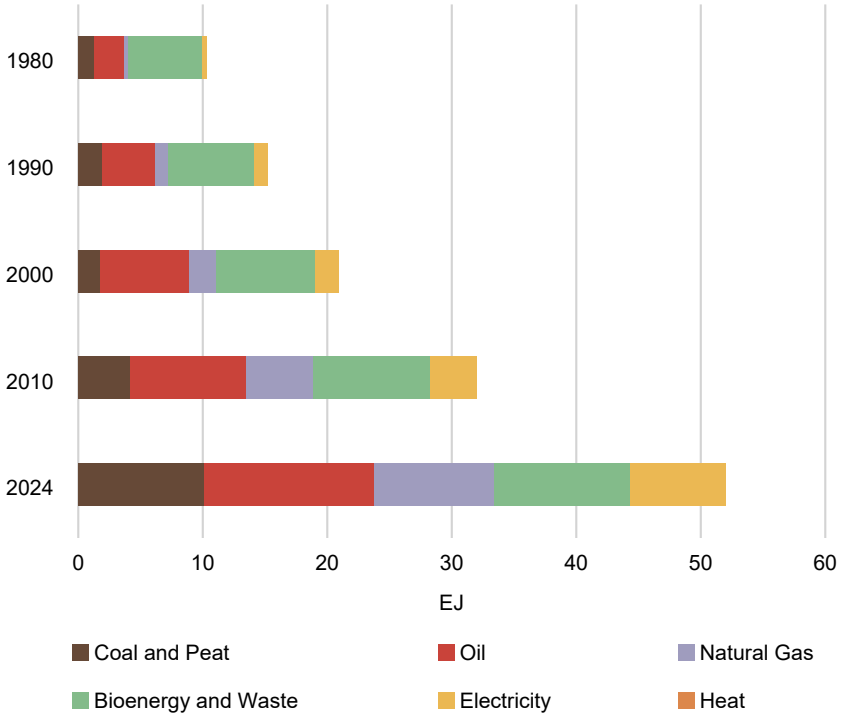
14.8%
of final energy consumed was electricity

2 701 TW·h
of electricity produced



2.9%
of electricity produced by nuclear

FIGURE 45. FINAL ENERGY CONSUMPTION BY ENERGY SOURCE IN THE SOUTHERN ASIA REGION



Final Energy Consumption

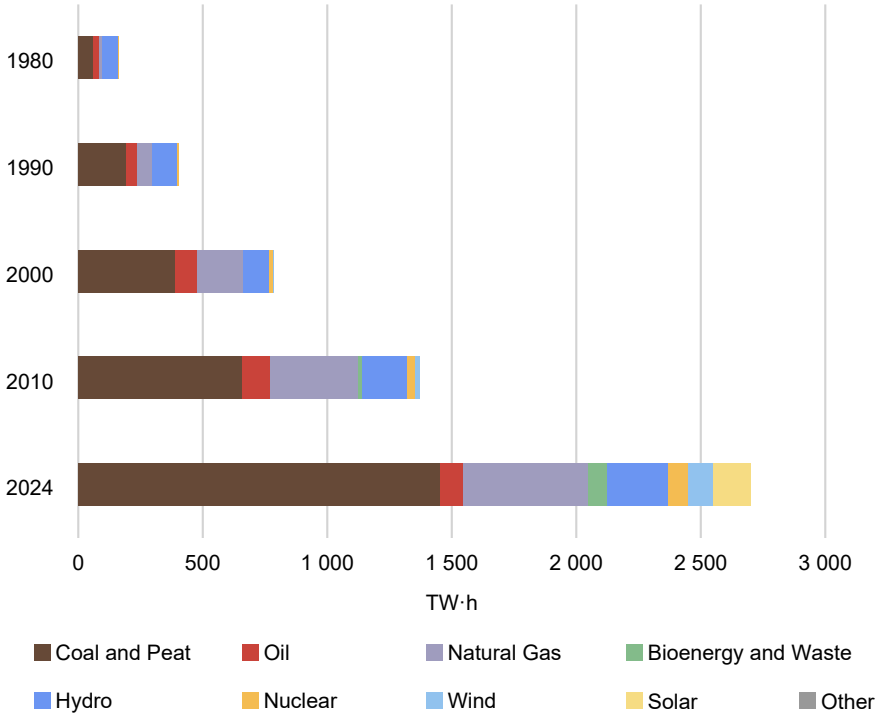
In 2024 the share of electricity in final energy consumption was 15%, more than tripling since 1980.

The share of fossil fuels in final energy consumption has been increasing steadily since 1980, from approximately 40% to 64% in 2024.

The share of natural gas was 3% in 1980 and almost 20% in 2024. The share of oil has gradually increased, accounting for about one quarter of final energy consumption in 2024. The share of coal has increased by 6 percentage points since 1980 to almost 20% in 2024.

The share of bioenergy and waste has declined by more than half since 1980, although it is still relatively large at about one fifth of overall final energy in 2024.

FIGURE 46. ELECTRICITY PRODUCTION BY ENERGY SOURCE IN THE SOUTHERN ASIA REGION



Electricity Production

The share of nuclear in total electricity production was about 3% in 2024.

From 1980 to 2000, fossil fuels increased their share of electricity production from about 60% to more than 80%. Their share has since declined, reaching 76% in 2024.

Coal is the largest source of electricity with more than half of total electricity production from coal in 2024, an increase of 16 percentage points since 1980. The share of natural gas has more than doubled since 1980, accounting for 19% of the electricity produced in 2024. The share of oil has decreased about 10 percentage points since 1980 to about 3% in 2024.

Hydro remains the largest source of low carbon electricity, accounting for about 9% of total electricity production, although its share has decreased by about 30 percentage points since 1980. In recent years, the share of solar and wind has increased rapidly, rising from less than 1% in 2000 to about 9% in 2024.

Energy and Electricity Projections

- Final energy consumption is projected to increase by 22% from the 2024 level by 2050, at an average annual rate of approximately 0.8%.
- Electricity consumption is projected to grow at a faster rate of about 5% per year. Electricity consumption is projected to increase to 3.5 times the 2024 level by 2050.
- By 2050 the share of electricity in final energy consumption is projected to increase by 27.5 percentage points from its 2024 share.

FIGURE 47. FINAL CONSUMPTION OF ENERGY AND ELECTRICITY IN THE SOUTHERN ASIA REGION

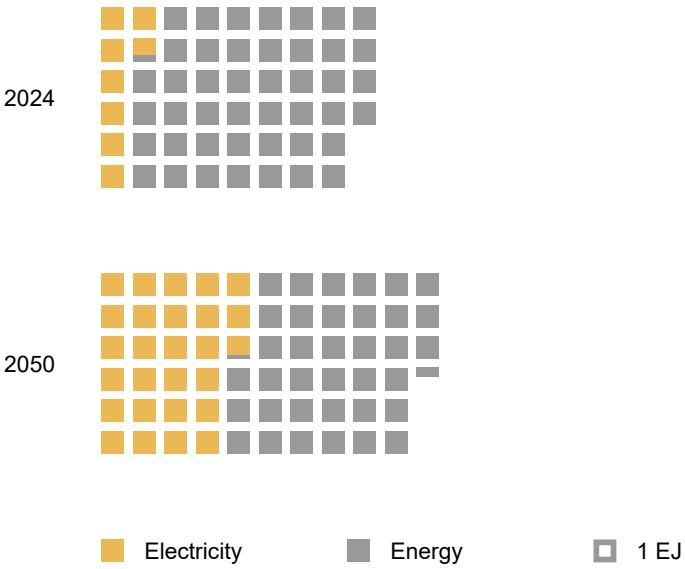


TABLE 25. FINAL CONSUMPTION OF ENERGY AND ELECTRICITY IN THE SOUTHERN ASIA REGION, EJ

Final Consumption	2024	2030	2040	2050
Energy	52.0	55.6	60.1	63.4
Electricity	7.7	10.9	17.2	26.8
Electricity as % of Energy	*14.8%*	*19.6%*	*28.6%*	*42.3%*

Nuclear Electrical Generating Capacity Projections

- Total electrical generating capacity is projected to increase by about 55% by 2030 and to quadruple by 2050.
- In the high case, nuclear electrical generating capacity is projected to approximately double by 2030 and to increase about sevenfold by 2050 compared with 2024 capacity. The share of nuclear in total electrical generating capacity is projected to increase by 1.3 percentage points by 2050.
- In the low case, nuclear electrical generating capacity is projected to increase by 52% by 2030 and to almost quadruple by 2050. The share of nuclear in total electrical generating capacity is projected to remain almost unchanged from 2024 to 2050.

FIGURE 48. NUCLEAR ELECTRICAL GENERATING CAPACITY IN THE SOUTHERN ASIA REGION

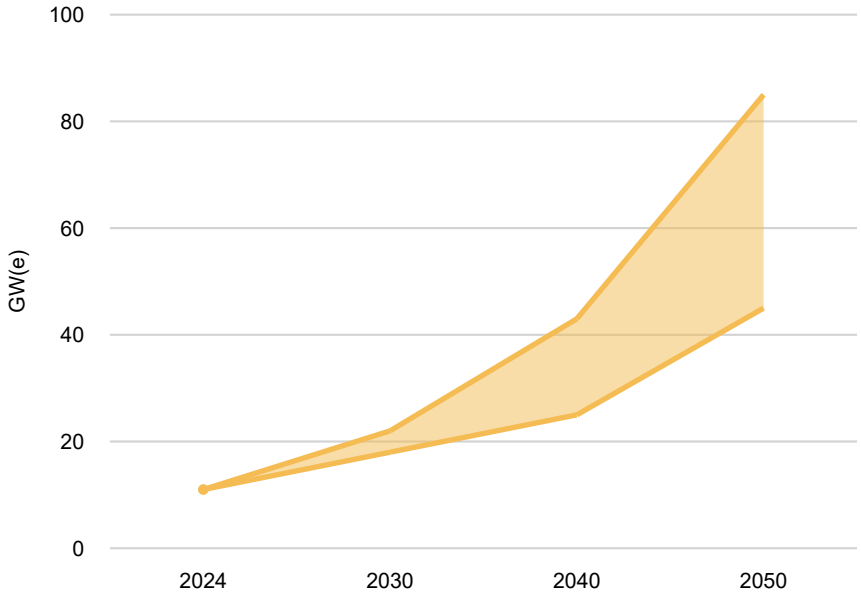


TABLE 26. TOTAL AND NUCLEAR ELECTRICAL GENERATING CAPACITY IN THE SOUTHERN ASIA REGION, GW(e)

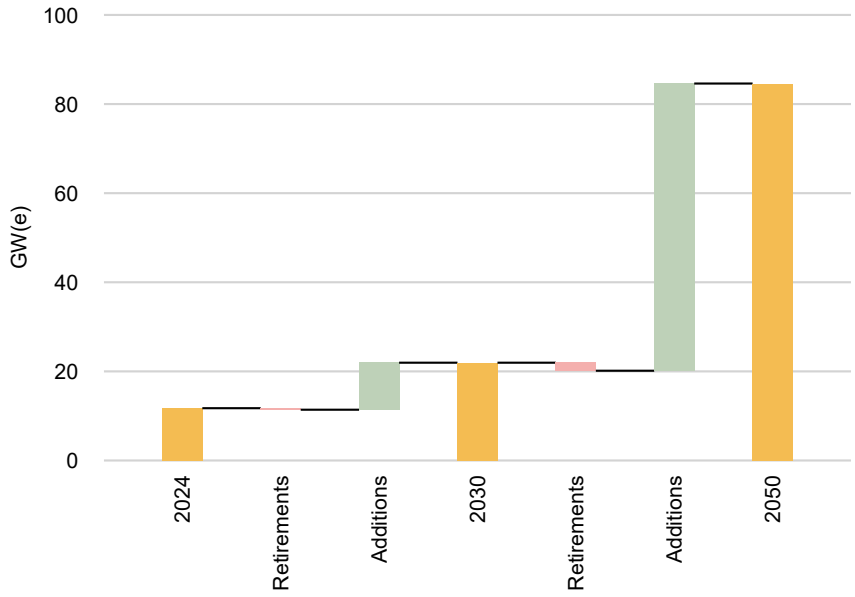
Electrical Capacity	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	703	1 096	1 096	1 817	1 817	2 960	2 960
Nuclear	11	18	22	25	43	45	85
Nuclear as % of Electrical Capacity	*1.6%*	*1.6%*	*2.0%*	*1.4%*	*2.4%*	*1.5%*	*2.9%*

Reactor Retirements and Additions

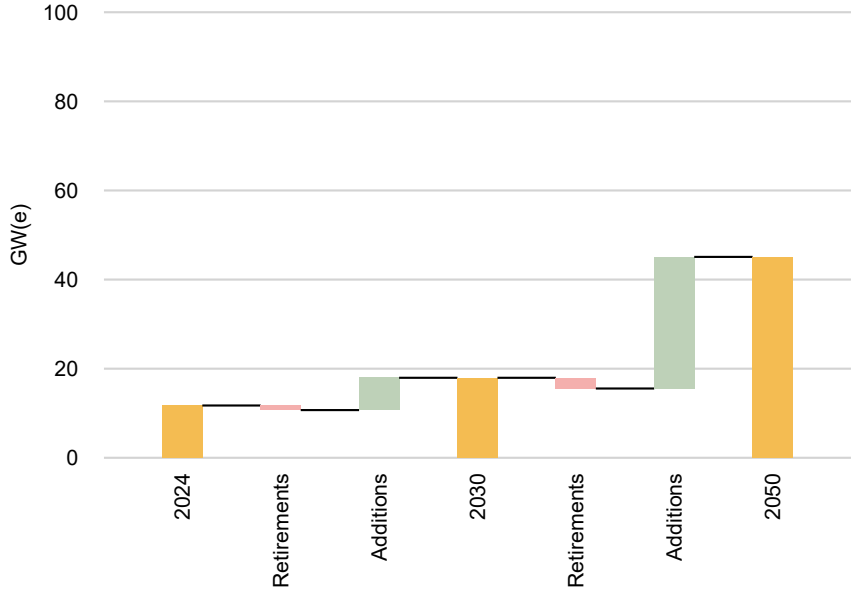
- In the high case, it is assumed that about 2 GW(e) will be retired by 2050, resulting in net capacity additions of about 73 GW(e) by 2050, with most of the capacity (64 GW(e)) added from 2030 onwards. This highlights the importance of new reactor additions for this region in the high case.
- In the low case, there will be about 3 GW(e) of capacity retired by 2050. Net capacity additions will be about 34 GW(e) by 2050. About 20% of capacity additions are projected to be built before 2030.

FIGURE 49. NUCLEAR CAPACITY IN THE SOUTHERN ASIA REGION: ACTUAL, RETIREMENTS AND ADDITIONS

HIGH CASE



LOW CASE



Electricity and Nuclear Production Projections

- Total electrical production is projected to increase by about 40% by 2030 and to 3.5 times the 2024 production level by 2050.
- In the high case, nuclear electricity production is projected to increase eightfold by 2050. The share of nuclear in total electricity production is projected to increase by 4 percentage points.
- In the low case, nuclear electricity production is projected to approximately quadruple by 2050. The share of nuclear in total electricity production is projected to increase by about one percentage point.

FIGURE 50. NUCLEAR ELECTRICITY PRODUCTION IN THE SOUTHERN ASIA REGION

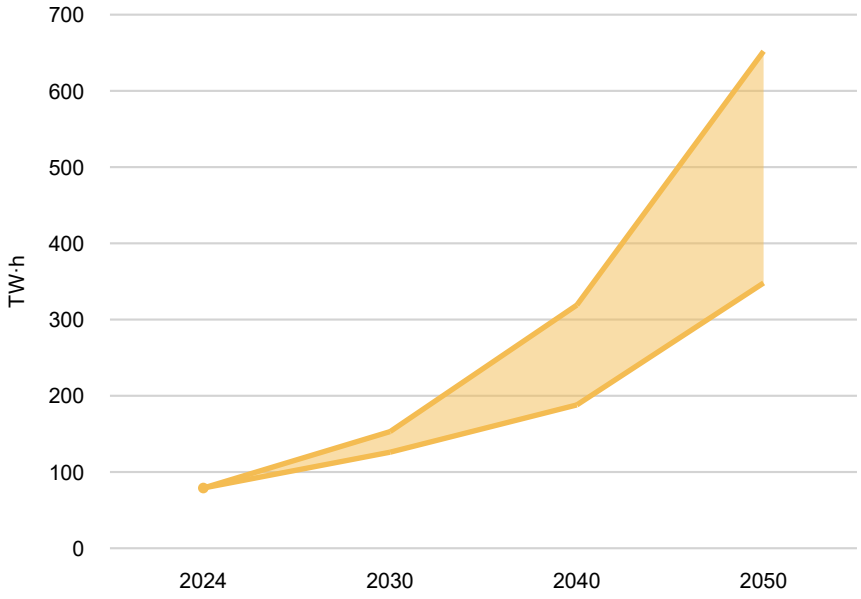


TABLE 27. TOTAL AND NUCLEAR ELECTRICITY PRODUCTION IN THE SOUTHERN ASIA REGION, TW·h

Electricity Production	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	2 701	3 824	3 824	6 033	6 033	9 401	9 401
Nuclear	79	126	153	188	319	348	652
Nuclear as % of Electricity Production	*2.9%*	*3.3%*	*4.0%*	*3.1%*	*5.3%*	*3.7%*	*6.9%*

Central and Eastern Asia

1 738

million people

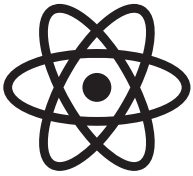
Energy Overview 2024

27.1%

of final energy consumed was electricity

11 967 TW·h

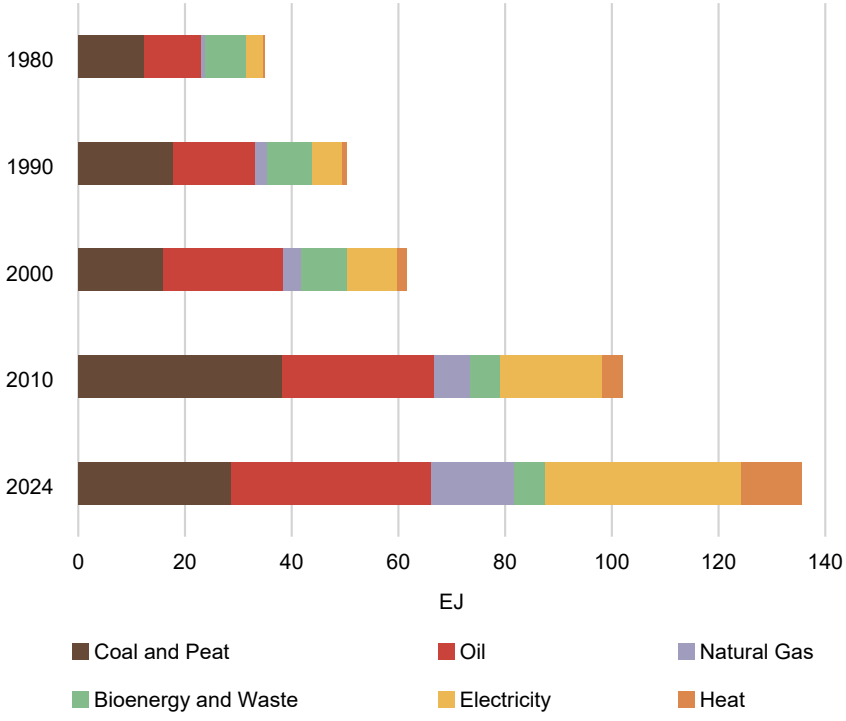
of electricity produced



5.8%

of electricity produced by nuclear

FIGURE 51. FINAL ENERGY CONSUMPTION BY ENERGY SOURCE IN THE COMBINED REGIONS OF CENTRAL AND EASTERN ASIA



Final Energy Consumption

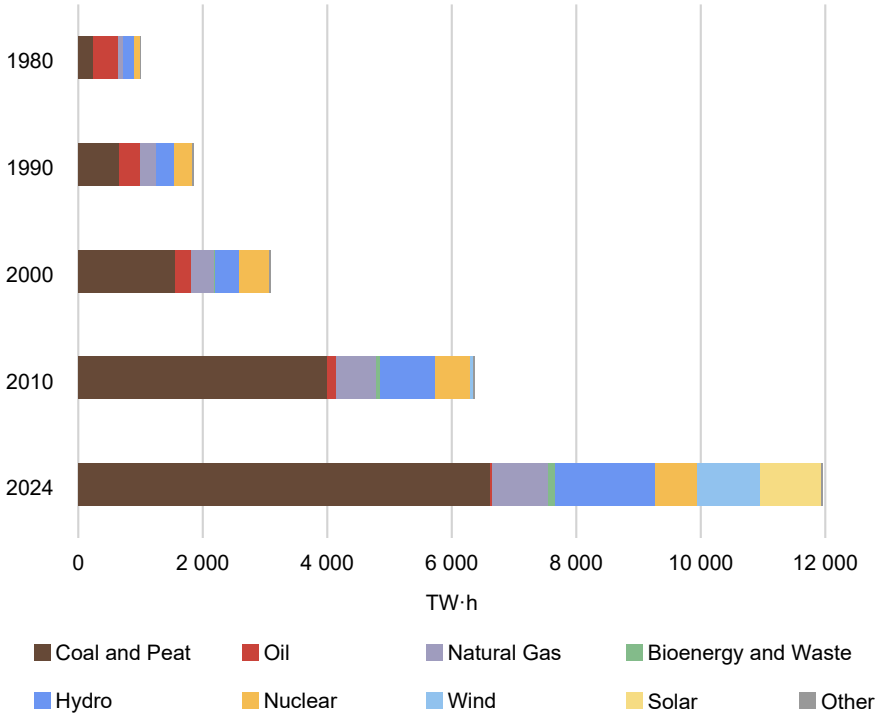
The share of electricity has tripled since 1980, accounting for more than a quarter of final energy consumption in 2024.

Since 1980 fossil fuels have dominated final energy consumption, with a combined share that has remained at around 70%. In recent years this has declined and in 2024 this combined share was 60%. Over the past 40 years, the share of natural gas has increased by 9 percentage points, reaching 11% in 2024. The share of coal has declined by 15 percentage points since 1980 to a share of about 20% in 2024. At about 30% in 2024, the share of oil has remained relatively constant since 1980.

The share of bioenergy and waste in final energy consumption has decreased since 1980, from 22% of final energy consumption in 1980 to 4% in 2024.

The share of heat has increased from less than 1% in 1980 to about 8% in 2024.

FIGURE 52. ELECTRICITY PRODUCTION BY ENERGY SOURCE IN THE COMBINED REGIONS OF CENTRAL AND EASTERN ASIA



Electricity Production

The share of nuclear increased between 1980 and 2010, peaking at about 16%, but has since declined, accounting for about 6% in 2024.

With a share of about 63% in 2024, fossil fuels — particularly coal — have remained dominant energy sources for electricity production since 1980. The combined share of fossil fuels in 2024 was about 10 percentage points lower than in 1980.

The share of coal was more than 50% in 2024. It has increased about 30 percentage points since 1980. The share of natural gas was about 7% in 2024, a reduction of a few percentage points in recent years. Of all fossil fuels, the share of oil has experienced the most significant change, decreasing from about 42% in 1980 to less than 1% in 2024.

Hydro was the largest source of low carbon electricity, accounting for 13% of total electricity production in 2024. Its share has remained relatively stable over the past 25 years. In recent years, the share of solar and wind has increased rapidly, rising from less than 1% in 2010 to 17% in 2024.

Energy and Electricity Projections

- Final energy consumption is projected to decline by approximately 20% by 2050 compared with the 2024 level at an average annual rate of -1%.
- Electricity consumption is projected to grow at a rate of about 1% per year, increasing by about 30% from the 2024 level by 2050.
- By 2050 the share of electricity in final energy consumption is projected to increase by about 20 percentage points from its 2024 share.

FIGURE 53. FINAL CONSUMPTION OF ENERGY AND ELECTRICITY IN THE COMBINED REGIONS OF CENTRAL AND EASTERN ASIA

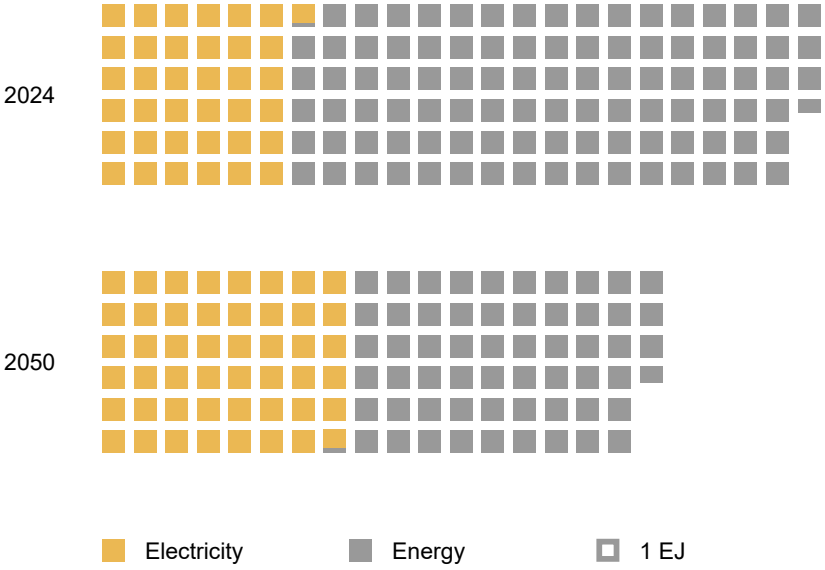


TABLE 28. FINAL CONSUMPTION OF ENERGY AND ELECTRICITY IN THE COMBINED REGIONS OF CENTRAL AND EASTERN ASIA, EJ

Final Consumption	2024	2030	2040	2050
Energy	135.6	139.7	118.7	105.7
Electricity	36.8	42.0	44.3	47.8
Electricity as % of Energy	*27.1%*	*30.1%*	*37.3%*	*45.2%*

Nuclear Electrical Generating Capacity Projections

- Total electrical generating capacity is projected to increase by 15% by 2030 and by 45% by 2050.
- In the high case, nuclear electrical generating capacity is projected to increase to 3.5 times the 2024 capacity by 2050. The share of nuclear in total electrical generating capacity is projected to more than double by 2050.
- In the low case, nuclear electrical generating capacity is projected to increase to 2.6 times the 2024 capacity by 2050. The share of nuclear in total electrical generating capacity is projected to increase by almost 2 percentage points by 2050.

FIGURE 54. NUCLEAR ELECTRICAL GENERATING CAPACITY IN THE COMBINED REGIONS OF CENTRAL AND EASTERN ASIA

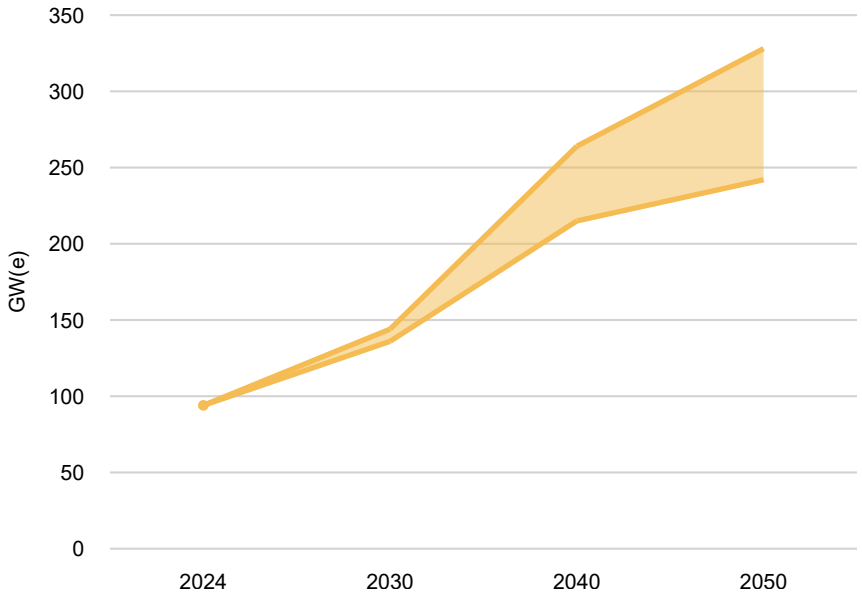


TABLE 29. TOTAL AND NUCLEAR ELECTRICAL GENERATING CAPACITY IN THE COMBINED REGIONS OF CENTRAL AND EASTERN ASIA, GW(e)

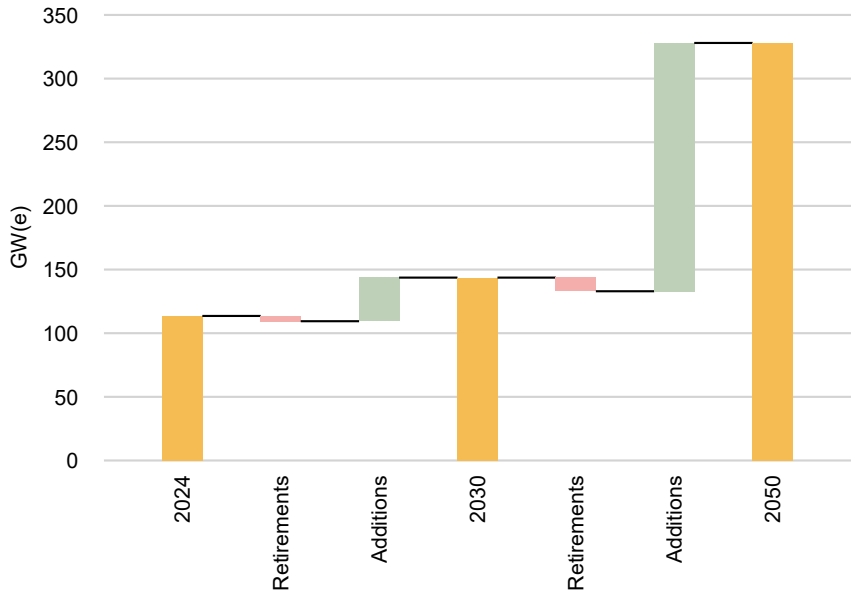
Electrical Capacity	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	3 907	4 491	4 491	4 863	4 863	5 649	5 649
Nuclear	94	136	144	215	264	242	328
Nuclear as % of Electrical Capacity	*2.4%*	*3.0%*	*3.2%*	*4.4%*	*5.4%*	*4.3%*	*5.8%*

Reactor Retirements and Additions

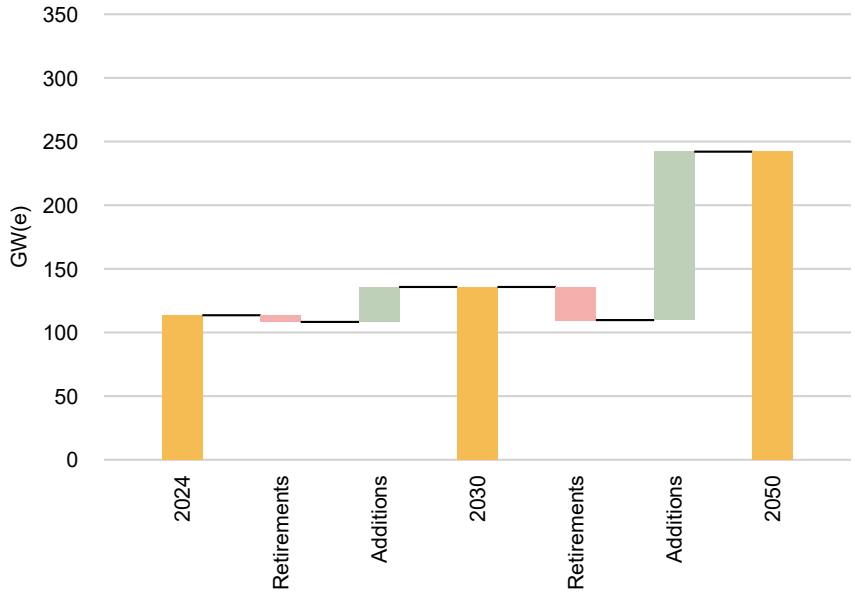
- In the high case, it is assumed that new capacity equivalent to about 30% of the 2024 capacity will be added by 2030 and that a further 195 GW(e) will be added over the subsequent 20 years. About 13% of the 2024 capacity is projected to be retired by 2050. This will result in net capacity additions of about 214 GW(e) by 2050. This highlights the importance of new capacity additions for attaining the high case in this region.
- In the low case, it is assumed that there will be a greater number of retirements — amounting to about 31 GW(e) by 2050. This will still result in net capacity additions of 128 GW(e) by 2050, with about 70% of the new additions projected by 2040.

FIGURE 55. NUCLEAR CAPACITY IN THE COMBINED REGIONS OF CENTRAL AND EASTERN ASIA: ACTUAL, RETIREMENTS AND ADDITIONS

HIGH CASE



LOW CASE



Electricity and Nuclear Production Projections

- Total electricity production is projected to increase by about 30% by 2050.
- In the high case, nuclear electricity production is projected to almost quadruple by 2050. The share of nuclear in total electricity production is projected to increase by about 12 percentage points.
- In the low case, nuclear electricity production is projected to rise to almost triple the 2024 level by 2050. The share of nuclear in total electricity production is projected increase by 7 percentage points.

FIGURE 56. NUCLEAR ELECTRICITY PRODUCTION IN THE COMBINED REGIONS OF CENTRAL AND EASTERN ASIA

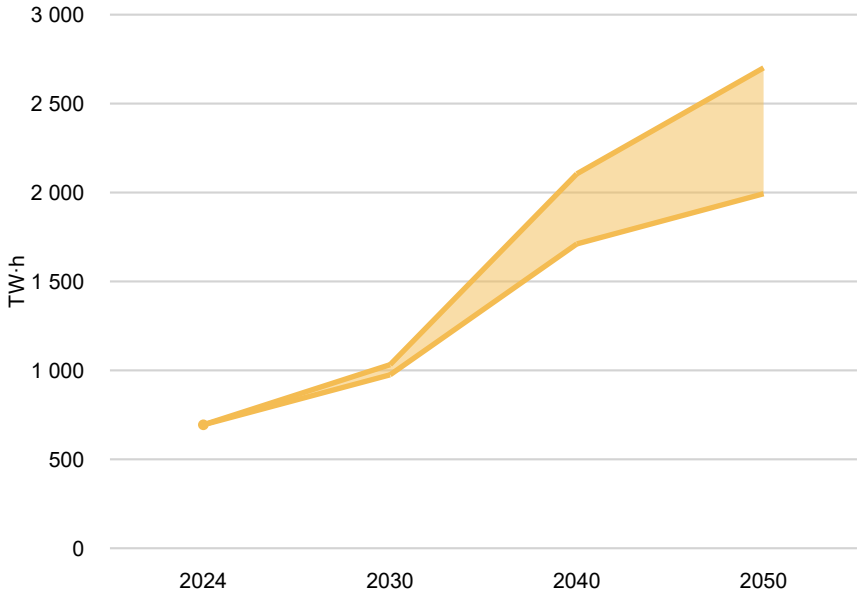


TABLE 30. TOTAL AND NUCLEAR ELECTRICITY PRODUCTION IN THE COMBINED REGIONS OF CENTRAL AND EASTERN ASIA, TW·h

Electricity Production	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	11 967	13 658	13 658	14 406	14 406	15 544	15 544
Nuclear	694	975	1 032	1 711	2 105	1 993	2 701
Nuclear as % of Electricity Production	*5.8%*	*7.1%*	*7.6%*	*11.9%*	*14.6%*	*12.8%*	*17.4%*

South-eastern Asia

695

million people

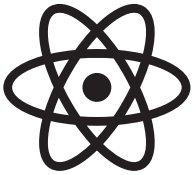
Energy Overview 2024

19.6%

of final energy consumed was electricity

1 417 TW·h

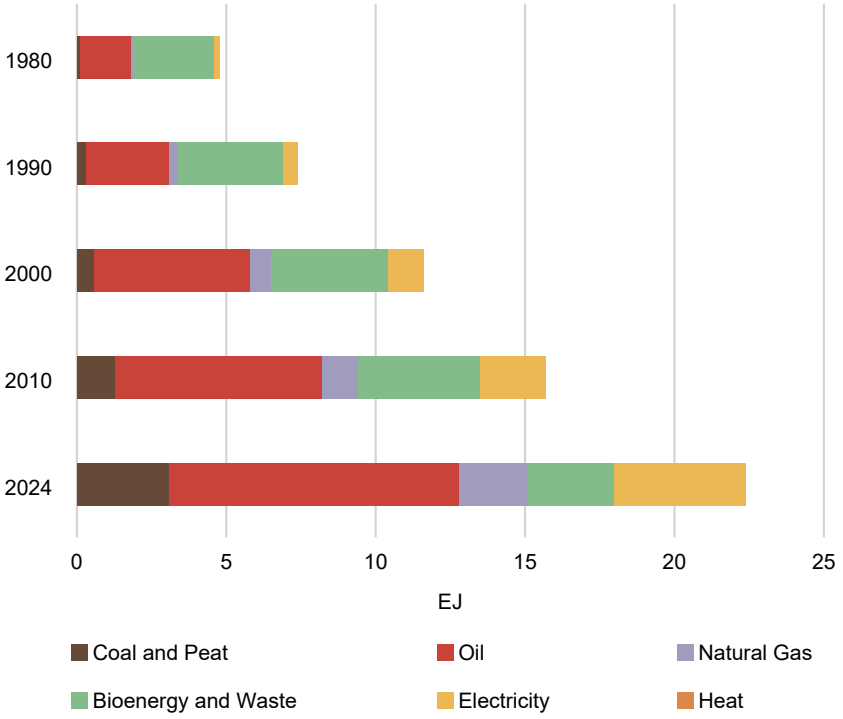
of electricity produced



0%

of electricity produced by nuclear

FIGURE 57. FINAL ENERGY CONSUMPTION BY ENERGY SOURCE IN THE SOUTH-EASTERN ASIA REGION



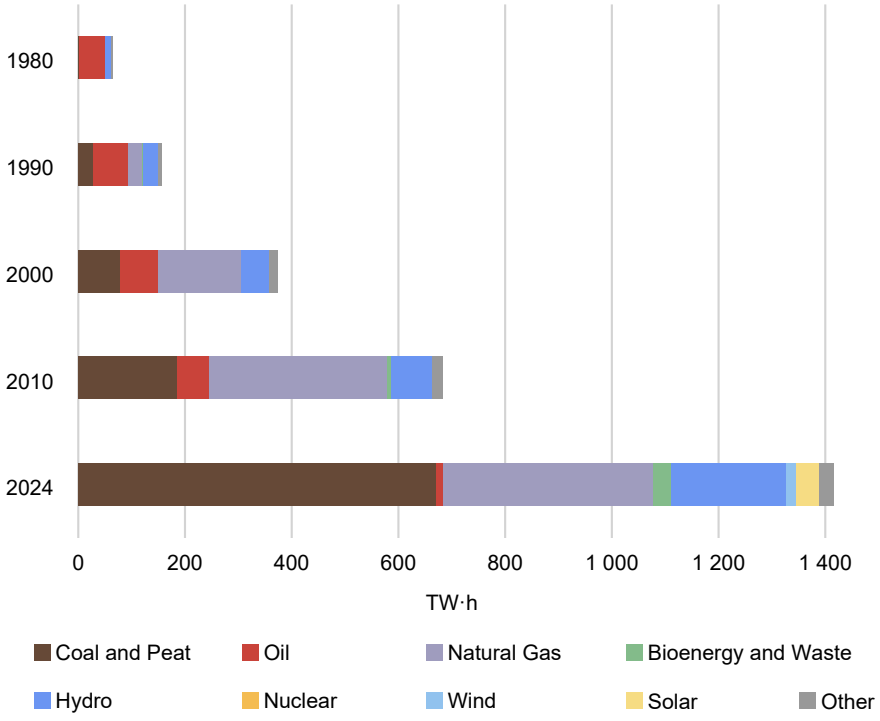
Final Energy Consumption

At almost 20% in 2024, electricity's share in final energy consumption has increased fivefold since 1980.

From 1980 to 1990, bioenergy and waste accounted for the largest share of final energy consumption. Its share has declined by 43 percentage points since 1980, accounting for 13% of the total in 2024.

Fossil fuels have dominated final energy consumption since 2000, with oil having the largest share at about 43% in 2024. The combined share of fossil fuels was about 68% in 2024, an increase of almost 30 percentage points since 1980. The share of coal has gradually increased over the past 40 years, reaching 14% in 2024, an increase of 12 percentage points since 1980. The share of natural gas has increased fivefold since 1980, reaching about 10% in 2024.

FIGURE 58. ELECTRICITY PRODUCTION BY ENERGY SOURCE IN THE SOUTH-EASTERN ASIA REGION



Electricity Production

Nuclear does not currently contribute to electricity production in this region.

With a share of about 80% over the past 40 years, fossil fuels have remained principal energy sources for electricity production. In recent years their combined share has declined slightly, and by 2024 their share was 76%.

Since 1980 the share of coal has increased 42 percentage points to reach 47% in 2024, whereas oil's share has declined by more than 70 percentage points to less than 1% in 2024. The share of natural gas increased from 2% in 1980 to 50% in 2010. It has since declined to about 30% in 2024.

Hydro remains the largest source of low carbon electricity, accounting for about 15% of total electricity production in 2024. The share of 'other' sources (mainly geothermal) was about 2% in 2024. Solar and wind have recently begun contributing to electricity generation, accounting for about 4% in 2024.

Energy and Electricity Projections

- Final energy consumption is projected to increase by about 22% by 2050, at an average annual rate of approximately 0.8%.
- Electricity consumption is projected to grow at a faster rate of 4.2% per year, almost tripling by 2050.
- By 2050 the share of electricity in final energy consumption is projected to increase by about 26 percentage points from its 2024 share.

FIGURE 59. FINAL CONSUMPTION OF ENERGY AND ELECTRICITY IN THE SOUTH-EASTERN ASIA REGION

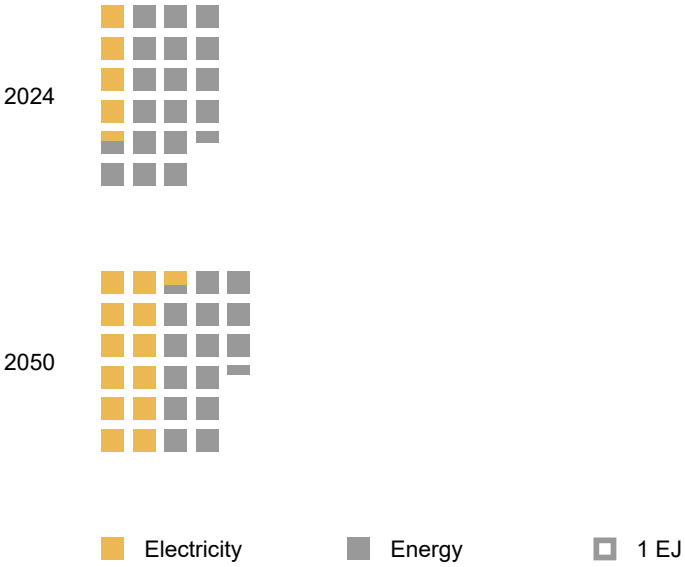


TABLE 31. FINAL CONSUMPTION OF ENERGY AND ELECTRICITY IN THE SOUTH-EASTERN ASIA REGION, EJ

Final Consumption	2024	2030	2040	2050
Energy	22.5	26.9	27.1	27.4
Electricity	4.4	6.5	8.9	12.6
Electricity as % of Energy	*19.6%*	*24.2%*	*32.8%*	*46.0%*

Nuclear Electrical Generating Capacity Projections

- Total electrical generating capacity is projected to increase to 1.7 times the 2024 level by 2030 and to almost quadruple by 2050.
- Total electricity production is projected to increase by almost 50% by 2030 compared with 2024 production levels and to almost triple by 2050.
- In the high case, nuclear reactors are projected to be operational by 2036, and by 2050 nuclear electrical generating capacity is projected to be about 18 GW(e). The share of nuclear in total electricity production is projected to reach 3.5%.
- In the low case, nuclear reactors are projected to be operational by 2038, and by 2050 nuclear electrical generating capacity is projected to be about 4 GW(e). The share of nuclear in total electricity production is projected to reach about 1%.

TABLE 32. TOTAL AND NUCLEAR ELECTRICAL GENERATING CAPACITY IN THE SOUTH-EASTERN ASIA REGION, GW(e)

Electrical Capacity	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	341	583	583	853	853	1 292	1 292
Nuclear	0.0	0	0	3	7	4	18
Nuclear as % of Electrical Capacity	*0.0%*	*0.0%*	*0.0%*	*0.4%*	*0.8%*	*0.3%*	*1.4%*

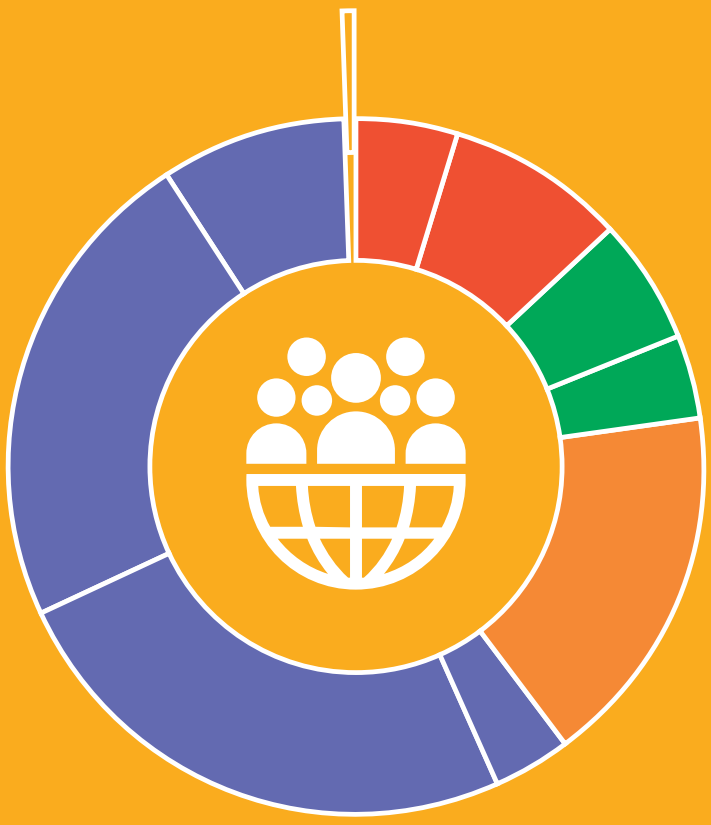
TABLE 33. TOTAL AND NUCLEAR ELECTRICITY PRODUCTION IN THE SOUTH-EASTERN ASIA REGION, TW·h

Electricity Production	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	1 417	2 093	2 093	2 866	2 866	4 057	4 057
Nuclear	0	0	0	27	57	35	140
Nuclear as % of Electricity Production	*0.0%*	*0.0%*	*0.0%*	*0.9%*	*2.0%*	*0.9%*	*3.5%*

Oceania

46

million people



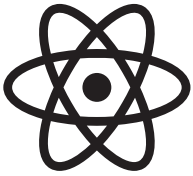
Energy Overview 2024

22.7%

of final energy consumed was electricity

325 TW·h

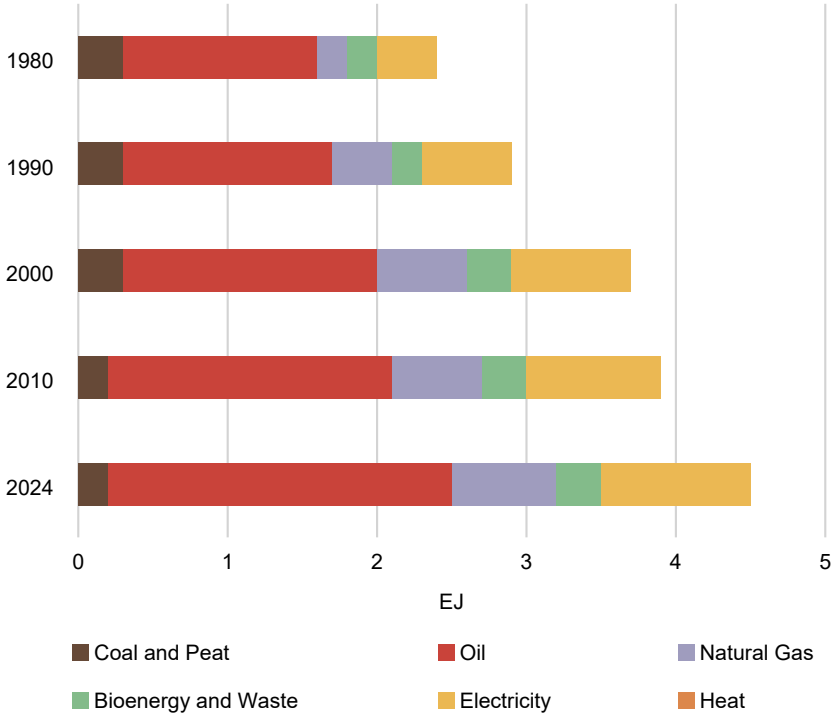
of electricity produced



0%

of electricity produced by nuclear

FIGURE 60. FINAL ENERGY CONSUMPTION BY ENERGY SOURCE IN THE OCEANIA REGION



Final Energy Consumption

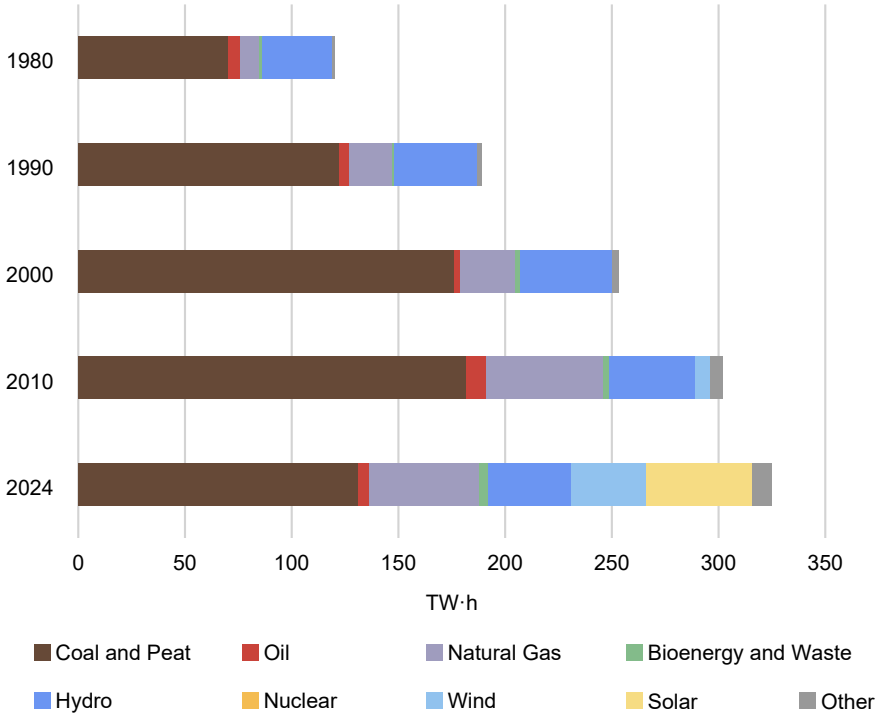
The share of electricity was about one fifth of final energy consumption in 2024, an increase of about 6 percentage points since 1980.

Since 1980 fossil fuels have continued to dominate final energy consumption, although there was a gradual reduction in their combined share from 75% in 1980 to about 70% in 2024.

Oil has the largest share of all the fossil fuels, having remained at about 50% since 1980. The share of natural gas has remained at about 15% since 1990, whereas coal's share has declined by almost 5 percentage points during the same period.

The share of bioenergy and waste has remained stable at around 7-8% since 1980.

FIGURE 61. ELECTRICITY PRODUCTION BY ENERGY SOURCE IN THE OCEANIA REGION



Electricity Production

Nuclear does not currently contribute to electricity production in this region.

With a share of about 60%, fossil fuels — particularly coal — have remained dominant energy sources for electricity production over the past 40 years. From 1980 to 2010 their share increased some 10 percentage points to more than 80% and then declined by 24 percentage points, reaching about 60% in 2024.

The share of coal increased from almost 60% in 1980 to about 70% by 2000 and then fell, reaching about 40% in 2024. The share of natural gas has doubled since 1980, reaching 16% in 2024, whereas oil's share has fallen from 5% to 2%.

The share of hydro has declined by more than half since 1980, reaching about 12% in 2024. The combined share of solar and wind has increased rapidly from about 2% in 2010 to 26% in 2024.

Energy and Electricity Projections

- Final energy consumption is projected to increase 6% by 2050, at an average annual rate of approximately 0.2%.
- Electricity consumption is projected to grow at a faster rate of about 3.3% per year, more than doubling by 2050.
- By 2050 the share of electricity in final energy consumption is projected to increase by about 26 percentage points from its 2024 share.

FIGURE 62. FINAL CONSUMPTION OF ENERGY AND ELECTRICITY IN THE OCEANIA REGION

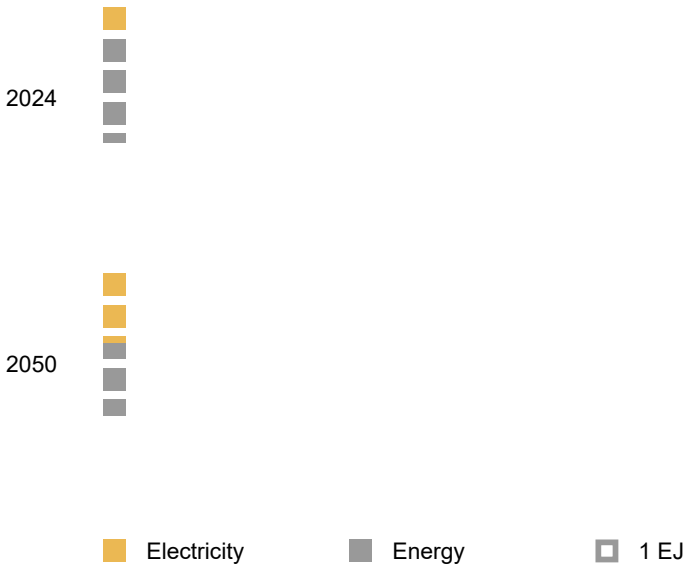


TABLE 34. FINAL CONSUMPTION OF ENERGY AND ELECTRICITY IN THE OCEANIA REGION, EJ

Final Consumption	2024	2030	2040	2050
Energy	4.4	4.6	4.6	4.7
Electricity	1.0	1.2	1.5	2.3
Electricity as % of Energy	*22.7%*	*26.1%*	*32.6%*	*48.9%*

Nuclear Electrical Generating Capacity Projections

- Total electrical generating capacity is projected to more than double by 2050 compared with the 2024 level.
- Total electricity production is projected to increase by 15% by 2030 and to more than double by 2050 compared with 2024 production levels.
- In the high case, nuclear power is projected to produce electricity by the middle of the century. Its share in total electricity production is projected to be 2.2% by 2050. The share of nuclear in total electrical generating capacity is projected to be about 0.7%.
- In the low case, nuclear power is not projected to be introduced into the electricity generation system.

TABLE 35. TOTAL AND NUCLEAR ELECTRICAL GENERATING CAPACITY IN THE OCEANIA REGION, GW(e)

Electrical Capacity	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	126	127	127	179	179	284	284
Nuclear	0.0	0	0	0	0	0	2
Nuclear as % of Electrical Capacity	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.7%*

TABLE 36. TOTAL AND NUCLEAR ELECTRICITY PRODUCTION IN THE OCEANIA REGION, TW·h

Electricity Production	2024	2030		2040		2050	
		Low	High	Low	High	Low	High
Total	325	374	374	488	488	732	732
Nuclear	0	0	0	0	0	0	16
Nuclear as % of Electricity Production	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*2.2%*

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