



Asia-Pacific
Economic Cooperation

APEC

Energy Handbook

2023

Energy Working Group

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Energy Statistics and Training Office
Asia Pacific Energy Research Centre

Prepared by

Energy Statistics and Training Office
Asia Pacific Energy Research Centre (APERC)
Inui bldg., Kachidoki, 1-13-1, Kachidoki,
Chuo-ku, Tokyo, 104-0054, Japan
Phone • (81) 3 5144 8551 Facsimile • (81) 3 5144 8555
E-mail • esto@aperc.or.jp
Website • www.egeda.ewg.apec.org

For

Asia-Pacific Economic Cooperation Secretariat
35 Heng Mui Keng Terrace
Singapore 119616
Phone • (65) 6891 9600 Facsimile • (65) 6891 9690
E-mail • info@apec.org
Website • www.apec.org

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Preface

The APEC Energy Handbook 2023 is a handy, pocket-sized summary of key energy data and a supplement to APEC Energy Statistics 2023, which was released in May 2026.

This handbook consists of the following sections:

1. Primary Energy Supply
2. Transformation
3. Final Energy Consumption
4. Energy Balances
5. Energy Outlook
6. Energy Indicators

The supply section contains total primary energy supply by energy while the transformation section shows oil refining and power generation. The consumption section indicates both final energy consumption by sectors and by energy. The energy balances section includes regional energy balance tables while the outlook section shows projected energy demand until year 2060 taken from the APEC Energy Demand and Supply Outlook 9th Edition published by the Asia Pacific Energy Research Centre in November 2025. The energy indicators section contains several energy indicators based on population, GDP and energy consumption.

This handbook was derived from the APEC Energy Database, the purpose of which is to establish a comprehensive and consistent energy database within the APEC region. This database aims to assist in the identification of significant trends in energy supply and demand consistent with projects and priorities under the APEC Energy Working Group. It has been prepared in close cooperation with the twenty-one member economies.

Inquiries about figures and graphs in this handbook could be addressed to:

Energy Statistics and Training Office
Asia Pacific Energy Research Centre
Inui bldg., Kachidoki, 1-13-1, Kachidoki, Chuo-ku, Tokyo, 104-0054, Japan
Phone • (81) 3 5144 8551 Facsimile • (81) 3 5144 8555
Email • esto@aperc.or.jp
Website • www.egeda.ewg.apec.org/

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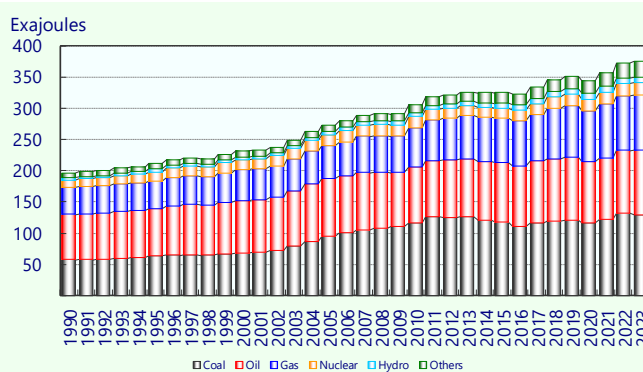
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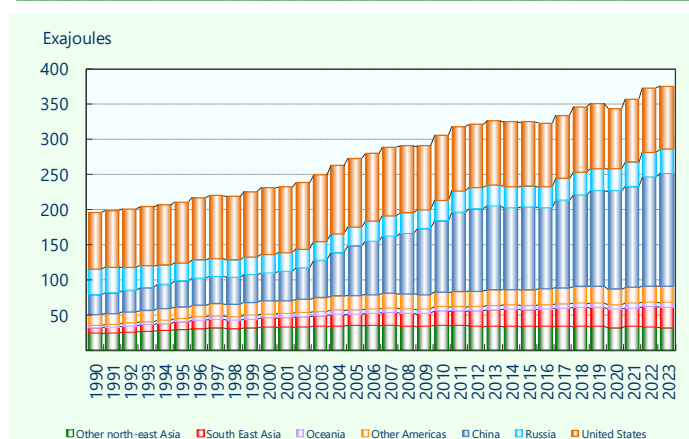
Total primary energy supply by energy APEC



	Exajoules					
	1990	2000	2010	2015	2020	2023
Coal	57.6	67.8	116.9	117.8	116.7	129.5
Oil	73.2	83.6	89.7	95.4	97.4	104.0
Gas	41.8	50.1	62.3	70.8	81.3	87.3
Nuclear	12.0	16.3	18.1	16.6	19.0	20.1
Hydro	3.9	4.5	6.4	8.0	9.2	8.6
Others	7.7	9.2	12.7	16.2	19.8	25.8
Total	196.2	231.5	306.1	324.9	343.4	375.4

	Share (%)					
	1990	2000	2010	2015	2020	2023
Coal	29.4	29.3	38.2	36.3	34.0	34.5
Oil	37.3	36.1	29.3	29.4	28.4	27.7
Gas	21.3	21.6	20.4	21.8	23.7	23.3
Nuclear	6.1	7.1	5.9	5.1	5.5	5.4
Hydro	2.0	1.9	2.1	2.5	2.7	2.3
Others	3.9	4.0	4.1	5.0	5.8	6.9

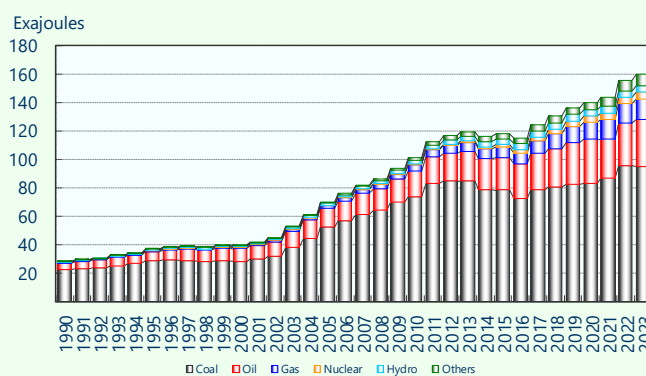
Total primary energy supply by region APEC



	Exajoules					
	1990	2000	2010	2015	2020	2023
Other north-east Asia	24.4	33.4	36.2	34.5	32.3	32.1
South East Asia	7.4	13.3	20.0	23.5	26.5	29.6
Oceania	4.2	5.4	6.2	6.3	6.6	6.5
Other Americas	15.1	18.5	20.5	21.9	21.7	23.2
China	28.2	39.8	101.4	118.1	140.2	160.2
Russia	36.8	25.9	29.0	29.1	30.8	34.0
United States	80.2	95.2	92.8	91.5	85.3	89.7
Total	196.2	231.5	306.1	324.9	343.4	375.4

	Share (%)					
	1990	2000	2010	2015	2020	2023
Other north-east Asia	12.4	14.4	11.8	10.6	9.4	8.6
South East Asia	3.8	5.7	6.5	7.2	7.7	7.9
Oceania	2.1	2.3	2.0	1.9	1.9	1.7
Other Americas	7.7	8.0	6.7	6.7	6.3	6.2
China	14.4	17.2	33.1	36.4	40.8	42.7
Russia	18.8	11.2	9.5	9.0	9.0	9.1
United States	40.8	41.1	30.3	28.2	24.8	23.9

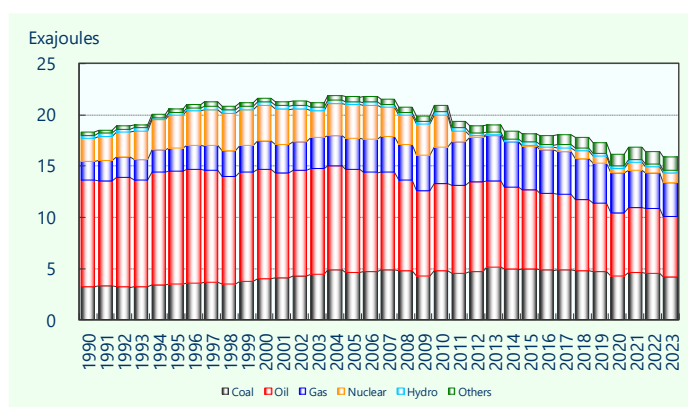
Total primary energy supply by energy China



	Exajoules					
	1990	2000	2010	2015	2020	2023
Coal	22.3	28.3	74.0	78.5	83.0	95.0
Oil	4.8	9.3	17.9	23.0	31.2	33.4
Gas	0.6	0.9	4.0	7.2	12.2	14.2
Nuclear	0.0	0.2	0.8	1.9	4.0	4.7
Hydro	0.5	0.8	2.6	4.0	4.8	4.4
Others	0.1	0.5	2.1	3.6	5.0	8.3
Total	28.2	39.8	101.4	118.1	140.2	160.2

	Share (%)					
	1990	2000	2010	2015	2020	2023
Coal	79.0	70.9	73.0	66.4	59.2	59.3
Oil	17.0	23.2	17.7	19.5	22.2	20.8
Gas	2.0	2.3	4.0	6.1	8.7	8.9
Nuclear	-	0.5	0.8	1.6	2.9	3.0
Hydro	1.6	2.0	2.5	3.4	3.4	2.8
Others	0.4	1.2	2.1	3.1	3.6	5.2

Total primary energy supply by energy Japan

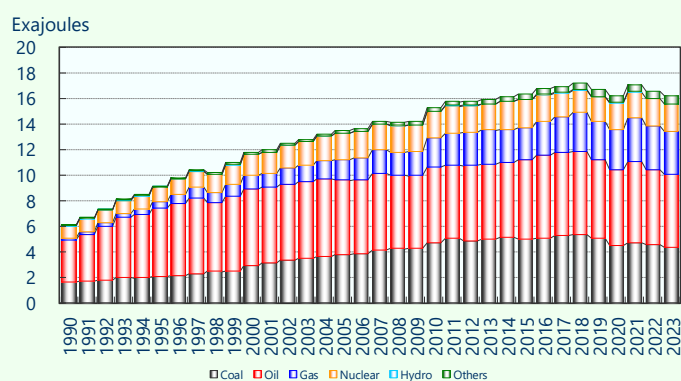


	Exajoules					
	1990	2000	2010	2015	2020	2023
Coal	3.2	4.1	4.8	5.0	4.3	4.2
Oil	10.4	10.6	8.4	7.7	6.2	5.9
Gas	1.8	2.7	3.6	4.2	3.9	3.3
Nuclear	2.2	3.5	3.1	0.1	0.4	0.9
Hydro	0.3	0.3	0.3	0.3	0.3	0.3
Others	0.3	0.4	0.6	0.8	1.1	1.2
Total	18.3	21.6	20.9	18.1	16.1	15.8

	Share (%)					
	1990	2000	2010	2015	2020	2023
Coal	17.6	18.8	23.1	27.5	26.5	26.2
Oil	56.9	49.1	40.3	42.6	38.5	37.3
Gas	10.1	12.7	17.2	23.2	24.0	21.1
Nuclear	12.1	16.3	15.0	0.6	2.6	5.8
Hydro	1.7	1.4	1.4	1.7	1.8	1.7
Others	1.6	1.7	2.9	4.3	6.7	7.8

Primary Energy Supply

Total primary energy supply by energy Other north-east Asia*

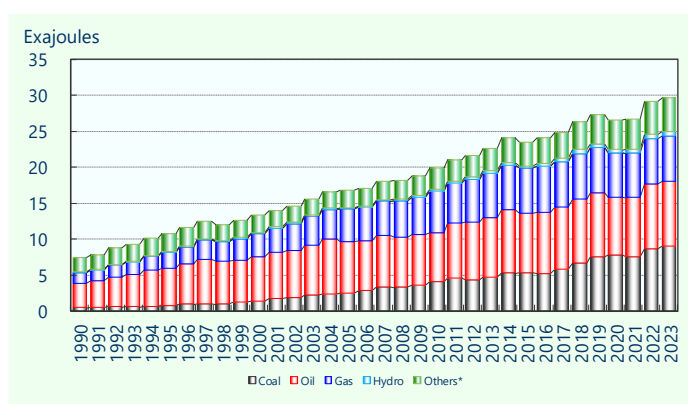


	Exajoules					
	1990	2000	2010	2015	2020	2023
Coal	1.6	3.0	4.7	5.0	4.5	4.4
Oil	3.3	6.0	5.9	6.2	5.9	5.7
Gas	0.2	1.1	2.3	2.5	3.1	3.3
Nuclear	0.9	1.6	2.1	2.2	2.1	2.2
Hydro	0.0	0.0	0.0	0.0	0.0	0.0
Others	0.0	0.1	0.3	0.4	0.5	0.6
Total	6.1	11.8	15.3	16.4	16.2	16.3

	Share (%)					
	1990	2000	2010	2015	2020	2023
Coal	26.7	25.1	30.9	30.9	27.9	27.0
Oil	53.9	50.7	38.8	37.8	36.6	35.2
Gas	2.8	9.3	14.8	15.3	19.2	20.5
Nuclear	15.3	13.6	13.6	13.4	12.9	13.3
Hydro	0.8	0.3	0.2	0.1	0.2	0.2
Others	0.4	1.1	1.7	2.4	3.2	3.8

*In this page, Other north-east Asia includes Hong Kong, China; Republic of Korea and Chinese Taipei

Total primary energy supply by energy Southeast Asia

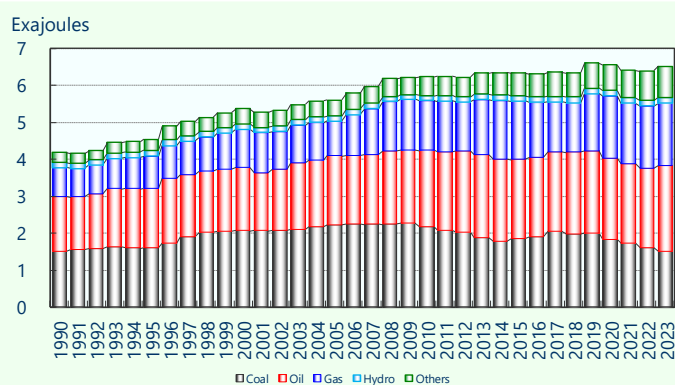


	Exajoules					
	1990	2000	2010	2015	2020	2023
Coal	0.5	1.4	4.1	5.4	7.8	9.0
Oil	3.4	6.1	6.9	8.2	8.1	9.0
Gas	1.4	3.2	5.8	6.3	6.2	6.3
Nuclear	-	-	-	-	-	-
Hydro	0.1	0.2	0.2	0.3	0.5	0.6
Others	2.0	2.4	3.0	3.3	4.0	4.7
Total	7.4	13.3	20.0	23.5	26.5	29.6

	Share (%)					
	1990	2000	2010	2015	2020	2023
Coal	6.8	10.3	20.3	22.9	29.3	30.4
Oil	45.8	46.2	34.5	34.7	30.4	30.5
Gas	19.0	24.1	28.9	26.8	23.3	21.3
Nuclear	-	-	-	-	-	-
Hydro	1.3	1.2	1.2	1.5	1.9	1.9
Others	27.1	18.2	15.1	14.2	15.1	15.8

Primary Energy Supply

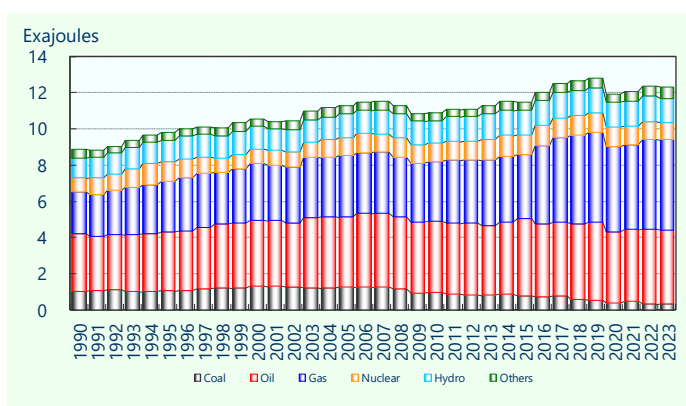
Total primary energy supply by energy Oceania



	Exajoules					
	1990	2000	2010	2015	2020	2023
Coal	1.5	2.1	2.2	1.9	1.8	1.5
Oil	1.5	1.7	2.1	2.1	2.2	2.3
Gas	0.8	1.0	1.3	1.6	1.7	1.7
Nuclear	-	-	-	-	-	-
Hydro	0.1	0.1	0.1	0.1	0.1	0.2
Others	0.3	0.4	0.5	0.6	0.7	0.8
Total	4.2	5.4	6.2	6.3	6.6	6.5

	Share (%)					
	1990	2000	2010	2015	2020	2023
Coal	36.1	38.5	34.8	29.3	28.0	23.1
Oil	35.5	32.0	33.3	33.8	33.6	35.7
Gas	18.8	19.1	21.4	24.9	25.6	26.0
Nuclear	-	-	-	-	-	-
Hydro	3.3	2.8	2.3	2.2	2.2	2.4
Others	6.4	7.5	8.2	9.8	10.6	12.8

Total primary energy supply by energy Canada

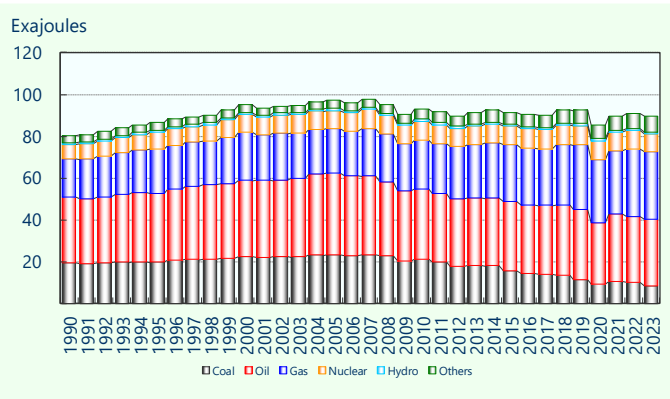


	Exajoules					
	1990	2000	2010	2015	2020	2023
Coal	1.0	1.3	1.0	0.8	0.4	0.4
Oil	3.2	3.6	4.0	4.3	3.9	4.0
Gas	2.3	3.1	3.3	3.5	4.7	5.0
Nuclear	0.8	0.8	1.0	1.1	1.1	1.0
Hydro	1.1	1.3	1.3	1.4	1.4	1.3
Others	0.5	0.4	0.4	0.4	0.4	0.6
Total	8.9	10.6	10.9	11.5	11.9	12.3

	Share (%)					
	1990	2000	2010	2015	2020	2023
Coal	11.5	12.6	8.9	6.7	3.4	2.9
Oil	36.2	34.5	36.2	37.0	32.8	32.8
Gas	25.9	29.4	30.2	30.8	39.4	40.6
Nuclear	9.2	7.5	9.1	9.7	9.0	7.9
Hydro	12.1	12.2	11.6	12.0	11.7	10.5
Others	5.3	3.8	4.1	3.8	3.7	5.2

Primary Energy Supply

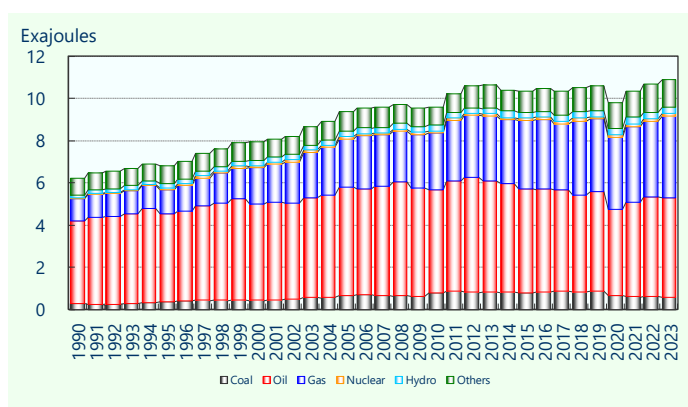
Total primary energy supply by energy United States



	Exajoules					
	1990	2000	2010	2015	2020	2023
Coal	19.2	22.3	21.0	15.7	9.3	8.4
Oil	31.7	36.5	33.8	33.1	29.4	31.9
Gas	18.4	22.9	23.3	27.1	30.1	32.0
Nuclear	6.7	8.7	9.2	9.1	9.0	8.8
Hydro	1.0	0.9	0.9	0.9	1.0	0.9
Others	3.2	3.8	4.6	5.7	6.5	7.7
Total	80.2	95.2	92.8	91.5	85.3	89.7

	Share (%)					
	1990	2000	2010	2015	2020	2023
Coal	24.0	23.5	22.6	17.1	10.9	9.4
Oil	39.5	38.3	36.4	36.1	34.5	35.5
Gas	22.9	24.1	25.1	29.6	35.3	35.7
Nuclear	8.3	9.1	9.9	9.9	10.5	9.8
Hydro	1.2	1.0	1.0	1.0	1.2	1.0
Others	4.0	4.0	5.0	6.3	7.6	8.5

Total primary energy supply by energy Other Americas*

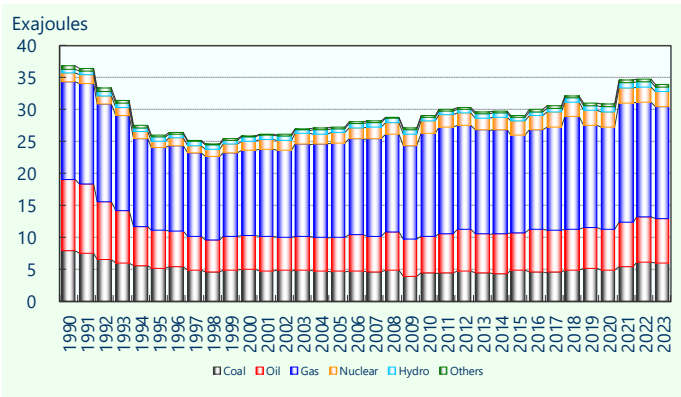


	Exajoules					
	1990	2000	2010	2015	2020	2023
Coal	0.3	0.4	0.8	0.8	0.7	0.6
Oil	3.9	4.5	4.9	4.9	4.1	4.7
Gas	1.0	1.7	2.7	3.2	3.4	3.9
Nuclear	0.0	0.1	0.1	0.1	0.1	0.1
Hydro	0.2	0.2	0.3	0.3	0.3	0.3
Others	0.8	0.9	0.8	1.0	1.2	1.3
Total	6.2	7.9	9.6	10.4	9.8	10.9

	Share (%)					
	1990	2000	2010	2015	2020	2023
Coal	4.6	5.6	8.1	7.6	6.9	5.3
Oil	63.2	57.3	51.4	47.7	41.7	43.2
Gas	16.7	21.7	28.1	30.9	34.9	35.7
Nuclear	0.5	1.1	0.7	1.2	1.2	1.2
Hydro	2.5	3.1	3.0	2.7	2.9	2.4
Others	12.6	11.2	8.8	9.8	12.4	12.1

* In this page, Other Americas comprise Chile; Mexico and Peru.

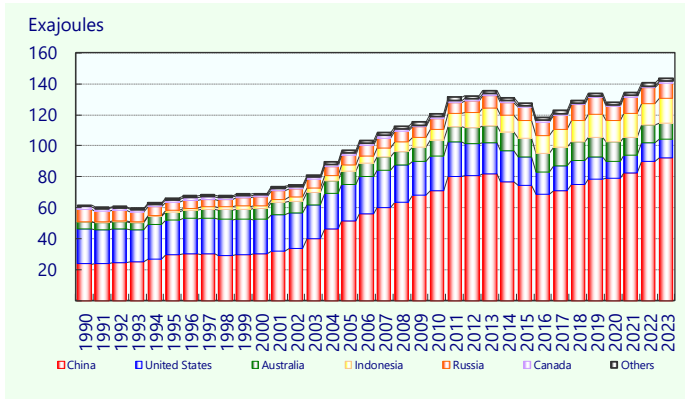
Total primary energy supply by energy Russia



	Exajoules					
	1990	2000	2010	2015	2020	2023
Coal	8.0	5.0	4.4	4.8	4.9	6.0
Oil	11.0	5.3	5.8	6.0	6.4	7.0
Gas	15.4	13.4	16.1	15.3	16.0	17.5
Nuclear	1.3	1.4	1.9	2.1	2.4	2.4
Hydro	0.6	0.6	0.6	0.6	0.8	0.7
Others	0.5	0.3	0.3	0.3	0.4	0.4
Total	36.8	25.9	29.0	29.1	30.8	34.0

	Share (%)					
	1990	2000	2010	2015	2020	2023
Coal	21.6	19.3	15.2	16.7	15.8	17.7
Oil	30.0	20.4	20.1	20.5	20.8	20.5
Gas	41.8	51.5	55.3	52.4	51.8	51.4
Nuclear	3.6	5.6	6.5	7.4	7.7	7.0
Hydro	1.6	2.3	2.1	2.1	2.5	2.1
Others	1.4	1.0	0.9	1.0	1.4	1.3

Production of coal* APEC

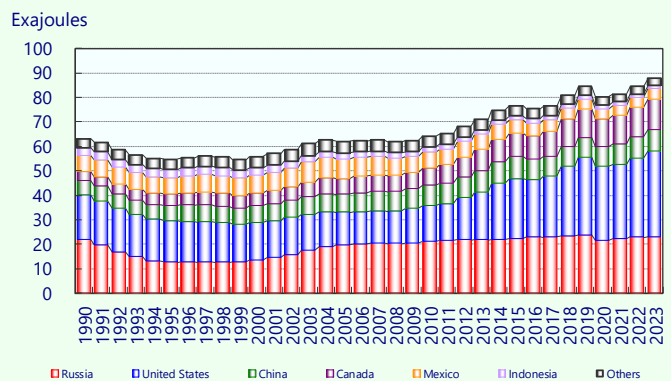


	Exajoules					
	1990	2000	2010	2015	2020	2023
China	23.6	30.1	71.2	74.4	79.2	92.2
United States	22.7	22.4	22.2	18.1	10.8	11.8
Australia	4.4	6.9	10.3	12.5	12.3	10.8
Indonesia	.3	1.9	6.7	11.3	13.8	15.6
Russia	8.0	5.4	7.0	8.4	9.5	10.0
Canada	1.6	1.4	1.4	1.3	1.0	1.1
Others	1.1	1.0	2.0	1.7	1.7	1.8
Total	61.7	69.1	120.8	127.6	128.3	143.4

	Share (%)					
	1990	2000	2010	2015	2020	2023
China	38.3	43.5	58.9	58.3	61.7	64.3
United States	36.8	32.5	18.4	14.1	8.4	8.3
Australia	7.2	10.0	8.5	9.8	9.6	7.5
Russia	13.0	7.8	5.8	6.6	7.4	7.0
Indonesia	0.4	2.7	5.6	8.8	10.7	10.9
Canada	2.6	2.1	1.2	1.0	0.8	0.8
Others	1.7	1.4	1.6	1.3	1.3	1.2

*Coal: hard coal, anthracite and lignite

Production of crude oil* APEC

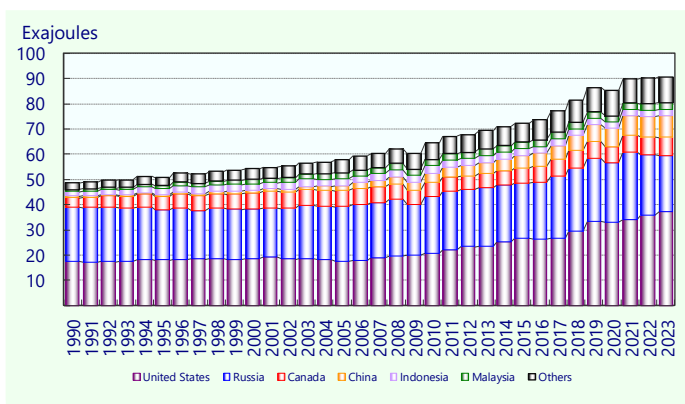


	Exajoules					
	1990	2000	2010	2015	2020	2023
Russia	22.0	13.5	21.2	22.5	21.7	23.1
United States	18.1	15.3	14.6	24.4	30.2	35.1
China	5.8	6.8	8.5	9.0	8.2	8.8
Canada	3.9	5.4	7.0	9.5	11.1	12.3
Mexico	6.4	7.2	6.5	5.5	4.1	4.3
Indonesia	3.1	3.0	2.0	1.7	1.5	1.3
Others	3.7	4.6	4.5	4.1	3.4	3.0
Total	63.1	55.8	64.3	76.6	80.2	87.8

	Share (%)					
	1990	2000	2010	2015	2020	2023
Russia	34.9	24.2	33.0	29.3	27.1	26.2
United States	28.7	27.4	22.6	31.9	37.6	40.0
China	9.2	12.2	13.2	11.7	10.2	10.0
Canada	6.2	9.6	10.9	12.4	13.8	14.0
Mexico	10.2	12.8	10.1	7.2	5.1	4.9
Indonesia	5.0	5.4	3.1	2.2	1.9	1.5
Others	5.8	8.2	7.0	5.4	4.3	3.4

*Crude oil includes NGL and condensates

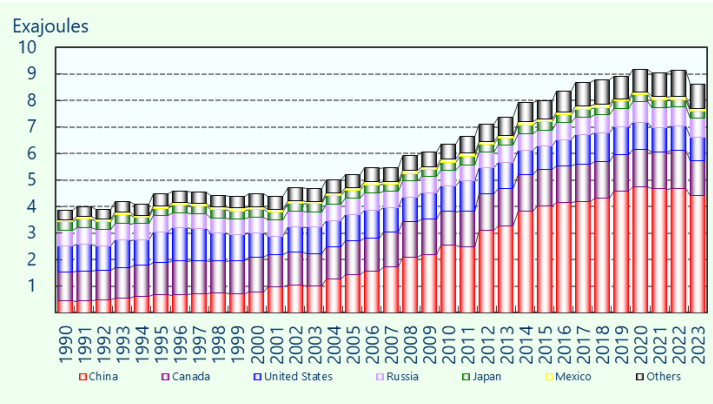
Production of natural gas APEC



	Exajoules					
	1990	2000	2010	2015	2020	2023
United States	17.5	18.7	20.7	26.7	33.0	37.3
Russia	21.6	19.7	22.6	22.0	23.6	22.1
Canada	3.7	6.2	5.5	5.8	6.5	7.4
China	.6	1.0	3.6	5.0	7.2	8.5
Indonesia	1.9	2.5	3.1	2.7	2.5	2.5
Malaysia	.6	1.9	2.4	2.6	2.5	2.8
Others	2.6	4.2	6.6	7.5	10.0	10.1
Total	48.6	54.3	64.5	72.2	85.2	90.6

	Share (%)					
	1990	2000	2010	2015	2020	2023
United States	36.0	34.5	32.1	36.9	38.7	41.1
Russia	44.5	36.3	35.0	30.4	27.7	24.4
Canada	7.6	11.4	8.6	8.0	7.6	8.1
China	1.2	1.9	5.5	6.9	8.5	9.4
Indonesia	4.0	4.7	4.8	3.8	2.9	2.7
Malaysia	1.3	3.5	3.7	3.6	2.9	3.1
Others	5.3	7.8	10.2	10.4	11.7	11.1

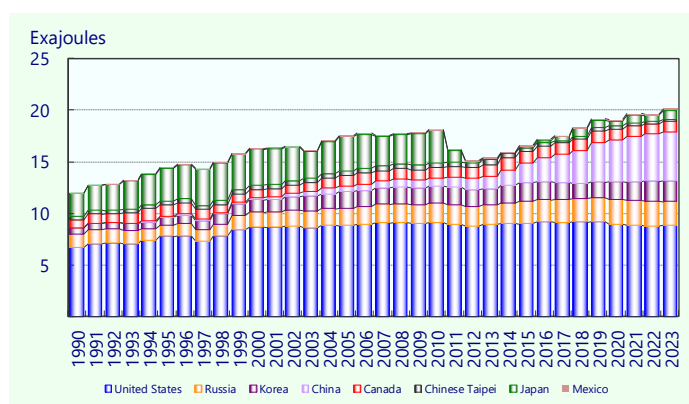
Production of hydro power APEC



	1990	2000	2010	2015	2020	2023
China	0.5	0.8	2.6	4.0	4.8	4.4
Canada	1.1	1.3	1.3	1.4	1.4	1.3
United States	1.0	0.9	0.9	0.9	1.0	0.9
Russia	0.6	0.6	0.6	0.6	0.8	0.7
Japan	0.3	0.3	0.3	0.3	0.3	0.3
Mexico	0.1	0.1	0.1	0.1	0.1	0.1
Others	0.3	0.5	0.6	0.7	0.8	0.9
Total	3.9	4.5	6.4	8.0	9.2	8.6

	1990	2000	2010	2015	2020	2023
China	11.8	17.7	40.3	50.1	51.8	51.5
Canada	27.7	28.8	19.9	17.2	15.2	15.1
United States	25.5	20.4	14.9	11.3	11.3	10.3
Russia	15.5	13.2	9.4	7.6	8.3	8.3
Japan	8.2	6.8	4.7	3.9	3.1	3.1
Mexico	2.2	2.7	2.1	1.4	1.1	0.9
Others	9.0	10.5	8.7	8.5	9.2	10.8

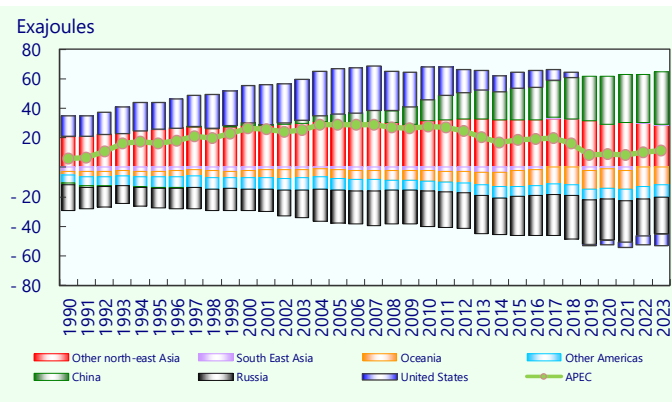
Production of nuclear power APEC



	Exajoules					
	1990	2000	2010	2015	2020	2023
United States	6.7	8.7	9.2	9.1	9.0	8.8
China	0.0	0.2	0.8	1.9	4.0	4.7
Russia	1.3	1.4	1.9	2.1	2.4	2.4
Canada	0.8	0.8	1.0	1.1	1.1	1.0
Japan	2.2	3.5	3.1	0.1	0.4	0.9
Others	1.0	1.7	2.1	2.3	2.2	2.3
Total	12.0	16.3	18.1	16.6	19.0	19.6

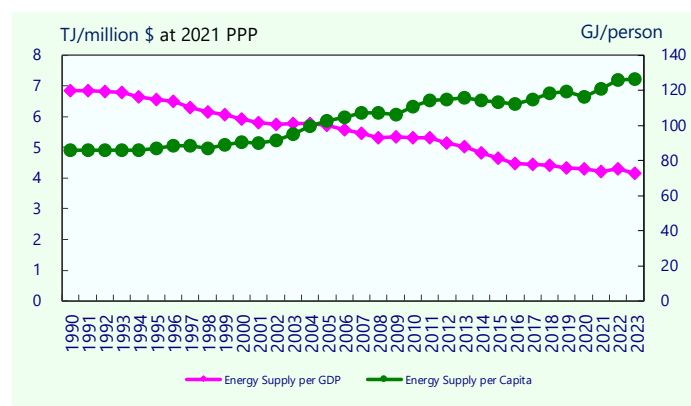
	Share (%)					
	1990	2000	2010	2015	2020	2023
United States	55.7	53.3	50.6	54.6	47.1	44.9
China	0.0	1.1	4.5	11.2	21.0	24.1
Russia	10.9	8.8	10.3	12.9	12.4	12.1
Canada	6.8	4.9	5.5	6.7	5.6	4.9
Japan	18.4	21.5	17.4	0.6	2.2	4.7
Others	8.1	10.4	11.8	14.0	11.6	11.7

Net import by region APEC



	Exajoules					
	1990	2000	2010	2015	2020	2023
Other north-east Asia	20.8	28.9	31.5	32.4	29.1	28.6
South East Asia	-2.5	-1.9	-1.9	-2.4	-0.7	0.8
Oceania	-2.8	-5.3	-7.6	-10.6	-13.3	-11.9
Other Americas	-5.1	-7.5	-6.8	-6.9	-7.7	-8.5
China	-1.4	1.4	14.4	21.4	32.7	35.4
Russia	-17.3	-14.6	-24.1	-26.0	-27.6	-24.5
United States	14.3	25.4	22.3	10.7	-3.4	-8.1
Total	6.1	26.4	27.9	18.5	9.1	11.6

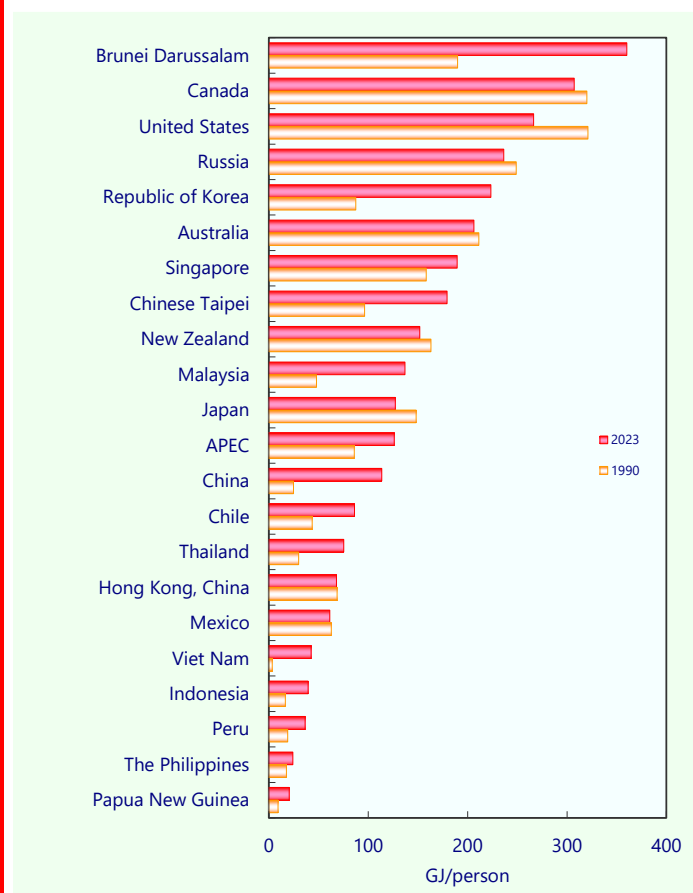
Total primary energy supply per GDP & capita APEC



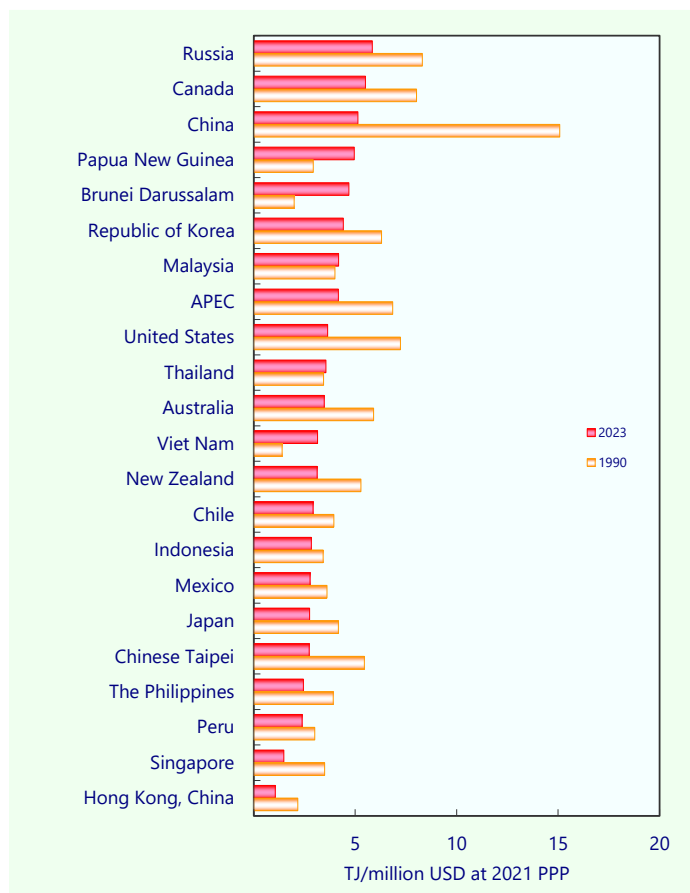
	1990	2000	2010	2015	2020	2023
Population (million)	2 283	2 557	2 758	2 865	2 951	2 974
Primary Energy Supply per Capita (GJ)	85.95	90.53	110.96	113.38	116.35	126.23
GDP (\$ 2021 PPP)	28 646	39 132	57 516	69 838	79 873	90 042
Primary Energy Supply per GDP (TJ/million \$ at 2021 PPP)	6.8	5.9	5.3	4.7	4.3	4.2

Primary Energy Supply

Total primary energy supply per capita 1990 vs 2023 by economy

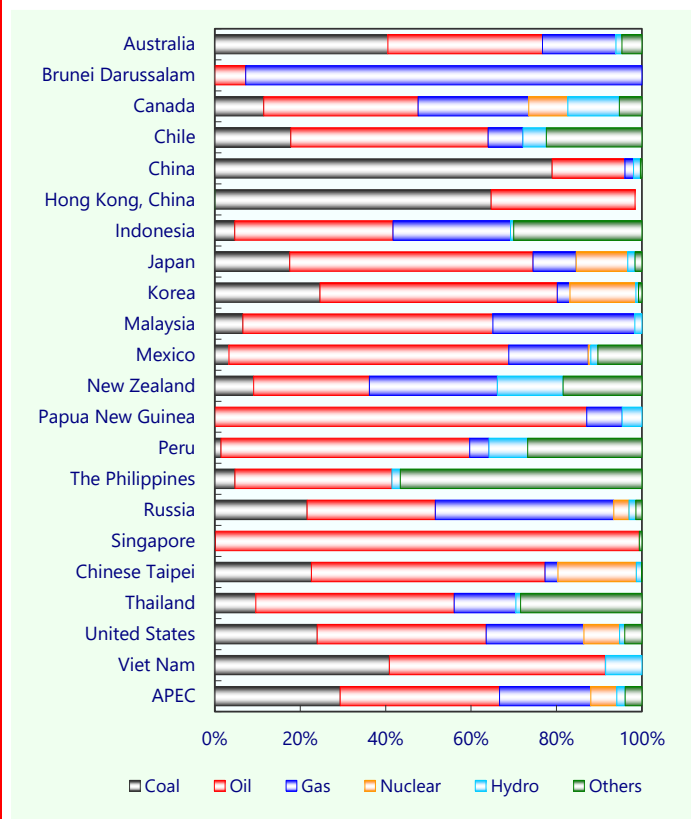


Total primary energy supply per GDP 1990 vs 2023 by economy

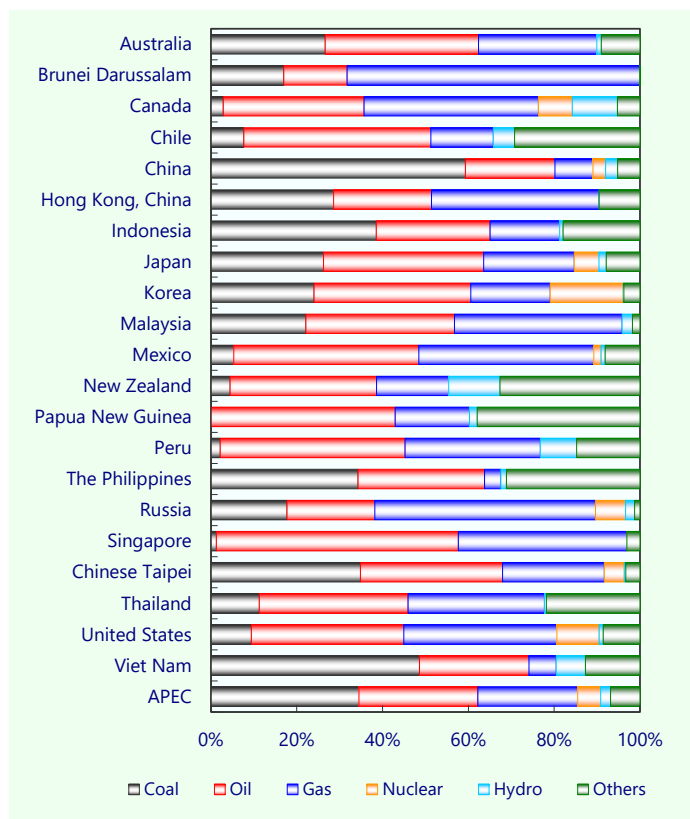


Primary Energy Supply

Primary energy mix by economy 1990

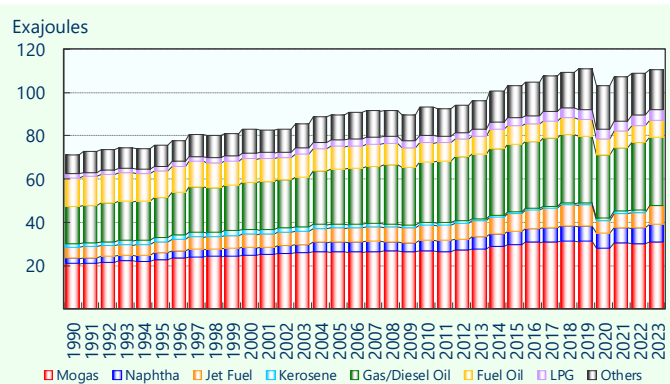


Primary energy mix by economy 2023



Primary Energy Supply

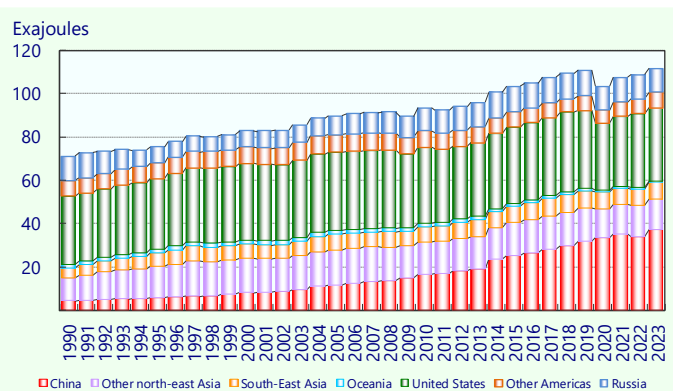
Petroleum refining by product APEC



	Exajoules					
	1990	2000	2010	2015	2020	2023
Mogas	21.1	24.8	27.0	29.8	28.1	31.0
Naphtha	2.3	3.5	4.9	6.0	6.8	8.0
Jet Fuel	5.2	6.1	6.9	8.3	6.0	8.6
Gas/Diesel Oil	16.9	21.8	27.8	31.2	29.5	31.8
Fuel Oil	13.4	11.0	9.0	8.7	7.3	7.9
LPG	1.8	2.6	3.5	3.5	4.4	4.8
Others	10.4	13.1	14.3	15.9	21.2	19.4
Total	71.1	82.9	93.4	103.3	103.3	111.6

	Share (%)					
	1990	2000	2010	2015	2020	2023
Mogas	29.6	29.9	28.9	28.8	27.2	27.8
Naphtha	3.3	4.3	5.3	5.8	6.5	7.1
Jet Fuel	7.3	7.4	7.4	8.0	5.8	7.7
Gas/Diesel Oil	23.8	26.3	29.7	30.2	28.5	28.5
Fuel Oil	18.8	13.3	9.7	8.4	7.1	7.1
LPG	2.5	3.1	3.7	3.4	4.3	4.3
Others	14.7	15.8	15.3	15.4	20.6	17.4

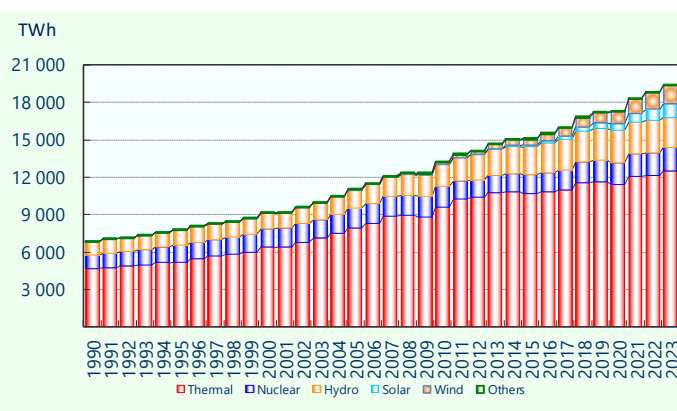
Petroleum refining by region APEC



	Exajoules					
	1990	2000	2010	2015	2020	2023
China	4.5	8.2	16.6	25.3	33.7	37.4
Other north-east Asia	10.5	15.9	14.9	15.1	13.3	14.1
South-East Asia	4.7	6.6	6.9	7.6	7.5	7.7
Oceania	1.6	1.8	1.6	1.4	1.2	0.5
United States	31.6	35.3	35.2	35.1	30.7	33.7
Other Americas	7.1	7.5	7.7	7.0	6.0	7.2
Russia	11.3	7.5	10.5	11.8	10.9	10.8
Total	71.1	82.9	93.4	103.3	103.3	111.6

	Share (%)					
	1990	2000	2010	2015	2020	2023
China	6.3	9.9	17.7	24.5	32.6	33.6
Other north-east Asia	14.7	19.1	16.0	14.6	12.9	12.7
South-East Asia	6.6	8.0	7.4	7.4	7.2	6.9
Oceania	2.2	2.2	1.7	1.3	1.1	0.5
United States	44.4	42.6	37.7	34.0	29.7	30.2
Other Americas	9.9	9.1	8.2	6.8	5.8	6.5
Russia	15.9	9.1	11.2	11.4	10.6	9.7

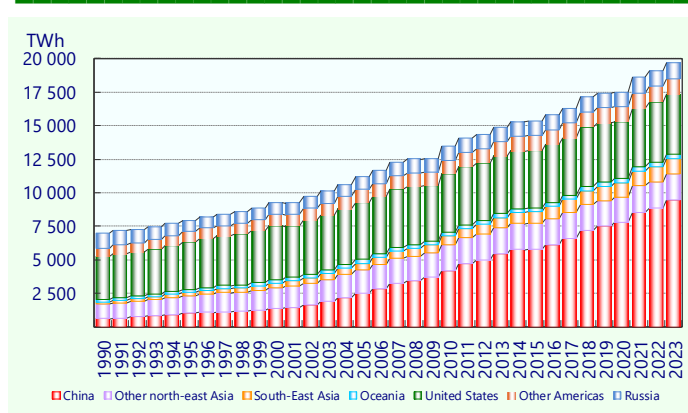
Electricity generation by type APEC



	1990	2000	2010	2015	2020	2023
TWh						
Thermal	4 644	6 383	9 589	10 694	11 415	12 509
Nuclear	1 094	1 496	1 658	1 521	1 745	1 844
Hydro	1 073	1 251	1 782	2 244	2 588	2 452
Solar	0.7	1.1	9.0	132	555	1 078
Wind	3.1	6.2	163	441	915	1 461
Other renewables	124	122	163	207	225	255
Others	30	41	87	100	68	75
Total	6 968	9 300	13 450	15 337	17 511	19 675
						Share (%)
	1990	2000	2010	2015	2020	2023
Thermal	66.6	68.6	71.3	69.7	65.2	63.6
Nuclear	15.7	16.1	12.3	9.9	10.0	9.4
Hydro	15.4	13.5	13.2	14.6	14.8	12.5
Solar	0.0	0.0	0.1	0.9	3.2	5.5
Wind	0.0	0.1	1.2	2.9	5.2	7.4
Other renewables	1.8	1.3	1.2	1.3	1.3	1.3
Others	0.4	0.4	0.6	0.7	0.4	0.4

Note: Others comprise power generated from other non-renewable energy sources.

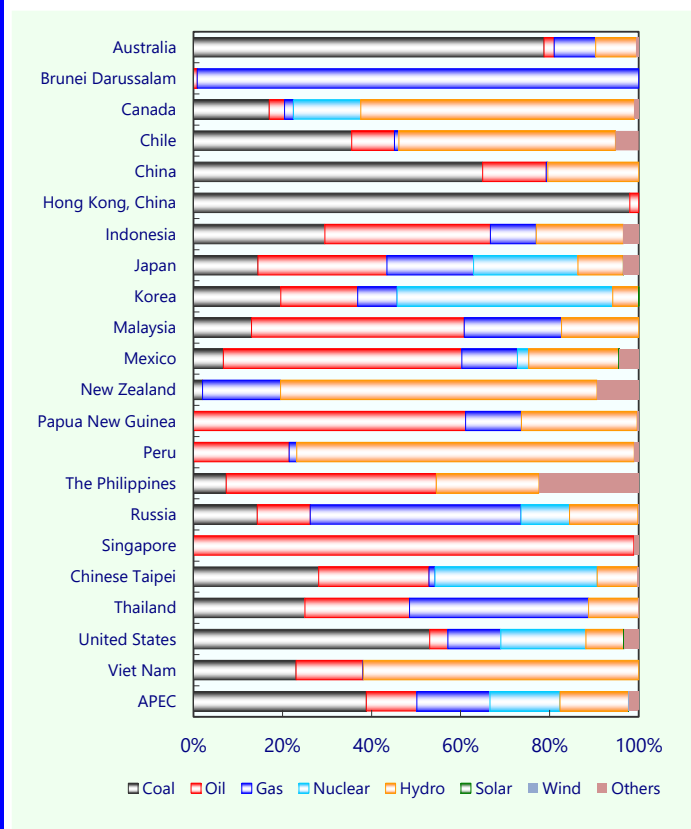
Electricity generation by region APEC



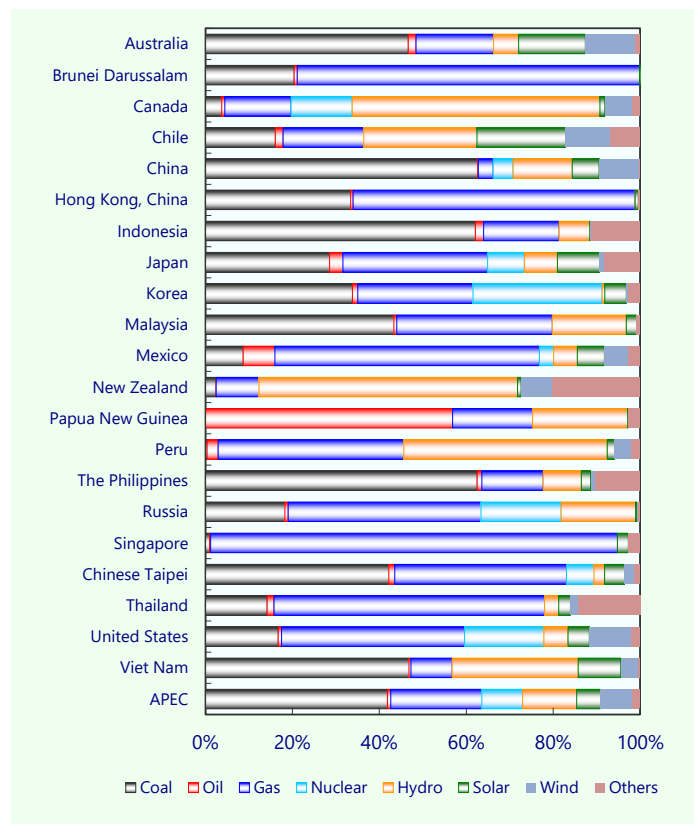
	1990	2000	2010	2015	2020	2023
China	621	1 356	4 207	5 815	7 779	9 456
Other north-east Asia	1 090	1 559	1 922	1 897	1 914	1 920
South-East Asia	152	358	652	868	1 056	1 199
Oceania	189	252	302	301	314	323
United States	3 203	4 026	4 354	4 297	4 239	4 430
Other Americas	631	872	975	1 093	1 120	1 166
Russia	1 082	878	1 038	1 068	1 090	1 181
Total	6 968	9 300	13 450	15 337	17 511	19 675

	1990	2000	2010	2015	2020	2023
China	8.9	14.6	31.3	37.9	44.4	48.1
Other north-east Asia	15.6	16.8	14.3	12.4	10.9	9.8
South-East Asia	2.2	3.8	4.8	5.7	6.0	6.1
Oceania	2.7	2.7	2.2	2.0	1.8	1.6
United States	46.0	43.3	32.4	28.0	24.2	22.5
Other Americas	9.1	9.4	7.3	7.1	6.4	5.9
Russia	15.5	9.4	7.7	7.0	6.2	6.0

Electricity generation by economy 1990

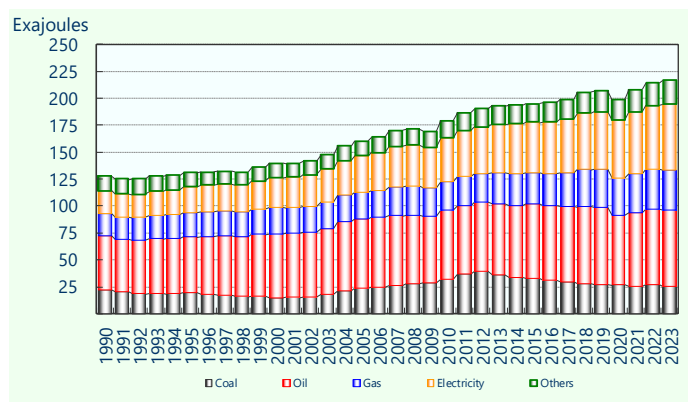


Electricity generation by economy 2023



Transformation

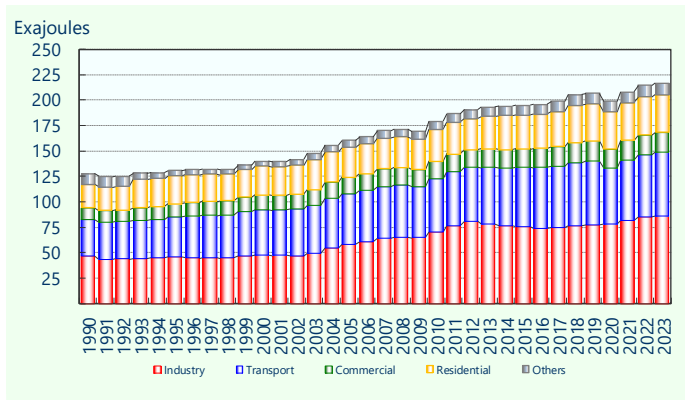
Total final energy consumption by energy APEC



	Exajoules					
	1990	2000	2010	2015	2020	2023
Coal	22.5	15.1	32.1	33.3	27.0	25.6
Oil	49.6	59.1	64.2	69.0	64.0	71.0
Gas	21.2	24.6	26.2	29.0	34.8	36.9
Electricity	20.7	27.8	40.8	46.7	53.9	60.9
Others	13.5	13.2	15.8	17.2	18.8	22.4
Total	127.6	139.8	179.1	195.1	198.7	216.9

	Share (%)					
	1990	2000	2010	2015	2020	2023
Coal	17.7	10.8	17.9	17.1	13.6	11.8
Oil	38.9	42.3	35.9	35.4	32.2	32.7
Gas	16.7	17.6	14.6	14.9	17.5	17.0
Electricity	16.2	19.9	22.8	23.9	27.1	28.1
Others	10.6	9.4	8.8	8.8	9.5	10.3

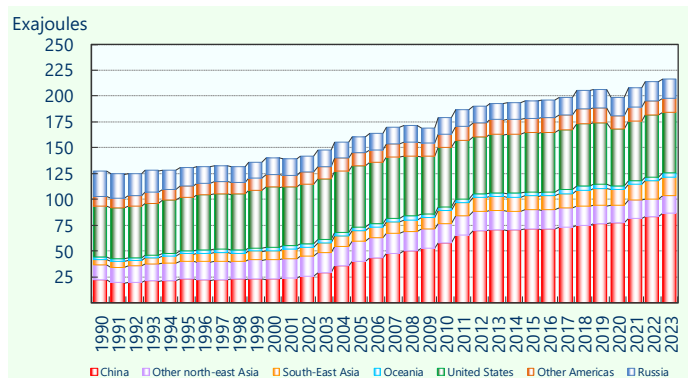
Total final energy consumption by sector APEC



	Exajoules					
	1990	2000	2010	2015	2020	2023
Industry	46.4	48.1	70.6	75.2	77.8	85.9
Transport	36.2	44.2	52.1	58.5	55.4	62.9
Commercial	11.7	14.6	17.4	18.5	18.5	19.6
Residential	23.0	28.2	31.2	33.1	36.5	36.9
Others	10.2	4.8	7.8	9.7	10.4	11.5
Total	127.6	139.8	179.1	195.1	198.7	216.9

	Share (%)					
	1990	2000	2010	2015	2020	2023
Industry	36.4	34.4	39.4	38.6	39.2	39.6
Transport	28.4	31.6	29.1	30.0	27.9	29.0
Commercial	9.2	10.4	9.7	9.5	9.3	9.0
Residential	18.1	20.2	17.4	17.0	18.4	17.0
Others	8.0	3.4	4.3	5.0	5.2	5.3

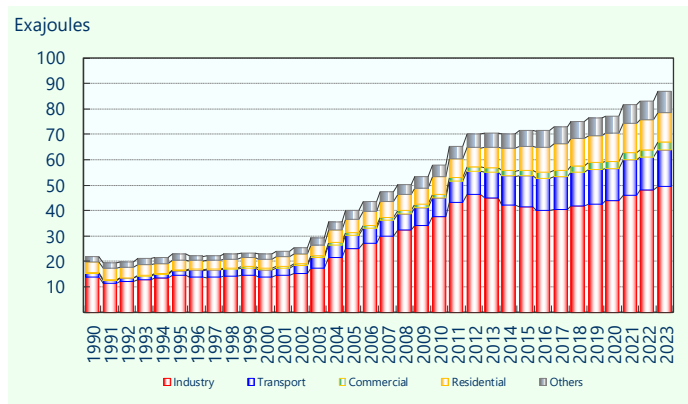
Total final energy consumption by region APEC



	Exajoules					
	1990	2000	2010	2015	2020	2023
China	21.8	23.1	57.8	71.5	77.3	86.8
Other north-east Asia	14.5	18.9	19.0	18.3	17.4	16.9
South-East Asia	5.0	8.6	12.0	13.7	14.9	17.8
Oceania	2.6	3.3	3.6	3.8	3.7	3.9
United States	49.2	58.3	57.7	57.5	55.1	58.8
Other Americas	9.9	11.7	13.0	13.8	12.9	14.0
Russia	24.5	16.0	15.9	16.5	17.4	18.7
Total	127.6	139.8	179.1	195.1	198.7	216.9

	Share (%)					
	1990	2000	2010	2015	2020	2023
China	17.1	16.5	32.3	36.6	38.9	40.0
Other north-east Asia	11.4	13.5	10.6	9.4	8.7	7.8
South-East Asia	3.9	6.1	6.7	7.0	7.5	8.2
Oceania	2.0	2.3	2.0	1.9	1.9	1.8
United States	38.6	41.7	32.2	29.5	27.7	27.1
Other Americas	7.8	8.4	7.3	7.1	6.5	6.4
Russia	19.2	11.4	8.9	8.4	8.8	8.6

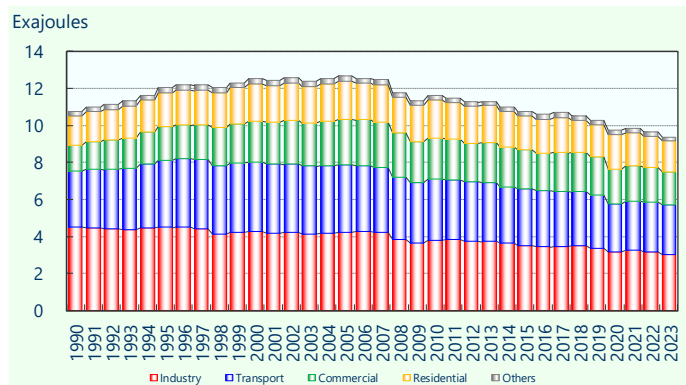
Total final energy consumption by sector China



	Exajoules					
	1990	2000	2010	2015	2020	2023
Industry	13.9	13.8	37.5	41.6	43.8	49.5
Transport	1.2	3.0	7.6	12.0	12.9	14.5
Commercial	0.3	0.6	1.4	2.3	2.6	3.1
Residential	4.4	3.6	6.8	9.3	11.2	11.6
Others	2.0	2.2	4.5	6.2	6.9	8.2
Total	21.8	23.1	57.8	71.5	77.3	86.8

	Share (%)					
	1990	2000	2010	2015	2020	2023
Industry	63.7	59.7	64.9	58.2	56.6	57.0
Transport	5.7	12.8	13.2	16.8	16.6	16.7
Commercial	1.3	2.5	2.4	3.3	3.4	3.6
Residential	20.3	15.6	11.8	13.0	14.5	13.3
Others	9.0	9.4	7.8	8.7	8.9	9.4

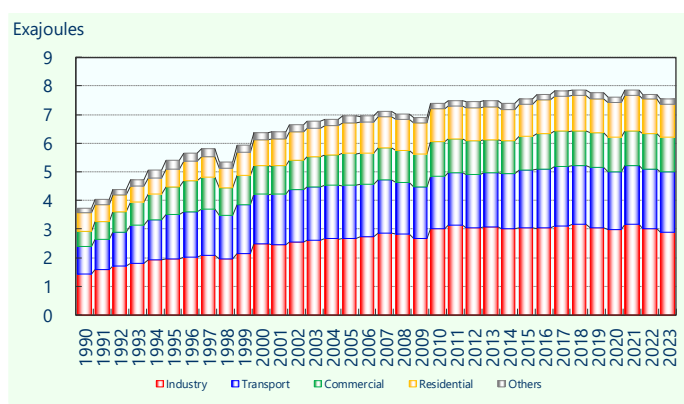
Total final energy consumption by sector Japan



	Exajoules					
	1990	2000	2010	2015	2020	2023
Industry	4.5	4.3	3.8	3.5	3.2	3.0
Transport	3.0	3.7	3.3	3.0	2.6	2.7
Commercial	1.4	2.2	2.2	2.1	1.9	1.8
Residential	1.6	2.0	2.1	1.8	1.9	1.6
Others	0.3	0.3	0.3	0.2	0.3	0.2
Total	10.8	12.5	11.6	10.8	9.8	9.4

	Share (%)					
	1990	2000	2010	2015	2020	2023
Industry	41.8	34.3	32.8	32.8	32.3	32.4
Transport	28.1	29.8	28.3	28.4	26.7	28.6
Commercial	13.2	17.7	19.0	19.6	19.3	19.0
Residential	14.4	16.0	17.8	17.2	19.0	17.5
Others	2.4	2.2	2.2	2.2	2.6	2.4

Total final energy consumption by sector Other north-east Asia*

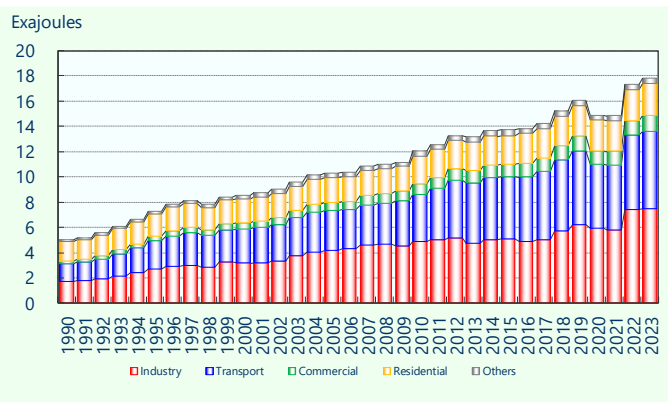


	Exajoules					
	1990	2000	2010	2015	2020	2023
Industry	1.4	2.5	3.0	3.0	3.0	2.9
Transport	1.0	1.7	1.8	2.0	2.0	2.1
Commercial	0.6	1.0	1.2	1.2	1.2	1.2
Residential	0.6	0.9	1.1	1.1	1.2	1.2
Others	0.2	0.3	0.2	0.2	0.2	0.2
Total	3.7	6.4	7.4	7.6	7.6	7.5

	Share (%)					
	1990	2000	2010	2015	2020	2023
Industry	38.3	39.1	40.8	40.3	39.3	38.3
Transport	25.5	27.1	24.9	26.6	26.5	27.8
Commercial	14.8	15.4	16.3	15.9	15.8	16.2
Residential	16.9	14.3	15.4	14.6	15.9	15.3
Others	4.5	4.1	2.7	2.7	2.5	2.3

*In this page, Other north-east Asia includes Hong Kong, China; Republic of Korea and Chinese Taipei

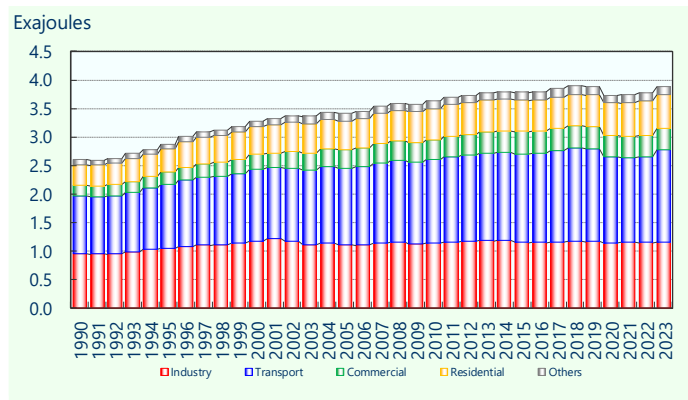
Total final energy consumption by sector South-East Asia



	Exajoules					
	1990	2000	2010	2015	2020	2023
Industry	1.7	3.2	4.9	5.1	5.9	7.5
Transport	1.4	2.7	3.7	4.9	5.1	6.2
Commercial	0.2	0.5	0.8	1.0	1.1	1.3
Residential	1.5	1.9	2.2	2.3	2.4	2.5
Others	0.2	0.3	0.4	0.5	0.4	0.4
Total	5.0	8.6	12.0	13.7	14.9	17.8

	Share (%)					
	1990	2000	2010	2015	2020	2023
Industry	34.0	37.3	40.7	36.9	39.9	41.9
Transport	28.1	31.3	30.9	36.0	34.1	34.6
Commercial	4.4	6.0	7.0	7.1	7.2	7.2
Residential	30.0	22.1	18.3	16.6	16.4	14.2
Others	3.6	3.4	3.1	3.4	2.4	2.1

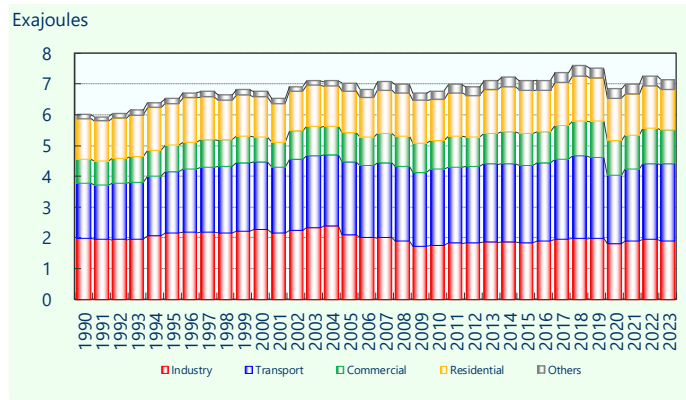
Total final energy consumption by sector Oceania



	Exajoules					
	1990	2000	2010	2015	2020	2023
Industry	1.0	1.2	1.1	1.1	1.1	1.2
Transport	1.0	1.3	1.5	1.5	1.5	1.6
Commercial	0.2	0.3	0.4	0.4	0.4	0.4
Residential	0.4	0.5	0.5	0.5	0.6	0.6
Others	0.1	0.1	0.1	0.1	0.1	0.1
Total	2.6	3.3	3.6	3.8	3.7	3.9

	Share (%)					
	1990	2000	2010	2015	2020	2023
Industry	36.8	35.8	31.2	30.3	30.5	29.8
Transport	39.1	38.3	40.4	40.8	40.5	41.4
Commercial	7.0	8.0	9.7	10.6	10.1	9.9
Residential	14.1	14.8	15.1	14.5	15.6	15.3
Others	3.1	3.1	3.6	3.7	3.3	3.5

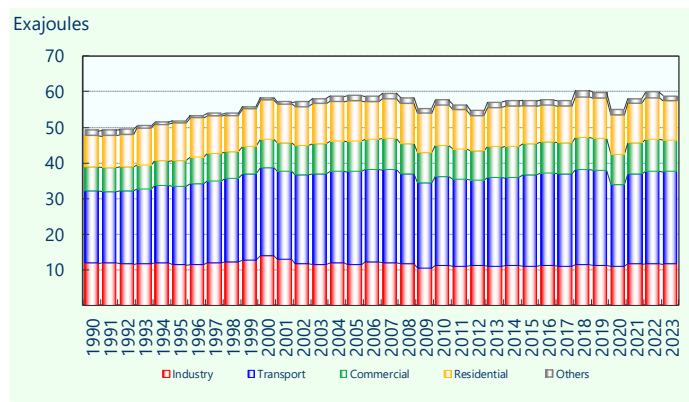
Total final energy consumption by sector Canada



	Exajoules					
	1990	2000	2010	2015	2020	2023
Industry	2.0	2.3	1.8	1.8	1.8	1.9
Transport	1.8	2.2	2.5	2.5	2.2	2.5
Commercial	0.8	0.8	0.9	1.0	1.1	1.1
Residential	1.3	1.3	1.3	1.4	1.4	1.3
Others	0.1	0.2	0.3	0.3	0.3	0.3
Total	6.0	6.8	6.8	7.1	6.9	7.1

	Share (%)					
	1990	2000	2010	2015	2020	2023
Industry	32.9	33.6	25.9	25.7	26.5	26.7
Transport	30.1	32.3	36.4	35.7	32.4	35.0
Commercial	12.8	12.2	14.0	14.3	16.6	15.5
Residential	21.9	19.3	19.7	20.0	20.0	18.4
Others	2.3	2.6	4.0	4.3	4.5	4.4

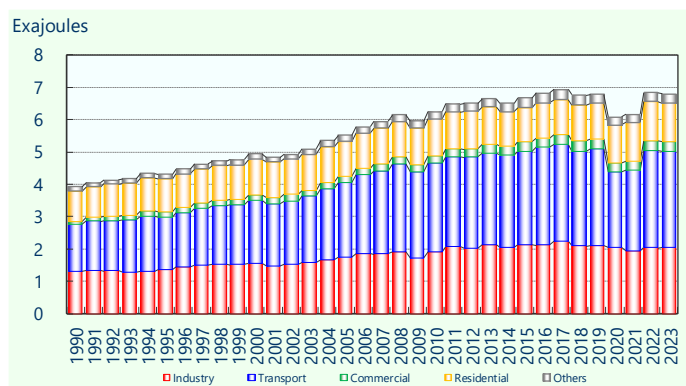
Total final energy consumption by sector United States



	Exajoules					
	1990	2000	2010	2015	2020	2023
Industry	11.9	13.9	11.3	11.0	11.1	11.7
Transport	20.4	24.6	24.9	25.6	22.9	25.9
Commercial	6.7	8.1	8.7	8.7	8.4	8.7
Residential	8.8	11.1	11.3	10.7	11.0	11.1
Others	1.4	0.7	1.4	1.5	1.7	1.4
Total	49.2	58.3	57.7	57.5	55.1	58.8

	Share (%)					
	1990	2000	2010	2015	2020	2023
Industry	24.2	23.8	19.6	19.2	20.1	19.8
Transport	41.5	42.2	43.2	44.5	41.6	44.1
Commercial	13.6	13.9	15.1	15.1	15.3	14.9
Residential	17.9	19.0	19.6	18.6	20.0	18.8
Others	2.9	1.1	2.5	2.6	3.0	2.4

Total final energy consumption by sector Other Americas*

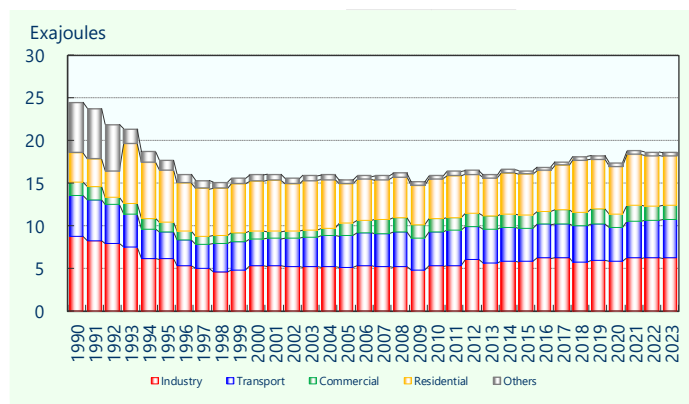


	Exajoules					
	1990	2000	2010	2015	2020	2023
Industry	1.3	1.6	1.9	2.1	2.0	2.0
Transport	1.4	1.9	2.7	2.9	2.3	3.0
Commercial	0.1	0.2	0.2	0.3	0.3	0.3
Residential	0.9	1.1	1.1	1.1	1.2	1.2
Others	0.1	0.2	0.2	0.3	0.2	0.3
Total	3.9	4.9	6.3	6.7	6.1	6.8

	Share (%)					
	1990	2000	2010	2015	2020	2023
Industry	33.1	31.7	30.5	32.0	33.6	30.1
Transport	36.9	39.1	43.9	43.3	38.6	43.6
Commercial	2.4	3.6	3.9	4.3	4.6	4.3
Residential	23.9	22.4	18.1	16.0	19.3	17.7
Others	3.6	3.1	3.6	4.4	3.9	4.2

*Other Americas include Chile; Mexico and Peru.

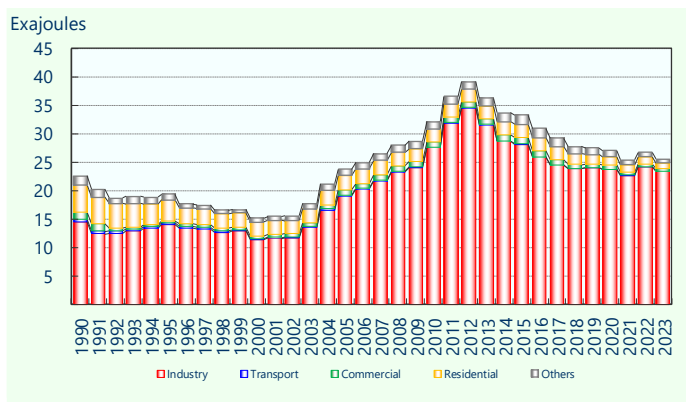
Total final energy consumption by sector Russia



	Exajoules					
	1990	2000	2010	2015	2020	2023
Industry	8.7	5.4	5.3	5.8	5.9	6.3
Transport	4.9	3.1	4.0	3.9	3.9	4.5
Commercial	1.5	0.9	1.6	1.5	1.6	1.7
Residential	3.5	5.9	4.7	4.8	5.6	5.8
Others	5.9	0.7	0.4	0.4	0.4	0.4
Total	24.5	16.0	15.9	16.5	17.4	18.7

	Share (%)					
	1990	2000	2010	2015	2020	2023
Industry	35.7	33.5	33.2	35.4	34.0	33.8
Transport	19.8	19.5	25.4	23.9	22.4	23.9
Commercial	6.2	5.9	9.7	9.3	9.1	8.9
Residential	14.3	36.8	29.3	29.2	32.4	31.0
Others	24.0	4.3	2.4	2.3	2.2	2.4

Coal* demand by sector APEC

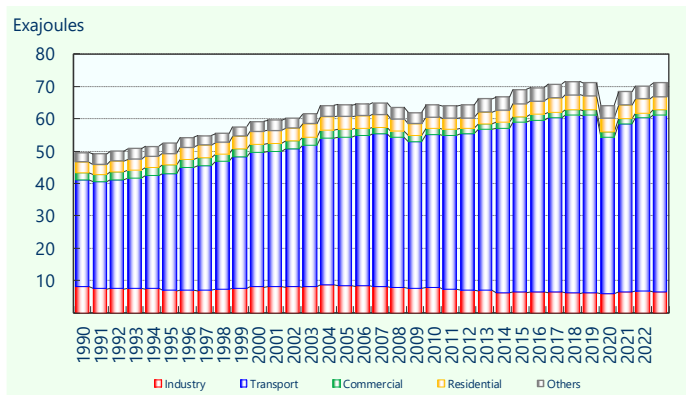


	Exajoules					
	1990	2000	2010	2015	2020	2023
Industry	14.5	11.4	27.5	28.1	23.7	23.4
Transport	0.5	0.2	0.1	0.1	0.1	0.0
Commercial	1.2	0.4	0.9	1.0	0.7	0.4
Residential	4.8	2.5	2.3	2.4	1.5	1.0
Others	1.5	0.6	1.3	1.6	1.1	0.7
Total	22.5	15.1	32.1	33.3	27.0	25.6

	Share (%)					
	1990	2000	2010	2015	2020	2023
Industry	64.2	75.2	85.7	84.5	87.7	91.7
Transport	2.1	1.3	0.4	0.3	0.2	0.1
Commercial	5.5	2.7	2.8	3.1	2.5	1.7
Residential	21.5	16.6	7.2	7.2	5.7	3.9
Others	6.8	4.2	3.9	4.8	3.9	2.7

*Coal and Coal Products

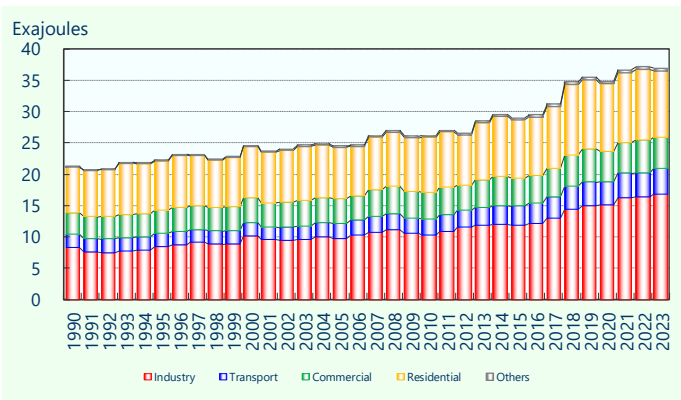
Oil demand by sector APEC



	Exajoules					
	1990	2000	2010	2015	2020	2023
Industry	8.1	8.2	7.9	6.6	6.0	6.6
Transport	33.0	41.4	47.2	52.4	48.2	54.6
Commercial	2.3	2.5	1.9	1.7	1.6	1.6
Residential	3.2	4.1	3.6	3.9	4.3	4.1
Others	3.0	3.0	3.7	4.4	3.9	4.2
Total	49.6	59.1	64.2	69.0	64.0	71.0

	Share (%)					
	1990	2000	2010	2015	2020	2023
Industry	16.4	13.9	12.3	9.5	9.4	9.3
Transport	66.6	70.0	73.5	75.9	75.3	76.9
Commercial	4.5	4.2	2.9	2.5	2.5	2.2
Residential	6.5	6.9	5.6	5.7	6.8	5.7
Others	6.0	5.0	5.7	6.3	6.0	5.9

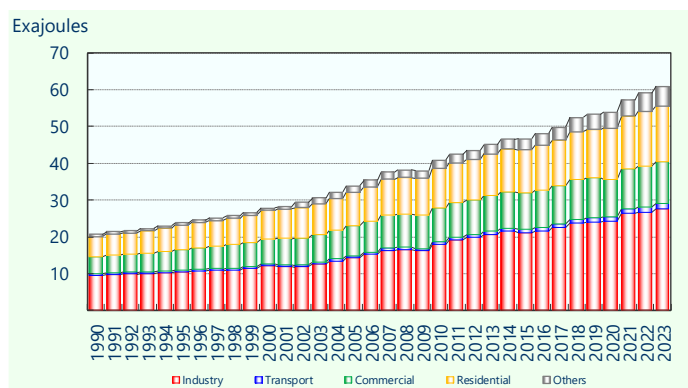
Gas demand by sector APEC



	Exajoules					
	1990	2000	2010	2015	2020	2023
Industry	8.2	10.2	10.2	11.9	15.1	16.8
Transport	2.2	2.0	2.7	3.0	3.7	4.1
Commercial	3.4	4.0	4.2	4.5	4.7	4.9
Residential	7.3	8.2	8.8	9.3	10.9	10.6
Others	0.1	0.1	0.2	0.3	0.4	0.4
Total	21.2	24.6	26.2	29.0	34.8	36.9

	Share (%)					
	1990	2000	2010	2015	2020	2023
Industry	38.8	41.6	39.1	40.9	43.5	45.6
Transport	10.3	8.1	10.2	10.5	10.7	11.1
Commercial	16.0	16.2	16.2	15.4	13.5	13.4
Residential	34.4	33.6	33.7	32.1	31.2	28.8
Others	0.4	0.5	0.8	1.1	1.1	1.2

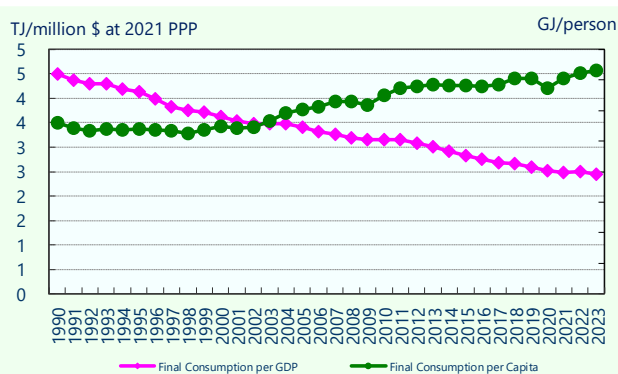
Electricity demand by sector APEC



	Exajoules					
	1990	2000	2010	2015	2020	2023
Industry	9.4	12.1	17.9	21.2	24.3	27.7
Transport	0.5	0.4	0.7	0.9	1.1	1.4
Commercial	4.6	6.9	9.3	10.0	10.3	11.4
Residential	5.5	7.7	10.7	11.7	13.9	15.1
Others	0.6	0.7	2.1	2.9	4.3	5.4
Total	20.7	27.8	40.8	46.7	53.9	60.9

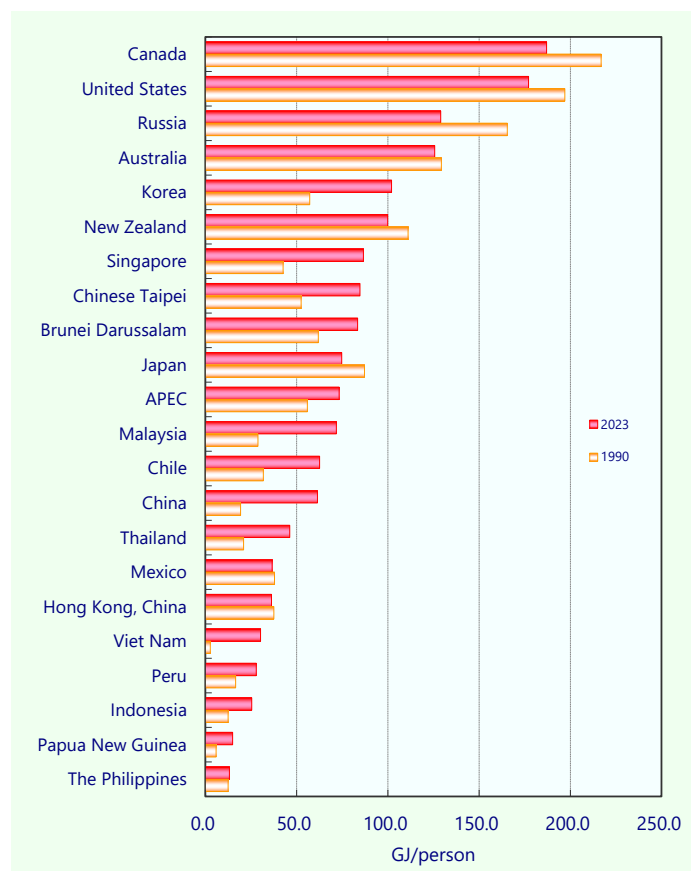
	Share (%)					
	1990	2000	2010	2015	2020	2023
Industry	45.6	43.5	43.9	45.4	45.1	45.5
Transport	2.5	1.6	1.8	1.9	2.0	2.3
Commercial	22.4	24.9	22.8	21.5	19.0	18.7
Residential	26.6	27.6	26.2	25.1	25.7	24.7
Others	2.9	2.4	5.3	6.2	8.1	8.8

Final energy consumption per capita and GDP APEC



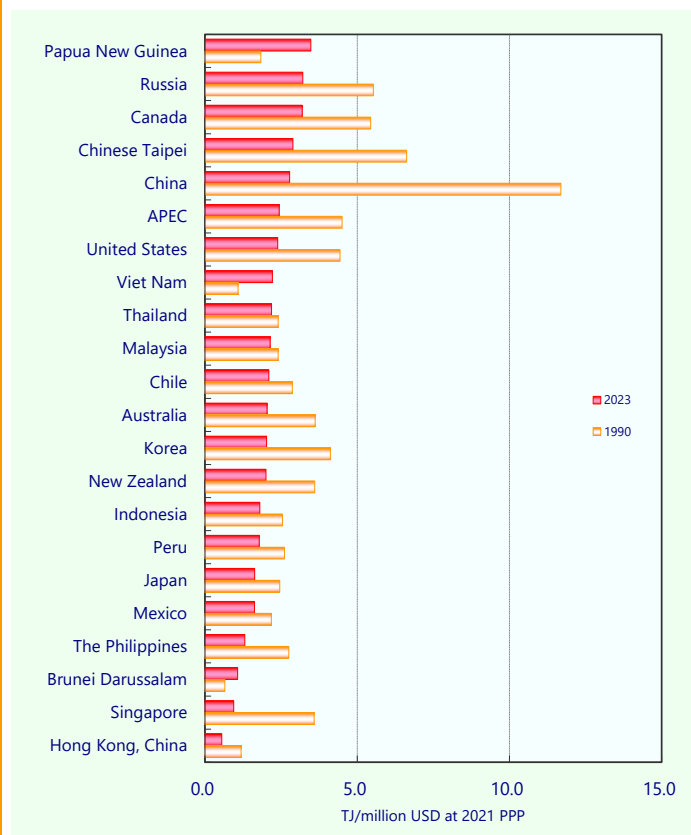
	1990	2000	2010	2015	2020	2023
Population (million)	2 283	2 557	2 758	2 864	2 951	2 972
Final Consumption per Capita (GJ/Person)	55.87	54.68	64.92	68.10	67.31	72.97
	1990	2000	2010	2015	2020	2023
GDP (billion \$ at 2021 PPP)	28 346	38 576	47 021	56 702	68 886	78 807
Final Consumption per GDP (TJ/million \$ at 2021 PPP)	4.50	3.62	3.41	3.16	2.83	2.52

Final energy consumption per capita

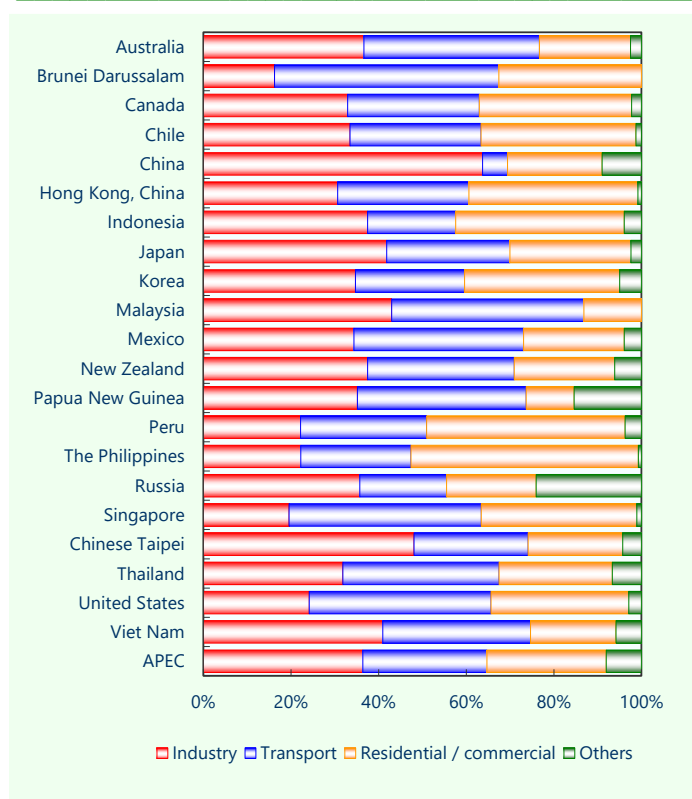


Final Energy Consumption

Final energy intensity

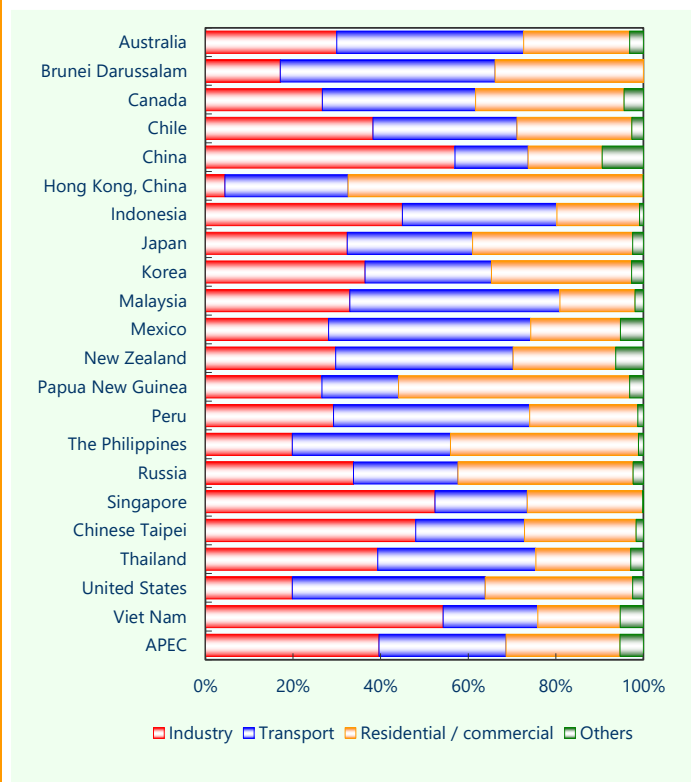


Final energy consumption by sector 1990

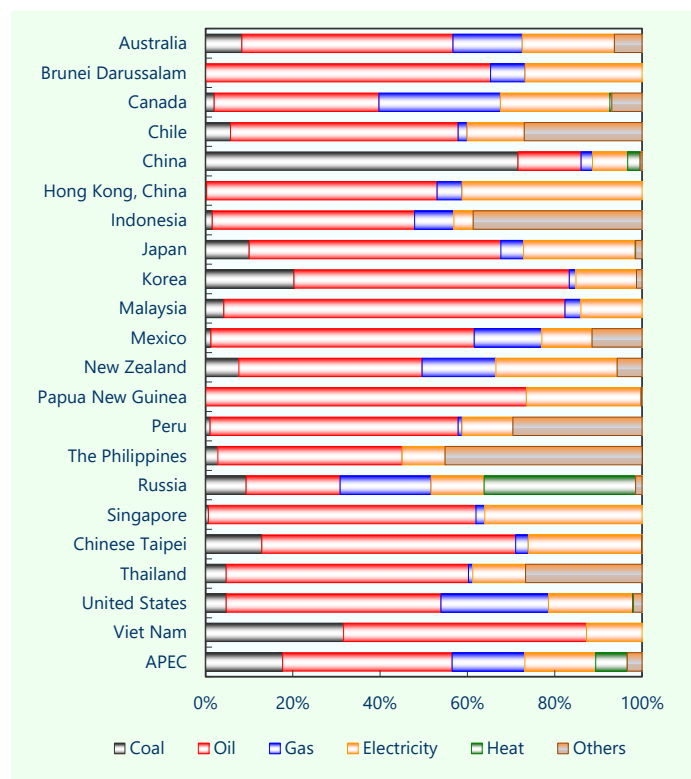


Final Energy Consumption

Final energy consumption by sector 2023

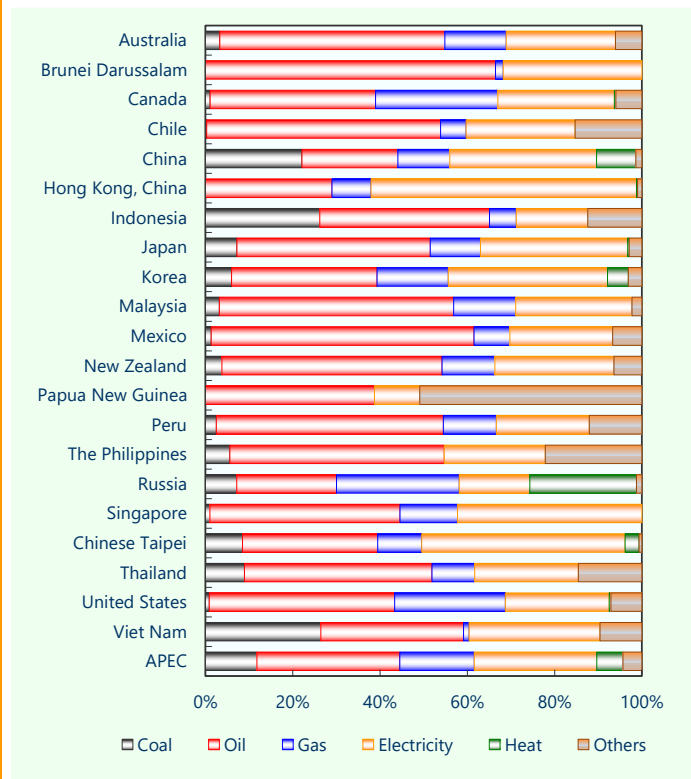


Final energy consumption by energy 1990



Final Energy Consumption

Final energy consumption by energy 2023



APEC, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production	143 358	3	87 831	
2 Import	18 559	118	60 229	24 345
3 Export	- 28 019	- 349	- 33 616	- 27 376
4 International marine and aviation bunkers				- 6 724
5 Stock change	- 3 774	- 377	- 40	- 655
6 Total energy supply	130 124	- 605	114 404	- 10 411
7 Transfers			390	334
8 Main activity producers	- 78 926	- 2 575	- 2	- 1 379
9 Autoproducers	- 1 356	- 408	- 26	- 658
10 Gas processing	- 1 192	- 245		- 90
11 Petroleum refineries			- 115 476	111 555
12 Coal transformation	- 25 108	16 569		- 13
13 Other transformation	- 9		1 390	- 725
14 Loss & own-use	- 508	- 1 065	- 421	- 4 952
15 Discrepancy	- 2 964	- 250	- 57	- 780
16 Total final consumption	20 061	11 421	202	92 881
17 Total final energy consumption	15 874	9 699	3	71 014
18 Industry sector	13 821	9 629	3	6 577
19 Transport sector	17			54 622
20 Other sector	2 036	70	1	9 816
20.1 Residential & Commercial	1 344	70		5 626
20.2 Agriculture	260			2 291
20.3 Other	432			1 899
21 Non-energy	4 187	1 722	198	21 867

Australia, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production	10 815		747	
2 Import	4	11	338	1 744
3 Export	- 9 133	- 14	- 575	- 126
4 International marine and aviation bunkers				- 163
5 Stock change	- 217		2	- 3
6 Total energy supply	1 469	- 3	511	1 452
7 Transfers			- 151	246
8 Main activity producers	- 1 332			- 10
9 Autoproducers	- 11			- 34
10 Gas processing				
11 Petroleum refineries			- 527	523
12 Coal transformation	- 102	54		
13 Other transformation				
14 Loss & own-use		- 32	- 1	- 182
15 Discrepancy	64		169	- 195
16 Total final consumption	87	19		1 800
17 Total final energy consumption	87	19		1 664
18 Industry sector	87	19		200
19 Transport sector				1 330
20 Other sector				133
20.1 Residential & Commercial				42
20.2 Agriculture				90
20.3 Other				1
21 Non-energy				137

Unit: PJ

Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat	Total	Total Renewables
90 596	8 615	20 126	11 237	14 399	2	376 168	33 253
20 088				397	427	124 163	396
- 22 493				- 264	- 418	- 112 535	- 263
				- 5		- 6 730	- 5
- 845				- 2		- 5 692	- 2
87 346	8 615	20 126	11 237	14 525	11	375 373	33 380
						724	
- 31 248	- 8 488	- 20 119	- 10 290	- 3 579	82 023	- 74 584	- 22 093
- 4 936	- 137		- 696	- 1 427	4 329	- 5 314	- 1 910
640				- 37		- 924	- 37
						- 3 921	
				- 4		- 8 556	
- 1 363				- 228	2	- 932	- 228
- 8 297				- 21	- 12 465	- 27 729	- 14
- 1 080	10	- 7		- 61	14	- 5 175	- 52
41 061			251	9 169	73 914	248 961	9 045
36 928			251	9 169	73 914	216 853	9 045
16 836			6	3 607	35 466	85 943	3 314
4 087				2 781	1 393	62 901	2 781
16 005			245	2 781	37 055	68 008	2 949
15 572			237	2 359	31 254	56 462	33 253
192			3	339	1 405	4 490	340
241			5	83	4 396	7 056	65
4 133						32 108	

Unit: PJ

Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat	Total	Total Renewables
5 562	57		288	207		17 676	548
43						2 139	
- 4 087						- 13 936	
1						- 163	
1 519	57		288	207		5 500	548
						95	
- 274	- 56		- 166	- 16	790	- 1 065	- 238
- 190			- 98	- 20	195	- 159	- 118
						- 4	
						- 48	
- 384					- 177	- 776	
- 164						- 126	
506			24	172	808	3 416	192
454			24	172	808	3 227	192
257				118	287	968	114
17				5	25	1 377	5
180			24	50	495	882	73
178			24	50	488	781	548
2					7	100	
						1	
52						189	

Brunei Darussalam, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production			183	
2 Import	28		263	43
3 Export			- 142	- 318
4 International marine and aviation bunkers				- 3
5 Stock change			- 3	
6 Total energy supply	28		302	- 278
7 Transfers			30	- 28
8 Main activity producers				
9 Autoproducers	- 6			
10 Gas processing				1
11 Petroleum refineries			- 379	340
12 Coal transformation				
13 Other transformation			29	
14 Loss & own-use	- 22			
15 Discrepancy			18	- 9
16 Total final consumption				25
17 Total final energy consumption				25
18 Industry sector				6
19 Transport sector				18
20 Other sector				1
20.1 Residential & Commercial				1
20.2 Agriculture				
20.3 Other				
21 Non-energy				

Canada, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production	1 131		12 326	
2 Import	167	28	1 376	471
3 Export	- 975	- 5	- 8 923	- 1 002
4 International marine and aviation bunkers				- 196
5 Stock change	8		8	- 20
6 Total energy supply	332	23	4 787	- 748
7 Transfers			- 66	142
8 Main activity producers	- 223			- 41
9 Autoproducers			- 2	- 17
10 Gas processing				
11 Petroleum refineries			- 4 811	4 595
12 Coal transformation	- 75	38		
13 Other transformation			168	- 16
14 Loss & own-use				- 604
15 Discrepancy	- 10	- 3	- 78	311
16 Total final consumption				3 623
17 Total final energy consumption				2 710
18 Industry sector				198
19 Transport sector				2 180
20 Other sector				332
20.1 Residential & Commercial				103
20.2 Agriculture				229
20.3 Other				
21 Non-energy				913

Unit: PJ							Total	Total Renewables
Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat			
338							521	
							335	
- 226							- 686	
							- 3	
1							- 2	
113							165	
							1	
- 48					15		- 34	
- 5					6		- 6	
22							23	
							- 39	
							8	
- 21							8	
- 34					- 8		- 65	
- 25							- 17	
1					12		38	
1					12		38	
					1		6	
							18	
1					11		13	
1					11		13	

Unit: PJ							Total	Total Renewables
Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat			
7 361	1 299	971	173	532		23 793	1 987	
805				120	78	3 044	120	
- 2 916				- 79	- 179	- 14 078	- 79	
							- 196	
- 246				- 1		- 250	- 1	
5 004	1 299	971	173	572	- 101	12 312	2 027	
						76		
- 606	- 1 202	- 971	- 159	- 54	2 074	- 1 182	- 1 411	
- 283	- 96		- 12	- 64	230	- 244	- 172	
							- 216	
							- 37	
- 150							2	
- 1 635					- 243	- 2 482		
- 205				- 30	- 261	- 40	- 30	
2 125			1	425	1 933	8 188	414	
2 002			1	425	1 933	7 150	414	
713				230	690	1 908	218	
173				117	311	2 501	117	
1 116			1	78	1 213	2 740	79	
1 071				78	1 174	2 426	1 987	
45					39	313		
			1			2	1	
123						1 039		

Chile, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production	1		20	
2 Import	121		374	420
3 Export		- 1		- 54
4 International marine and aviation bunkers				- 31
5 Stock change	10	- 1	- 1	11
6 Total energy supply	132	- 2	394	346
7 Transfers			48	- 48
8 Main activity producers	- 119			- 12
9 Autoproducers				- 4
10 Gas processing				
11 Petroleum refineries			- 450	455
12 Coal transformation	- 12	8		
13 Other transformation			2	
14 Loss & own-use		- 6		- 12
15 Discrepancy	2		7	- 32
16 Total final consumption	3			693
17 Total final energy consumption	3			652
18 Industry sector	3			168
19 Transport sector				394
20 Other sector				90
20.1 Residential & Commercial				74
20.2 Agriculture				7
20.3 Other				8
21 Non-energy				41

China, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production	92 192		8 752	
2 Import	5 186	7	23 611	4 030
3 Export	- 101	- 251	- 59	- 2 814
4 International marine and aviation bunkers				- 83
5 Stock change	- 1 789	- 204	625	- 678
6 Total energy supply	95 488	- 448	32 928	454
7 Transfers			6 537	- 6 375
8 Main activity producers	- 56 605	- 2 388		- 390
9 Autoproducers				
10 Gas processing	- 1 137	- 245		- 77
11 Petroleum refineries			- 38 138	37 441
12 Coal transformation	- 19 490	13 421		
13 Other transformation				
14 Loss & own-use	- 445	- 659	- 115	- 1 980
15 Discrepancy	- 2 313	- 182	- 1 209	- 931
16 Total final consumption	15 499	9 498	3	28 142
17 Total final energy consumption	11 347	7 825	3	19 097
18 Industry sector	9 412	7 768	3	2 989
19 Transport sector	17			12 160
20 Other sector	1 917	58		3 948
20.1 Residential & Commercial	1 229	57		1 399
20.2 Agriculture	257			900
20.3 Other	432			1 649
21 Non-energy	4 152	1 673		9 046

Unit: PJ

Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat	Total	Total Renewables
58	85		117	378		658	579
187						1 102	
- 1						- 57	
						- 31	
3						22	
246	85		117	378		1 695	580
- 128	- 84		- 113	- 24	299	- 181	- 221
- 4			- 1	- 177	26	- 161	- 178
						4	
						- 4	
						2	
- 13					- 30	- 61	
1				6	8	- 7	6
102			4	183	304	1 288	186
71			4	183	304	1 217	186
40				77	178	466	77
1					5	400	
31			4	106	121	351	109
29				106	110	319	579
1					10	18	
			4		1	14	4
30						71	

Unit: PJ

Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat	Total	Total Renewables
8 507	4 436	4 742	5 292	3 108		127 030	12 837
6 054					18	38 906	
- 236					- 80	- 3 541	
						- 83	
- 79						- 2 126	
14 246	4 436	4 742	5 292	3 108	- 61	160 186	12 837
						161	
- 3 004	- 4 436	- 4 742	- 5 292	- 1 897	44 848	- 33 908	- 11 625
					- 1 705	- 1 705	
1 067						- 391	
						- 696	
- 99						- 6 068	
- 1 167				8	- 6 028	- 10 402	- 8
75					- 41	- 4 602	
11 118				1 203	37 013	102 477	1 203
10 306				1 203	37 013	86 794	1 203
6 103				463	22 735	49 473	463
1 284				196	839	14 496	196
2 919				544	13 438	22 825	544
2 672				292	9 018	14 666	12 837
8				208	702	2 074	208
239				45	3 719	6 085	45
812						15 682	

Hong Kong, China, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production				
2 Import	155			624
3 Export				- 2
4 International marine and aviation bunkers				- 492
5 Stock change	- 8			- 15
6 Total energy supply	147			115
7 Transfers				
8 Main activity producers	- 147			- 5
9 Autoproducers				
10 Gas processing				- 12
11 Petroleum refineries				
12 Coal transformation				
13 Other transformation				
14 Loss & own-use				
15 Discrepancy				- 21
16 Total final consumption				78
17 Total final energy consumption				78
18 Industry sector				3
19 Transport sector				72
20 Other sector				3
20.1 Residential & Commercial				3
20.2 Agriculture				
20.3 Other				
21 Non-energy				

Indonesia, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production	15 578		1 296	
2 Import	291		776	1 253
3 Export	- 10 411		- 125	- 205
4 International marine and aviation bunkers				- 79
5 Stock change	- 1 180		33	- 7
6 Total energy supply	4 278		1 979	962
7 Transfers				- 148
8 Main activity producers	- 2 436			- 92
9 Autoproducers				- 58
10 Gas processing				48
11 Petroleum refineries			- 1 940	1 875
12 Coal transformation				
13 Other transformation				
14 Loss & own-use			- 39	
15 Discrepancy				178
16 Total final consumption	1 842			2 765
17 Total final energy consumption	1 842			2 734
18 Industry sector	1 842			139
19 Transport sector				2 121
20 Other sector				474
20.1 Residential & Commercial				428
20.2 Agriculture				10
20.3 Other				36
21 Non-energy				31

Unit: PJ

Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat	Total	Total Renewables
			1	6		7	7
201					42	1 022	
						- 2	
						- 492	
						- 23	
201			1	6	42	511	7
- 176				- 1	133	- 195	- 1
12			- 1	- 2	2	- 1	- 3
				- 1		- 1	- 1
					- 13	- 13	
- 12						- 33	
24				3	164	269	3
24				3	164	269	3
1					7	12	
					4	76	
23				2	153	181	2
23				2	153	181	7

Unit: PJ

Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat	Total	Total Renewables
2 469	89		625	1 365		21 422	2 078
					3	2 323	
- 668				7		- 11 416	- 7
						- 79	
1 801	89		625	1 358	3	11 095	2 071
						- 148	
- 258	- 72		- 612	- 53	1 164	- 2 358	- 736
	- 17		- 2	- 386	96	- 364	- 404
- 47						1	
						- 66	
- 141						- 141	
- 216					- 144	- 399	
- 449				- 59	311	- 299	- 59
690			11	860	1 153	7 321	871
434			11	860	1 153	7 034	871
423				345	415	3 165	345
2				356	1	2 480	356
8			11	160	736	1 389	171
8			11	146	736	1 329	2 078
						10	
				14		50	14
256						288	

Japan, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production	15		13	
2 Import	4 131	27	5 177	1 728
3 Export		- 14		- 537
4 International marine and aviation bunkers				- 487
5 Stock change			13	8
6 Total energy supply	4 146	13	5 204	712
7 Transfers				- 3
8 Main activity producers	- 2 307	- 111	- 2	- 175
9 Autoproducers	- 119	- 88		- 129
10 Gas processing				- 91
11 Petroleum refineries			- 5 319	5 473
12 Coal transformation	- 1 424	755		- 13
13 Other transformation			151	- 159
14 Loss & own-use	- 10	- 95		- 247
15 Discrepancy	17	- 76	- 34	- 174
16 Total final consumption	302	399		5 195
17 Total final energy consumption	302	374		4 159
18 Industry sector	302	368		671
19 Transport sector				2 611
20 Other sector		6		878
20.1 Residential & Commercial		6		717
20.2 Agriculture				94
20.3 Other				67
21 Non-energy		25		1 036

Korea, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production	11		49	
2 Import	2 723	6	5 797	1 820
3 Export			- 16	- 2 729
4 International marine and aviation bunkers				- 677
5 Stock change	37	1	16	- 38
6 Total energy supply	2 771	7	5 847	- 1 624
7 Transfers			492	- 437
8 Main activity producers	- 1 746	- 70		- 19
9 Autoproducers	- 148	- 108		- 56
10 Gas processing				- 15
11 Petroleum refineries			- 7 061	6 816
12 Coal transformation	- 809	426		- 767
13 Other transformation	- 9		826	- 228
14 Loss & own-use		- 128		- 228
15 Discrepancy	153		- 103	33
16 Total final consumption	211	126		3 703
17 Total final energy consumption	211	107		1 759
18 Industry sector	211	100		91
19 Transport sector				1 444
20 Other sector		7		224
20.1 Residential & Commercial		7		149
20.2 Agriculture				21
20.3 Other				54
21 Non-energy		19		1 944

							Unit: PJ	
Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat	Total	Total Renewables	
70	271	917	518	601		2 405	1 134	
3 196				121		14 381	121	
						- 552		
						- 487		
75						97		
3 341	271	917	518	722		15 844	1 255	
						- 3		
- 2 154	- 261	- 917	- 202	- 336	2 993	- 3 472	- 670	
- 148	- 9		- 306	- 117	603	- 312	- 397	
86						- 5		
						154		
				- 4		- 686		
					5	- 3		
- 33					- 386	- 772		
- 1				- 1	- 20	- 290	- 1	
1 090			11	265	3 196	10 457	187	
1 082			11	265	3 196	9 387	187	
432				157	1 108	3 037	109	
1				19	58	2 688	19	
649			11	89	2 029	3 661	59	
649			10	65	1 986	3 434	1 134	
			1		10	104		
				24	33	124		
8						1 069		

							Unit: PJ	
Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat	Total	Total Renewables	
	13	1 969	135	298	2	2 478	301	
2 174						12 520		
						- 2 745		
- 37						- 678		
2 137	13	1 969	135	298	2	11 555	301	
						55		
- 1 083	- 13	- 1 969	- 114	- 94	2 163	- 2 945	- 206	
- 54			- 8	- 54	291	- 138	- 24	
13						- 3		
						- 245		
						- 384		
- 35					- 1	14		
- 77					- 305	- 737		
						- 301	- 113	
901			13	150	2 180	7 285	71	
863			13	150	2 180	5 283	71	
302				92	1 130	1 925	13	
37				29	14	1 524	29	
524			13	28	1 037	1 834	28	
524			11	28	972	1 691	301	
			2	1	54	78	3	
					11	65		
38						2 002		

Malaysia, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production	107		1 036	
2 Import	963		411	1 240
3 Export			- 435	- 567
4 International marine and aviation bunkers				- 28
5 Stock change	- 6		6	4
6 Total energy supply	1 065		1 018	649
7 Transfers				
8 Main activity producers	- 980			- 12
9 Autoproducers				- 3
10 Gas processing				56
11 Petroleum refineries			- 1 110	1 002
12 Coal transformation				
13 Other transformation				
14 Loss & own-use				- 20
15 Discrepancy	- 6		92	- 280
16 Total final consumption	79			1 392
17 Total final energy consumption	79			1 320
18 Industry sector	79			80
19 Transport sector				1 122
20 Other sector				117
20.1 Residential & Commercial				73
20.2 Agriculture				13
20.3 Other				31
21 Non-energy				72

Mexico, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production	121		4 280	
2 Import	266	20	49	2 006
3 Export			- 2 339	- 434
4 International marine and aviation bunkers				- 125
5 Stock change	17		1	- 2
6 Total energy supply	404	20	1 991	1 446
7 Transfers			- 134	157
8 Main activity producers	- 356			- 236
9 Autoproducers		- 1		- 45
10 Gas processing				
11 Petroleum refineries			- 1 951	1 833
12 Coal transformation		- 7		
13 Other transformation			2	- 2
14 Loss & own-use		- 3		- 171
15 Discrepancy	2	1	93	- 17
16 Total final consumption	50	11		2 964
17 Total final energy consumption	50	11		2 809
18 Industry sector	50	11		221
19 Transport sector				2 146
20 Other sector				442
20.1 Residential & Commercial				314
20.2 Agriculture				128
20.3 Other				
21 Non-energy				155

							Unit: PJ	
Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat	Total	Total Renewables	
2 808	115		16	67		4 148	197	
363						2 977		
- 1 290				- 10	- 1	- 2 302	- 10	
						- 28		
				13		17	13	
1 881	115		16	70	- 1	4 813	200	
- 457	- 115		- 16	- 7	645	- 941	- 138	
- 65				- 7	29	- 47	- 7	
- 582						- 526		
						- 108		
- 58					- 48	- 126		
- 35				1	30	- 198	1	
685				56	656	2 867	56	
349				56	656	2 459	56	
346				2	304	811	2	
1				54	2	1 180	54	
1					350	468		
1					346	421	197	
					3	16		
						31		
336						408		

							Unit: PJ	
Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat	Total	Total Renewables	
1 491	75	135	276	375		6 753	706	
1 761					7	4 110		
					- 11	- 2 784		
						- 125		
						16		
3 252	75	135	276	375	- 4	7 969	706	
						22		
- 1 411	- 73	- 135	- 207	- 27	1 168	- 1 276	- 289	
- 432	- 2		- 47	- 41	202	- 366	- 87	
						- 119		
						- 7		
- 668					- 244	- 1 087		
- 348				- 18	- 22	- 309	- 18	
392			23	289	1 099	4 828	312	
384			23	289	1 099	4 665	312	
348			1	46	635	1 311	47	
1					6	2 153		
35				243	459	1 201	265	
35			21	243	342	956	706	
					49	177		
					67	67		
8						163		

New Zealand, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production	62		42	
2 Import	5			318
3 Export	- 35		- 36	
4 International marine and aviation bunkers				- 48
5 Stock change	4		2	- 6
6 Total energy supply	36		8	264
7 Transfers			- 6	7
8 Main activity producers	- 5			
9 Autoproducers		- 7		
10 Gas processing				
11 Petroleum refineries				
12 Coal transformation	- 16	10		
13 Other transformation				
14 Loss & own-use		- 2	- 1	
15 Discrepancy	3		- 1	
16 Total final consumption	18	1		271
17 Total final energy consumption	18	1		258
18 Industry sector	16	1		19
19 Transport sector				206
20 Other sector	2			32
20.1 Residential & Commercial	1			15
20.2 Agriculture	2			16
20.3 Other				2
21 Non-energy				13

Papua New Guinea, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production			22	
2 Import			21	80
3 Export			- 22	- 13
4 International marine and aviation bunkers				
5 Stock change				2
6 Total energy supply			21	70
7 Transfers				
8 Main activity producers				
9 Autoproducers				- 30
10 Gas processing				
11 Petroleum refineries			- 22	21
12 Coal transformation				
13 Other transformation				
14 Loss & own-use				
15 Discrepancy			1	- 3
16 Total final consumption				58
17 Total final energy consumption				58
18 Industry sector				25
19 Transport sector				26
20 Other sector				7
20.1 Residential & Commercial				3
20.2 Agriculture				4
20.3 Other				
21 Non-energy				

							Unit: PJ	
Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat	Total	Total Renewables	
133	96		220	40		592	354	
						323		
						- 71		
						- 48		
1						1		
134	96		220	40		797	355	
- 37	- 96		- 209	- 2	155	- 194	- 307	
- 2			- 3	- 18	7	- 22	- 20	
						- 5		
						- 1	- 1	
- 3						- 16	- 23	
4				5		- 5	5	
96			8	25	139	558	33	
62			8	25	139	511	33	
47			4	18	45	152	23	
					1	207		
14			3	6	93	152	10	
13			3	6	82	120	354	
1					9	28		
					3	5		
35						48		

							Unit: PJ	
Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat	Total	Total Renewables	
479	4		3	77		585	84	
						102		
- 442						- 477		
						2		
37	4		3	77		212	84	
- 6	- 3				5	- 4	- 3	
- 6	- 1		- 3		12	- 28	- 5	
- 13						- 13		
						- 2		
					- 1	- 1	- 1	
- 12						- 14		
						- 2		
				76	15	149	76	
				76	15	149	76	
				4	11	40	4	
						26		
				72	4	83	72	
				72	4	79	84	
						5		

Peru, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production	6		215	
2 Import	8	2	237	263
3 Export	- 40		- 31	- 124
4 International marine and aviation bunkers				- 29
5 Stock change	51		- 1	2
6 Total energy supply	25	2	420	112
7 Transfers			- 25	30
8 Main activity producers				- 12
9 Auto-producers	- 4			- 1
10 Gas processing				
11 Petroleum refineries			- 385	334
12 Coal transformation				
13 Other transformation				
14 Loss & own-use				- 7
15 Discrepancy			- 9	30
16 Total final consumption	21	2		486
17 Total final energy consumption	21	2		480
18 Industry sector	21	2		65
19 Transport sector				361
20 Other sector				53
20.1 Residential & Commercial				49
20.2 Agriculture				2
20.3 Other				2
21 Non-energy				7

The Philippines, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production	337		11	
2 Import	785		267	672
3 Export	- 166		- 11	- 30
4 International marine and aviation bunkers				- 70
5 Stock change			1	- 19
6 Total energy supply	957		269	552
7 Transfers				
8 Main activity producers	- 870			- 29
9 Auto-producers				
10 Gas processing				
11 Petroleum refineries			- 287	271
12 Coal transformation				
13 Other transformation				
14 Loss & own-use			- 19	
15 Discrepancy			37	- 7
16 Total final consumption	87			788
17 Total final energy consumption	83			733
18 Industry sector	83			67
19 Transport sector				515
20 Other sector				151
20.1 Residential & Commercial				145
20.2 Agriculture				2
20.3 Other				4
21 Non-energy	3			55

Unit: PJ							Total	Total Renewables
Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat			
592	105		14	150		1 081	5	269
- 203				18		- 399	- 29	18
							52	
389	105		14	168		1 234	5	287
- 214	- 103		- 12	- 32	217	- 156	- 18	- 147
- 11	- 2			- 8	7	- 18	- 51	- 10
							- 8	- 8
- 51				- 8	- 28	- 86	8	- 11
- 1				- 11		8		
112			2	110	196	928		111
112			2	110	196	922		111
55				13	114	270		13
36				16		413		16
22			2	81	82	239		83
21			2	81	76	228		269
					5	8		
1					1	4		
						7		

Unit: PJ							Total	Total Renewables
Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat			
79	37		400	458		1 322	- 207	895
27				8		1 760	- 70	8
							- 16	1
106	37		400	467		2 788		904
- 103	- 37		- 400	- 23	425	- 1 038	- 16	- 460
							- 114	- 114
- 2				- 114	- 80	- 101		
						30		
				330	345	1 549		330
				330	345	1 491		330
				40	106	296		40
				23	1	538		23
				267	238	656		267
				267	228	639		895
					8	10		
					3	7		
						58		

Russia, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production	10 030	3	23 052	
2 Import	541	6		
3 Export	- 4 645	- 23	- 11 255	- 4 469
4 International marine and aviation bunkers				- 369
5 Stock change	294	- 177		
6 Total energy supply	6 220	- 191	11 797	- 4 838
7 Transfers				
8 Main activity producers	- 2 292			- 27
9 Autoproducers	- 756	- 158	- 24	- 212
10 Gas processing				
11 Petroleum refineries			- 11 535	10 843
12 Coal transformation	- 2 433	1 494		
13 Other transformation				
14 Loss & own-use	- 30	- 55	- 237	- 189
15 Discrepancy	- 461	10		99
16 Total final consumption	247	1 101	1	5 677
17 Total final energy consumption	238	1 101	1	4 265
18 Industry sector	134	1 101		445
19 Transport sector				2 940
20 Other sector	104		1	881
20.1 Residential & Commercial	103			729
20.2 Agriculture	1			126
20.3 Other				25
21 Non-energy	9			1 412

Singapore, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production				
2 Import	14		1 999	3 611
3 Export			- 34	- 3 154
4 International marine and aviation bunkers				- 1 829
5 Stock change			11	28
6 Total energy supply	14		1 976	- 1 343
7 Transfers			183	- 183
8 Main activity producers	- 9			- 1
9 Autoproducers				- 3
10 Gas processing				
11 Petroleum refineries			- 1 777	1 711
12 Coal transformation				
13 Other transformation				
14 Loss & own-use				- 64
15 Discrepancy			- 382	275
16 Total final consumption	5			391
17 Total final energy consumption	5			206
18 Industry sector	5			113
19 Transport sector				88
20 Other sector				4
20.1 Residential & Commercial				4
20.2 Agriculture				
20.3 Other				
21 Non-energy				185

							Unit: PJ	
Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat	Total	Total Renewables	
22 119	719	2 381	32	455		58 791	857	
144				1	6	698		
- 4 786				- 2	- 65	- 25 246	- 2	
						- 369		
						116		
17 477	719	2 381	32	453	- 60	33 991	856	
- 6 220	- 724	- 2 375	- 32	- 5	6 488	- 5 186	- 756	
- 3 012	- 4			- 210	3 368	- 1 008	- 24	
						- 692		
						- 939		
- 505				- 3	- 1	- 509	- 3	
- 812				- 6	- 2 252	- 3 581		
28	10	- 7			35	- 285	10	
6 957				230	7 580	21 792	83	
5 256				230	7 580	18 670	83	
1 424				149	3 056	6 308	9	
1 205					314	4 459		
2 626				81	4 209	7 902	74	
2 554				78	3 999	7 464	857	
73				3	208	411	1	
					2	28		
1 701						3 122		

							Unit: PJ	
Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat	Total	Total Renewables	
			5	25		30	18	
443				4		6 071	4	
						- 3 188		
						- 1 829		
- 2						37		
440				5	29	1 121	22	
- 337				- 5	- 29	190	- 22	
- 47						16	- 34	
						- 66		
						- 6	- 70	
7						- 1	- 101	
62						200	658	
62						200	472	
56						74	248	
						11	99	
7						114	125	
7						114	125	
						1	18	
						1		
						185		

Chinese Taipei, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production				
2 Import	1 425	4	1 777	390
3 Export		- 1	- 27	- 589
4 International marine and aviation bunkers				- 160
5 Stock change	30	1	4	- 7
6 Total energy supply	1 455	4	1 754	- 366
7 Transfers			34	- 11
8 Main activity producers	- 802			- 33
9 Auto-producers	- 283	- 30	- 2	- 6
10 Gas processing				
11 Petroleum refineries			- 1 780	1 832
12 Coal transformation	- 258	138		
13 Other transformation				
14 Loss & own-use		- 44	- 1	- 91
15 Discrepancy	- 6	- 1	2	- 9
16 Total final consumption	107	67	7	1 315
17 Total final energy consumption	106	63		616
18 Industry sector	106	63		28
19 Transport sector				488
20 Other sector				100
20.1 Residential & Commercial				79
20.2 Agriculture				3
20.3 Other				18
21 Non-energy	1	5	7	699

Thailand, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production	134		276	
2 Import	478	1	2 090	117
3 Export	- 3		- 24	- 388
4 International marine and aviation bunkers				- 199
5 Stock change				
6 Total energy supply	609	1	2 342	- 469
7 Transfers				
8 Main activity producers	- 253			- 7
9 Auto-producers				
10 Gas processing				
11 Petroleum refineries			- 2 273	1 901
12 Coal transformation				
13 Other transformation			3	219
14 Loss & own-use			- 9	- 6
15 Discrepancy	- 60	- 1	128	- 27
16 Total final consumption	295		192	1 611
17 Total final energy consumption	295			1 424
18 Industry sector	295			162
19 Transport sector				1 065
20 Other sector				197
20.1 Residential & Commercial				103
20.2 Agriculture				94
20.3 Other				
21 Non-energy			192	187

							Unit: PJ	
Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat	Total	Total Renewables	
3	14	194	70	69		350	125	
1 003						4 599		
						- 618		
						- 160		
- 13						16		
993	14	194	70	69		4 187	125	
						23		
- 770	- 14	- 194	- 38	- 2	940	- 913	- 52	
- 8			- 32	- 54	157	- 256	- 65	
9						9		
						52		
						- 120		
- 1						1		
- 24					- 111	- 271		
						5	- 1	
200				13	991	2 700	7	
200				13	991	1 988	7	
151				3	603	954	1	
					7	494		
49				10	381	540	6	
49				10	369	507	125	
					8	11		
					4	21		
						712		

							Unit: PJ	
Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat	Total	Total Renewables	
990	24		33	1 036		2 493	1 093	
750					118	3 554		
					- 8	- 423		
						- 199		
- 26						23		
1 714	24		33	1 036	110	5 400	1 093	
- 1 036	- 24		- 32	- 502	728	- 1 127	- 558	
						- 372		
- 241				- 49		- 69	- 49	
- 155					- 40	- 209		
- 42				3	10	70	- 3	
324				482	787	3 693	483	
324				482	787	3 314	483	
279				267	298	1 303	267	
44				86	2	1 197	86	
				129	487	814	129	
				129	485	718	1 093	
					2	96		
						379		

United States, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production	11 847		35 132	
2 Import	87	5	15 187	2 990
3 Export	- 2 491	- 40	- 9 442	- 9 708
4 International marine and aviation bunkers				- 1 700
5 Stock change	- 965	4	- 655	84
6 Total energy supply	8 478	- 30	40 223	- 8 334
7 Transfers			- 6 540	6 976
8 Main activity producers	- 7 230	- 6		- 251
9 Auto-producers	- 30	- 15		- 59
10 Gas processing	- 55			
11 Petroleum refineries			- 35 104	33 672
12 Coal transformation	- 488	230		
13 Other transformation			210	
14 Loss & own-use		- 40		- 1 153
15 Discrepancy	- 301		1 211	
16 Total final consumption	375	139		30 852
17 Total final energy consumption	375	139		24 990
18 Industry sector	363	139		750
19 Transport sector				22 688
20 Other sector	11			1 552
20.1 Residential & Commercial	11			1 105
20.2 Agriculture				447
20.3 Other				
21 Non-energy				5 862

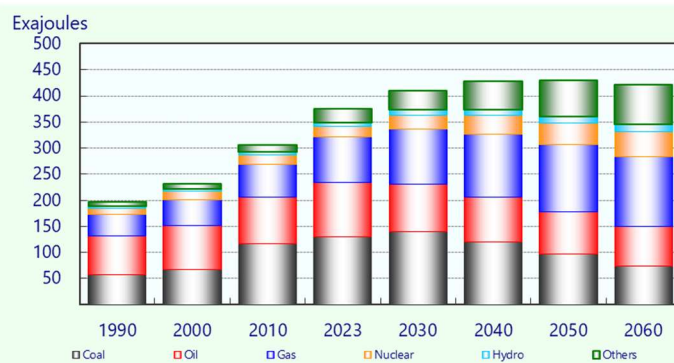
Viet Nam, 2023

	Coal	Coal products	Crude oil, NGL	Petroleum products
1 Production	970		378	
2 Import	1 181		478	565
3 Export	- 19		- 118	- 113
4 International marine and aviation bunkers				
5 Stock change	- 59		- 103	
6 Total energy supply	2 072		635	452
7 Transfers			- 10	10
8 Main activity producers	- 1 214			- 27
9 Auto-producers				
10 Gas processing				
11 Petroleum refineries			- 625	617
12 Coal transformation				
13 Other transformation				
14 Loss & own-use				
15 Discrepancy	- 49			
16 Total final consumption	810			1 052
17 Total final energy consumption	791			980
18 Industry sector	791			139
19 Transport sector				646
20 Other sector				195
20.1 Residential & Commercial				89
20.2 Agriculture				106
20.3 Other				
21 Non-energy	19			73

Unit: PJ							
Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat	Total	Total Renewables
37 267	888	8 815	2 880	4 757		101 586	8 356
2 938				124	140	21 472	124
- 7 638				- 159	- 72	- 29 549	- 159
				- 5		- 1 706	- 5
- 523				- 14		- 2 070	- 14
32 043	888	8 815	2 880	4 703	68	89 734	8 303
						436	
- 12 736	- 884	- 8 815	- 2 541	- 427	15 582	- 17 308	- 3 774
- 668	- 4		- 184	- 271	784	- 447	- 395
72				- 37		- 20	- 37
						- 1 432	
						- 257	
- 170						- 40	
- 2 951				- 6	- 2 187	- 6 337	- 6
5				49		964	49
15 596			155	4 011	14 247	65 374	4 140
14 905			155	4 011	14 247	58 822	4 140
5 821				1 368	3 225	11 665	1 353
1 285				1 880	73	25 926	1 880
7 799			155	763	10 949	21 230	907
7 737			155	656	10 140	19 805	8 356
62				107	269	885	107
					540	540	
691						6 553	

Unit: PJ							
Natural gas, LNG	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity and Heat	Total	Total Renewables
271	290		140	397		2 446	826
					15	2 239	
				- 7	- 3	- 260	- 7
						- 163	
271	290		140	389	13	4 262	819
- 190	- 290		- 140	- 49	1 001	- 909	- 479
						- 8	
						- 53	
				- 53		- 53	- 53
					- 116	- 116	
					- 49	- 49	
81				287	898	3 128	287
38				287	898	2 994	287
38				215	442	1 625	215
				1		647	1
				71	455	721	71
				51	422	563	563
				20	22	148	20
					11	11	
42						134	

PES* outlook by energy (Reference)



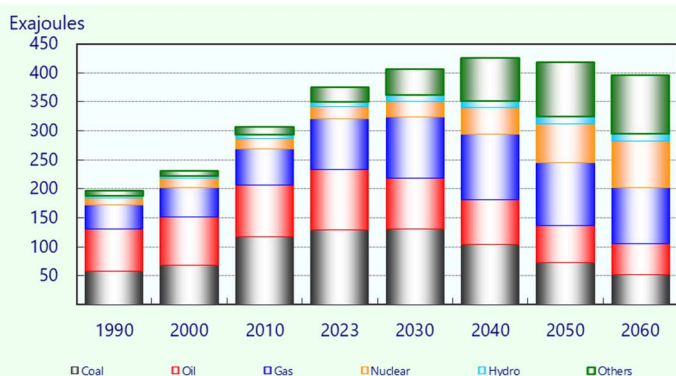
	Exajoules							
	1990	2000	2010	2023	2030	2040	2050	2060
Coal	57.6	67.8	116.9	129.5	140.7	120.7	96.5	73.5
Oil	73.2	83.6	89.7	104.0	89.3	84.8	80.9	76.4
Gas	41.8	50.1	62.3	87.3	106.1	121.9	130.0	134.2
Nuclear	12.0	16.3	18.1	20.1	26.2	35.4	41.0	47.6
Hydro	3.9	4.5	6.4	8.6	10.8	11.7	12.4	13.2
Others	7.7	9.2	12.7	25.8	37.4	54.4	68.1	76.9
Total	196.2	231.5	306.1	375.4	410.6	428.9	429.0	421.8

	Share (%)							
	1990	2000	2010	2023	2030	2040	2050	2060
Coal	29.4	29.3	38.2	34.5	34.3	28.1	22.5	17.4
Oil	37.3	36.1	29.3	27.7	21.7	19.8	18.9	18.1
Gas	21.3	21.6	20.4	23.3	25.8	28.4	30.3	31.8
Nuclear	6.1	7.1	5.9	5.4	6.4	8.3	9.6	11.3
Hydro	2.0	1.9	2.1	2.3	2.6	2.7	2.9	3.1
Others	3.9	4.0	4.1	6.9	9.1	12.7	15.9	18.2

Source: Asia Pacific Energy Research Centre, Nov 2025.

*PES: Primary energy supply

PES* outlook by energy (TGT Scenario**)



	Exajoules							
	1990	2000	2010	2023	2030	2040	2050	2060
Coal	57.6	67.8	116.9	129.5	131.0	103.6	72.0	52.4
Oil	73.2	83.6	89.7	104.0	87.9	77.0	65.1	52.4
Gas	41.8	50.1	62.3	87.3	105.6	113.5	107.4	97.5
Nuclear	12.0	16.3	18.1	20.1	26.3	45.7	67.4	80.4
Hydro	3.9	4.5	6.4	8.6	10.9	11.9	13.1	12.9
Others	7.7	9.2	12.7	25.8	44.3	73.8	92.5	100.7
Total	196.2	231.5	306.1	375.4	405.9	425.5	417.5	396.1

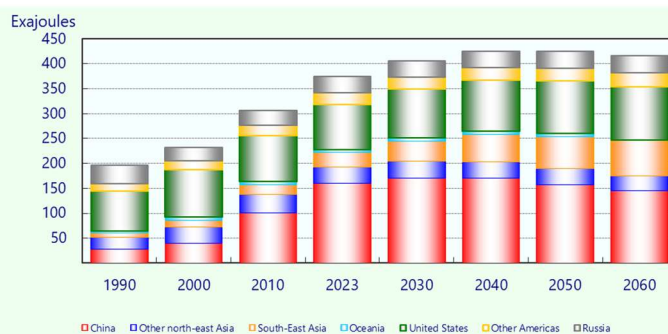
	Share (%)							
	1990	2000	2010	2023	2030	2040	2050	2060
Coal	29.4	29.3	38.2	34.5	32.3	24.3	17.3	13.2
Oil	37.3	36.1	29.3	27.7	21.7	18.1	15.6	13.2
Gas	21.3	21.6	20.4	23.3	26.0	26.7	25.7	24.6
Nuclear	6.1	7.1	5.9	5.4	6.5	10.7	16.2	20.3
Hydro	2.0	1.9	2.1	2.3	2.7	2.8	3.1	3.3
Others	3.9	4.0	4.1	6.9	10.9	17.3	22.1	25.4

Other north-east Asia includes Hong Kong, China; Japan; Republic of Korea and Chinese Taipei.

Other Americas includes Canada; Chile; Mexico and Peru.

*PES: Primary energy supply **TGT Scenario: Target Scenario

PES* outlook by region (Reference)



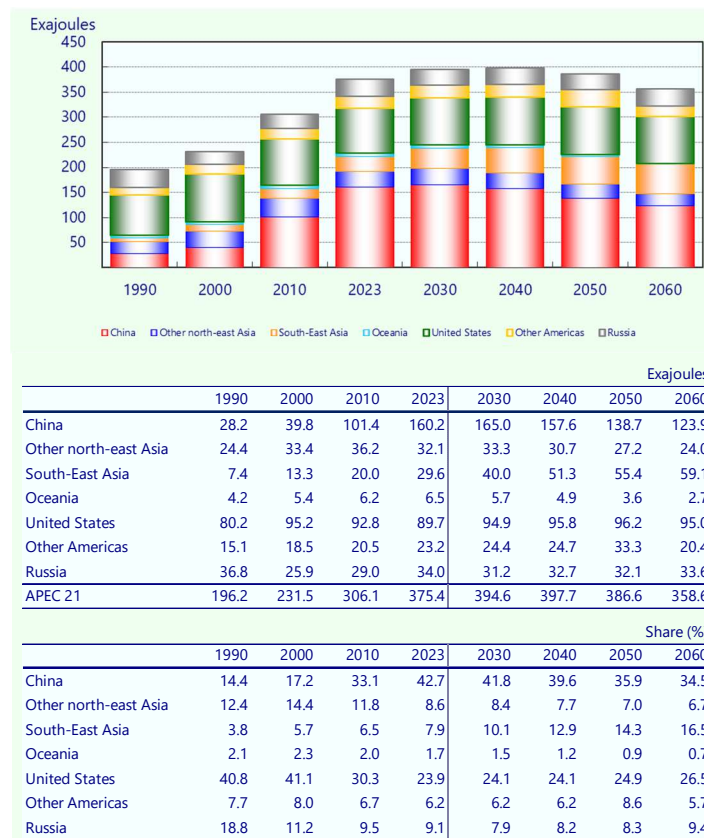
	Exajoules							
	1990	2000	2010	2023	2030	2040	2050	2060
China	28.2	39.8	101.4	160.2	170.2	169.8	157.6	145.2
Other north-east Asia	24.4	33.4	36.2	32.1	34.1	33.9	32.0	29.8
South-East Asia	7.4	13.3	20.0	29.6	40.8	54.3	64.1	71.6
Oceania	4.2	5.4	6.2	6.5	6.4	6.1	6.0	5.9
United States	80.2	95.2	92.8	89.7	97.8	103.0	105.4	107.5
Other Americas	15.1	18.5	20.5	23.2	24.4	25.7	26.4	27.3
Russia	36.8	25.9	29.0	34.0	31.5	33.0	34.4	35.4
APEC 21	196.2	231.5	306.1	375.4	405.2	425.8	425.8	422.6

	Share (%)							
	1990	2000	2010	2023	2030	2040	2050	2060
China	14.4	17.2	33.1	42.7	42.0	39.9	37.0	34.4
Other north-east Asia	12.4	14.4	11.8	8.6	8.4	8.0	7.5	7.1
South-East Asia	3.8	5.7	6.5	7.9	10.1	12.7	15.1	16.9
Oceania	2.1	2.3	2.0	1.7	1.6	1.4	1.4	1.4
United States	40.8	41.1	30.3	23.9	24.1	24.2	24.7	25.4
Other Americas	7.7	8.0	6.7	6.2	6.0	6.0	6.2	6.5
Russia	18.8	11.2	9.5	9.1	7.8	7.7	8.1	8.4

Source: Asia Pacific Energy Research Centre, Nov 2025.

*PES: Primary energy supply

PES* outlook by region (TGT Scenario**)



Source: Asia Pacific Energy Research Centre, Nov 2025.

*PES: Primary energy supply **TGT Scenario: Target Scenario

Selected energy indicators APEC region

	Population			Real GDP			Real GDP		
	Millions			Billion (constant 2015 USD)			Billion, PPP at constant 2021 USD		
	1990	2005	2023	1990	2005	2023	1990	2005	2023
APEC	2 283	2 658	2 974	19 303	32 232	57 383	28 440	47 594	91 401
Other north-east Asia	192	206	207	4 193	5 846	7 382	5 323	7 709	10 547
Hong Kong, China	5.7	6.8	7.5	122	221	328	180	327	486
Japan	123	128	125	3 510	4 229	4 601	4 355	5 248	5 710
Korea	43	48	52	402	1 021	1 764	593	1 509	2 607
Chinese Taipei	20	23	23	161	375	688	195	625	1 744
South-East Asia	388	496	610	723	1 475	3 254	2 199	4 467	9 876
Brunei Darussalam	0.3	0.4	0.5	11.3	13.4	13.1	30.2	35.8	35.2
Indonesia	184	231	281	270	498	1 179	894	1 649	3 906
Malaysia	18	26	35	75	187	401	214	537	1 153
The Philippines	63	88	115	107	179	430	283	474	1 137
Singapore	3.0	4.3	5.9	71	178	392	139	349	767
Thailand	55	66	72	144	289	459	476	954	1 519
Viet Nam	66	81	100	45	131	379	162	468	1 359
Oceania	24	31	42	725	1 184	1 889	732	1 196	1 913
Australia	17	20	27	629	1 026	1 642	618	1 007	1 611
New Zealand	3.3	4.1	5.2	88	145	221	102	169	257
Papua New Guinea	3.9	6.5	10.4	7.4	12.3	26.1	12.3	20.5	43.7
Other Americas	146	183	223	1 674	2 599	3 639	2 829	4 427	6 247
Canada	28	32	40	878	1 322	1 806	1 121	1 688	2 305
Chile	13	16	20	71	165	281	147	342	581
Mexico	83	106	130	666	1 004	1 330	1 422	2 146	2 842
Peru	22	28	34	60	108	222	139	252	519
China	1 135	1 304	1 411	1 041	4 518	17 612	1 892	8 211	32 005
Russia	148	144	144	1 161	1 051	1 545	4 386	3 969	5 835
United States	250	296	337	9 785	15 559	22 063	11 078	17 614	24 977

Energy Indigenous Production			Net Import			Total Primary Energy Supply			
Petajoules			Petajoules			Petajoules			
1990	2005	2023	1990	2005	2023	1990	2005	2023	
196 941	249 310	376 168	6 081	29 044	11 627	196 222	272 801	375 373	
4 475	6 591	5 240	20 795	30 279	28 564	24 388	35 235	32 099	
	3.4	6.9	474	981	979	392	590	513	HKC
3 106	4 258	2 405	15 754	18 157	13 828	18 293	21 754	15 844	JPN
922	1 796	2 478	2 872	7 279	9 776	3 748	8 724	11 555	ROK
447	533	350	1 695	3 861	3 981	1 955	4 167	4 187	CT
10 775	19 701	32 383	-2 486	-1 398	776	7 431	16 802	29 644	
655	921	521	-604	-794	-351	48	120	165	BD
6 282	9 844	21 422	-3 042	-3 550	-9 093	3 066	6 136	11 095	INA
1 948	3 953	4 148	-1 084	-1 190	675	857	2 772	4 813	MAS
685	885	1 322	468	718	1 552	1 110	1 589	2 788	PHL
2.9	.0	30.4	1 027	2 117	2 882	483	1 006	1 121	SGP
958	2 235	2 493	757	2 043	3 131	1 640	4 129	5 400	THA
243	1 864	2 446	-7	-742	1 979	227	1 051	4 262	VN
7 277	11 815	18 853	-2 768	-6 060	-11 919	4 186	5 597	6 510	
6 595	11 102	17 676	-2 701	-6 228	-11 796	3 606	4 751	5 500	AUS
488	535	592	89	206	252	543	705	797	NZ
193	178	585	-156	-38	-375	36	140	212	PNG
20 553	28 639	32 285	-5 142	-7 771	-8 534	15 075	20 681	23 210	
11 588	16 762	23 793	-2 484	-5 421	-11 034	8 859	11 299	12 312	CDA
332	391	658	294	858	1 045	587	1 188	1 695	CHL
8 187	11 032	6 753	-2 927	-3 333	1 325	5 210	7 614	7 969	MEX
446	454	1 081	-25	125	130	418	580	1 234	PE
30 548	63 932	127 030	-1 358	5 754	35 365	28 172	70 155	160 186	PRC
54 145	50 384	58 791	-17 274	-22 580	-24 547	36 816	27 288	33 991	RUS
69 169	68 248	101 586	14 315	30 820	-8 077	80 155	97 044	89 734	USA

	Total Final Energy Consumption			Final Consumption of Electricity			Primary Energy Supply per capita	
	Petajoules			TWh			GJ / Person	
	1990	2005	2023	1990	2005	2023	1990	2005
APEC	127 555	160 271	216 853	5 744	9 414	16 924	86	103
Other north-east Asia	14 486	19 605	16 927	960	1 621	1 717	127	171
Hong Kong, China	214	282	269	24.5	40.1	45.4	69	87
Japan	10 758	12 659	9 387	765	1 025	879	148	170
Korea	2 451	4 687	5 283	94	358	535	87	181
Chinese Taipei	1 063	1 978	1 988	77	199	257	96	183
South-East Asia	5 032	10 283	17 801	128	440	1 125	19	34
Brunei Darussalam	15.8	27.5	37.7	1.2	2.6	3.3	190	333
Indonesia	2 275	4 203	7 034	28	107	320	17	27
Malaysia	514	1 512	2 459	20	81	182	48	107
The Philippines	780	941	1 491	21.2	45.2	95.8	18	18
Singapore	130	298	472	13.0	35.5	55.4	158	236
Thailand	1 143	2 440	3 314	38	122	219	30	63
Viet Nam	175	861	2 994	6.2	46	249	3	13
Oceania	2 599	3 410	3 887	159	230	267	172	181
Australia	2 207	2 815	3 227	129	189	224	211	235
New Zealand	370	483	511	29	38	39	163	171
Papua New Guinea	23	112	149	1.7	3.2	4.3	9	21
Other Americas	9 936	12 552	13 953	546	749	974	103	113
Canada	6 007	7 033	7 150	418	489	530	320	350
Chile	426	813	1 217	15.5	48.3	84.4	44	73
Mexico	3 139	4 243	4 665	100	190	305	63	72
Peru	363	464	922	11.8	22.7	54.4	19	21
China	21 842	40 135	86 794	491	1 992	8 109	25	54
Russia	24 487	15 395	18 670	827	650	837	249	190
United States	49 173	58 890	58 822	2 634	3 732	3 894	321	328

	Primary Energy Intensity			Final Energy Intensity			Final Energy Consumption per Capita				
	PJ / Million USD at 2021 PPP			PJ / Million USD at 2021 PPP			GJ / Person				
	2023	1990	2005	2023	1990	2005	2023	1990	2005		2023
	126	6.9	5.7	4.1	4.5	3.4	2.4	56	60	73	
	155	4.6	4.6	3.0	2.7	2.5	1.6	75	95	82	
68	2.2	1.8	1.1	1.2	0.9	0.6	37	41	36	HKC	
127	4.2	4.1	2.8	2.5	2.4	1.6	87	99	75	JPN	
223	6.3	5.8	4.4	4.1	3.1	2.0	57	97	102	ROK	
179	10.1	6.7	2.4	5.5	3.2	1.1	52	87	85	CT	
	49	3.4	3.8	3.0	2.3	2.3	1.8	13	21	29	
360	1.6	3.3	4.7	0.5	0.8	1.1	62	77	82	BD	
39	3.4	3.7	2.8	2.5	2.5	1.8	12	18	25	INA	
137	4.0	5.2	4.2	2.4	2.8	2.1	29	59	70	MAS	
24	3.9	3.4	2.5	2.8	2.0	1.3	12	11	13	PHL	
189	3.5	2.9	1.5	0.9	0.9	0.6	43	70	80	SGP	
75	3.4	4.3	3.6	2.4	2.6	2.2	21	37	46	THA	
42	1.4	2.2	3.1	1.1	1.8	2.2	3	11	30	VN	
	154	5.7	4.7	3.4	3.5	2.9	2.0	107	111	92	
206	5.8	4.7	3.4	3.6	2.8	2.0	129	140	121	AUS	
152	5.3	4.2	3.1	3.6	2.9	2.0	111	117	97	NZ	
20	2.9	6.8	4.9	1.8	5.5	3.4	6	17	14	PNG	
	104	5.3	4.7	3.7	3.5	2.8	2.2	68	69	62	
307	7.9	6.7	5.3	5.4	4.2	3.1	217	218	178	CDA	
86	4.0	3.5	2.9	2.9	2.4	2.1	32	50	62	CHL	
61	3.7	3.5	2.8	2.2	2.0	1.6	38	40	36	MEX	
36	3.0	2.3	2.4	2.6	1.8	1.8	17	17	27	PE	
	114	14.9	8.5	5.0	11.5	4.9	2.7	19	31	62	PRC
236	8.4	6.9	5.8	5.6	3.9	3.2	165	107	130	RUS	
266	7.2	5.5	3.6	4.4	3.3	2.4	197	199	175	USA	

	Energy Combustion Related CO ₂ Emission			CO ₂ Emission per Capita		
	Mt-CO ₂			t-CO ₂ / Person		
	1990	2005	2023	1990	2005	2023
APEC	12,652	17,217	22,300	5.54	6.48	7.50
Other north-east Asia	1,440	1,945	1,755	7.49	9.47	8.47
Hong Kong, China	34	39	29	5.95	5.68	3.91
Japan	1,077	1,216	938	8.73	9.51	7.53
Korea	219	443	537	5.11	9.19	10.37
Chinese Taipei	110	248	251	5.41	10.92	10.75
South-East Asia	354	868	1,646	0.91	1.75	2.70
Brunei Darussalam	3.47	6.81	12.72	13.61	18.98	27.71
Indonesia	128	327	662	0.70	1.41	2.35
Malaysia	57	143	247	3.18	5.53	7.04
The Philippines	38	68	153	0.60	0.77	1.33
Singapore	29	41	48	9.50	9.54	8.15
Thailand	81	206	241	1.49	3.12	3.36
Viet Nam	17	77	282	0.27	0.95	2.81
Oceania	276	391	380	11.37	12.67	8.99
Australia	252	354	345	14.75	17.55	12.95
New Zealand	22	32	27	6.61	7.76	5.21
Papua New Guinea	2.48	4.75	7.91	0.64	0.73	0.76
Other Americas	726	1,016	1,054	4.97	5.57	4.72
Canada	411	511	484	14.84	15.84	12.07
Chile	31	56	74	2.27	3.42	3.77
Mexico	265	421	437	3.19	3.98	3.37
Peru	20	29	60	0.89	1.04	1.76
China	2,742	5,765	11,564	2.42	4.42	8.20
Russia	2,262	1,341	1,466	15.28	9.35	10.2
United States	4,854	5,889	4,433	19.44	19.93	13.16

CO ₂ Emission per Real GDP			CO ₂ Emission per Real GDP			CO ₂ Emission per Total Primary Energy Supply			
t-CO ₂ / Million USD (constant 2015)			t-CO ₂ / Million USD at 2021 PPP			t-CO ₂ / GJ			
1990	2005	2023	1990	2005	2023	1990	2005	2023	
655	534	389	445	362	244	64	63	59	
343	333	238	271	252	166	59	55	55	
278	175	90	188	118	61	86	66	57	HKC
307	287	204	247	232	164	59	56	59	JPN
545	433	304	369	293	206	58	51	46	ROK
683	662	365	564	397	144	56	60	60	CT
489	589	506	161	194	167	48	52	56	
308	509	967	115	190	362	72	57	77	BD
475	656	561	143	198	169	42	53	60	INA
759	764	616	264	266	215	66	52	51	MAS
351	378	356	133	143	135	34	43	55	PHL
408	228	123	209	117	63	60	40	43	SGP
566	714	524	171	216	158	50	50	45	THA
387	592	743	108	165	207	77	74	66	VN
381	330	201	377	327	199	66	70	58	
400	345	210	407	352	214	70	75	63	AUS
250	221	123	215	190	106	41	46	34	NZ
337	388	303	201	232	181	69	34	37	PNG
433	391	290	256	230	169	48	49	45	
468	386	268	367	303	210	46	45	39	CDA
429	338	264	207	163	127	52	47	44	CHL
397	419	328	186	196	154	51	55	55	MEX
330	270	269	141	116	115	47	50	48	PE
2 633	1 276	657	1 449	702	361	97	82	72	PRC
1 947	1 276	949	516	338	251	61	49	43	RUS
496	379	201	438	334	177	61	61	49	USA

Glossary

General note

The definitions for some items are different from the APEC Energy Statistics publication in order to match with the aggregated product categories. In the energy balance, the definitions of all items are the same as those in the APEC Energy Statistics publication.

Energy products

Coal

Includes coal, i.e. solid fossil fuel consisting of carbonized vegetal matter, and coal products derived directly or indirectly from various classes of coal by carbonization or pyrolysis processes, by the aggregation of finely divided coal or by chemical reactions with oxidizing agents, including water.

Oil

Liquid hydrocarbons of fossil origins comprising (i) crude oil; (ii) liquids extracted from natural gas (NGL); (iii) fully or partly processed products from the refining of crude oil, and (iv) functionally similar liquid hydrocarbons and organic chemicals from vegetal or animal origins.

Petroleum products

Products obtained from crude oil, non-conventional oils or gases from oil and gas fields. They may be produced through refining of conventional crude and non-conventional oils or during the separation of natural gas from gases extracted from oil or gas fields.

Mogas (Motor gasoline)

A mixture of some aromatics (e.g., benzene and toluene) and aliphatic hydrocarbons in the C₅ to C₁₂ range. The distillation range is 25 °C to 220 °C.

Naphtha

Light or medium oils distilling between 30 °C and 210 °C which do not meet the specification for motor gasoline.

Jet fuel

Jet fuel comprises both gasoline and kerosene type jet fuels meeting specifications for use in aviation turbine power units.

Gasoline type: Light hydrocarbon for use in aviation turbine power units, distilling between 100 °C and 250 °C. They are obtained by blending kerosene and gasoline or naphtha in such a way that the aromatic content does not exceed 25 per cent in volume, and the vapour pressure is between 13.7 kPa and 20.6 kPa.

Kerosene type: A blend of kerosenes suited to flight conditions with particular specifications, such as freezing points.

Kerosene

Mixtures of hydrocarbons in the range C_9 to C_{16} and distilling over the temperature interval 145 °C to 300 °C, but not usually above 250 °C and with a flash point above 38 °C.

Diesel oil

Diesel oil includes heavy gas oils. Gas oils are obtained from the lowest fraction from atmospheric distillation of crude oil, while heavy gas oils obtained by vacuum re-distillation of the residual from atmospheric distillation.

Fuel oil

Comprises residual fuel oil and heavy fuel oil. Residual fuel oils have a distillation range of 350 °C to 650 °C and a kinematic viscosity in the range 6 to 55 centistokes (cSt) at 100 °C. Their flash point is always above 60 °C and their specific gravity is above 0.95. Heavy fuel oil is a general term describing a blended product based on the residues from various refinery processes.

LPG

LPG refers to liquefied propane (C_3H_8) and butane (C_4H_{10}) or mixtures of both. Commercial grades are usually mixtures of the gases with small amounts of propylene, butylene, isobutene and isobutylene stored under pressure in containers.

Others

The category, "Other oil products", groups together white spirit and SBP, lubricants, bitumen, paraffin waxes, refining gas and others (tar, sulfur and grease).

Gas

A mixture of gaseous hydrocarbons, primarily methane, but generally also including ethane, propane and higher hydrocarbons in much smaller amounts and some non-combustible gases such as nitrogen and carbon dioxide.

The separation process produces natural gas by removing or reducing the hydrocarbons other than methane to levels which are acceptable in the marketable gas.

Natural gas also includes methane recovered from coal mines (colliery gas) or from coal seams and shale formation. When distributed it may contain methane from anaerobic fermentation or the methanation of biomass.

Natural gas may be liquefied (LNG) by reducing its temperature in order to simplify storage and transportation when production sites are remote from

centres of consumption and pipeline transportation is not economically practicable.

Hydro

The primary equivalent of electricity generated from hydroelectric power plants.

Nuclear

The primary equivalent of electricity and heat generated from nuclear fuels.

Others

Others is the sum of peat, peat products, oil shale and tar sands, geothermal, wind, tide, solar, biomass, biogas, liquid biofuels, industrial wastes and municipal solid wastes and others.

Total renewables

Total renewables is the sum of hydro, geothermal, wind, tide, solar, biomass, biogas, liquid biofuels and the renewable parts of industrial wastes and municipal solid wastes.

Sectors

Production

Quantities of fuels extracted within the economy.

Net imports

Defined as imports minus exports.

Total primary energy supply (TPES)

Calculated from indigenous production plus imports minus exports minus international marine and aviation bunkers plus or minus stock change.

Transfers

This refers to products transferred and inter-product transfers.

Petroleum refining

The transformation of crude oil, NGL and condensate to petroleum products.

Power generation

Production of electricity from thermal, hydro, nuclear, geothermal and other power plants of public utilities and auto-producers. An auto-producer is an establishment which, in addition to its main activities, generates electricity wholly or partially for its own use, such as industries, railways, refineries, etc.

Total final consumption

This is the sum of total final energy consumption and non-energy use.

Total final energy consumption (TFEC)

Total energy consumption of industry, transport, residential, commercial and other sectors. This excludes non-energy use.

Industry

These sectors include the following branches:

- Iron and steel industry
- Chemical industry
- Non-ferrous metals basic industries
- Non-metallic mineral products such as glass, ceramic, cement, etc.
- Transport equipment
- Machinery. Fabricated metal products, machinery and equipment other than transport equipment
- Mining (excluding fuels) and quarrying
- Food processing, beverages and tobacco
- Pulp, paper and printing
- Wood and wood products (other than pulp and paper)
- Construction
- Textiles and leather
- Collection, purification and distribution of water
- Non-specified (any manufacturing industry not included above)

Transport

The transportation sector is disaggregated into the following sub-sectors:

- Domestic air transport
- Road transport
- Railways
- Internal navigation
- Pipeline transport
- Other transport

Residential and commercial

Residential shows all consumption by households

Commercial shows consumption of the commercial and public sectors.

Others

Agriculture, fishing and others.

Non-energy

Non-energy use in industry, transport and other sectors. Examples of these are the feedstocks in the production of chemicals, lubricants used in equipment, bitumen used for paving of roads, etc.

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Prepared by
Energy Statistics and Training Office
Asia Pacific Energy Research Centre
Inui Bldg, Kachidoki, 1-13-1, Kachidoki,
Chuo-ku, Tokyo, 104-0054, Japan

Phone: (81) 3-5144-8551
Facsimile: (81) 3-5144-8555
E-mail: esto@aperc.or.jp
Website: www.egeda.ewg.apec.org

For
The APEC Secretariat
35 Heng Mui Keng Terrace
Singapore 119616

Phone: (65) 6891-9600
Facsimile: (65) 6891-9690
E-mail: info@apec.org
Website: www.apec.org