

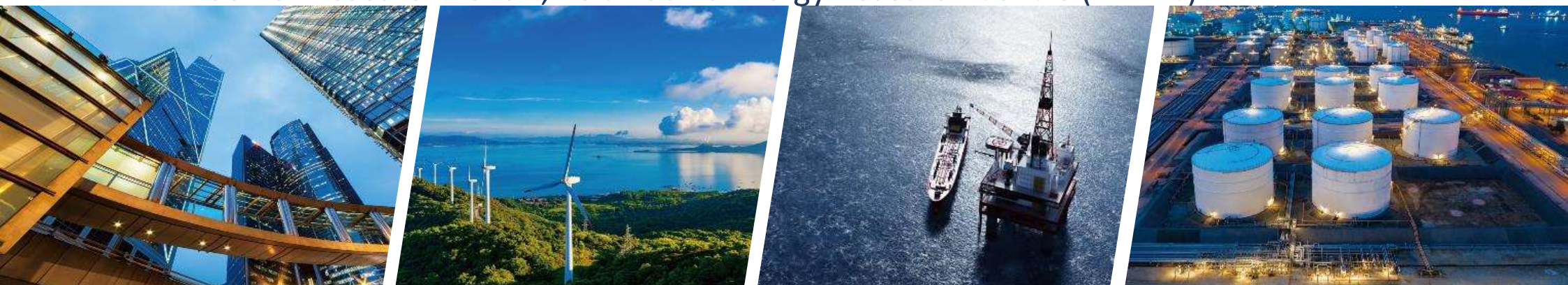
1B. Report on annual data collection and overview of 2021 energy supply and demand in APEC

**The 35th Meeting of APEC Expert Group on Energy Data and Analysis (EGEDA)
Hong Kong, China; 17-19 January 2024**

Edito BARCELONA

Head, EGEDA Secretariat

Senior Research Fellow, Asia Pacific Energy Research Centre (APERC)



Presentation outline

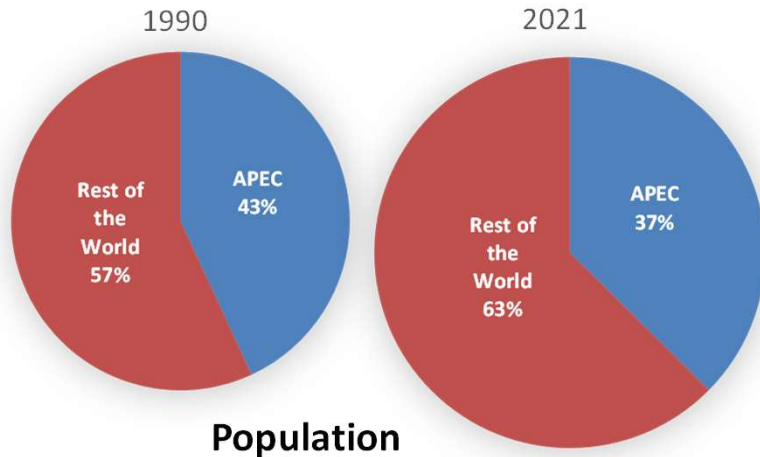
- Report on the collection on 2021 annual energy supply and demand data
- Energy demand and supply trends
 - APEC and the world
 - APEC energy supply
 - APEC electricity generation
 - APEC final energy consumption
 - Energy intensities
- Conclusions

Report on collection of 2021 annual data

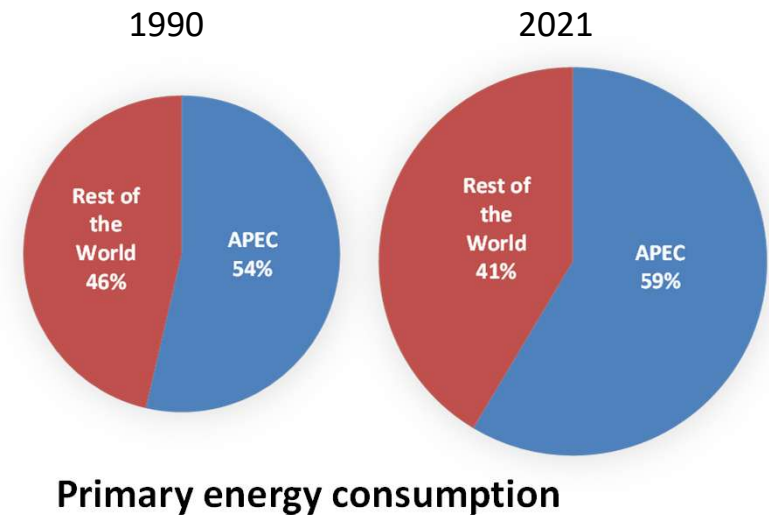
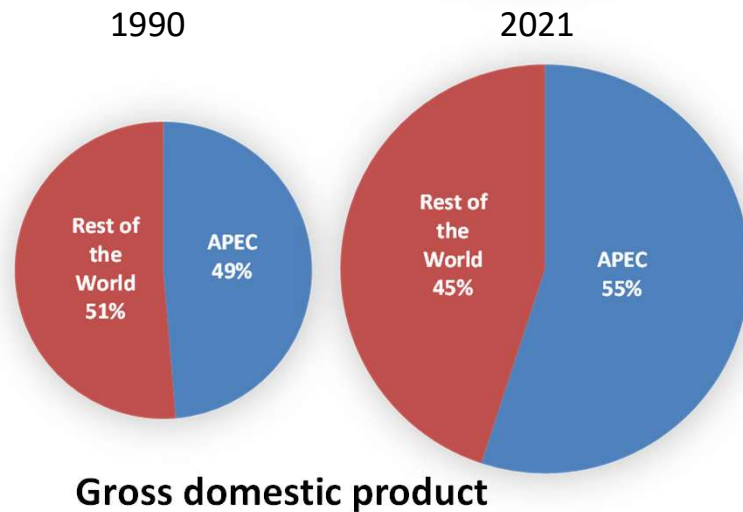
Economy	Data submitted
Australia	Secretariat used data from the <i>IEA energy balances</i>
Brunei Darussalam	Submitted the 5 annual questionnaires
Canada	Secretariat used data from the <i>IEA energy balances</i>
Chile	Secretariat used data from the <i>IEA energy balances</i>
China	Submitted the energy balance table of the National Bureau of Statistics
Hong Kong, China	Submitted the 5 annual questionnaires
Indonesia	Submitted the 5 annual questionnaires
Japan	Secretariat used data from the <i>IEA energy balances</i>
Korea	Secretariat used data from the <i>IEA energy balances</i>
Malaysia	Submitted the national energy balance
Mexico	Secretariat used data from the <i>IEA energy balances</i>
New Zealand	Secretariat used data from the <i>IEA energy balances</i>
Papua New Guinea	Most data are estimated by ESTO/APERC
Peru	Submitted the national energy balance
The Philippines	Submitted the 5 annual questionnaires
Russia	Secretariat used data from the <i>IEA energy balances</i>
Singapore	Submitted the 5 annual questionnaires
Chinese Taipei	Submitted the 5 annual questionnaires
Thailand	Provided printed publication "Energy Balance of Thailand"
United States	Secretariat used data from the <i>IEA energy balances</i>
Viet Nam	Submitted soft copy of " Viet Nam Energy Statistics 2021 "

Energy demand and supply trends

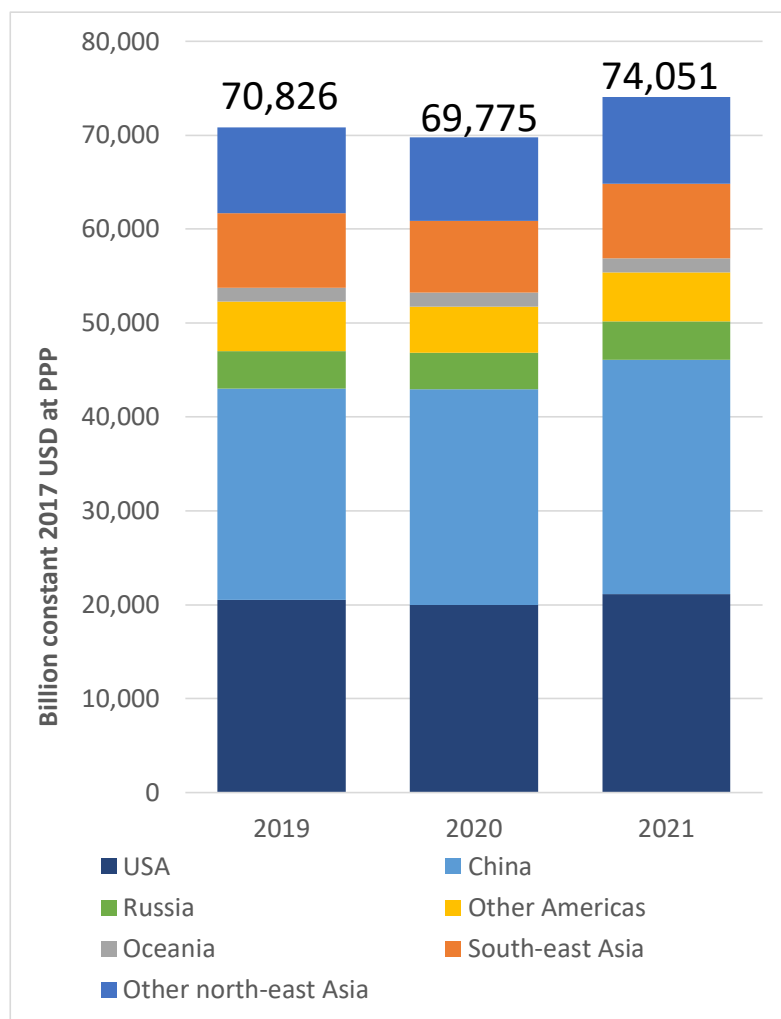
APEC and the world



- APEC's share of the world's population decreased from 43% in 1990 to 37% in 2021 (38% in 2020)
- APEC's GDP (constant 2017 PPP) was 49% of the world's total in 1990 and increased to 55% in 2021
- Despite the less than 50% share in population and GDP in 1990, APEC's primary energy consumption was 54% to the world's total; increasing to 59% in 2021

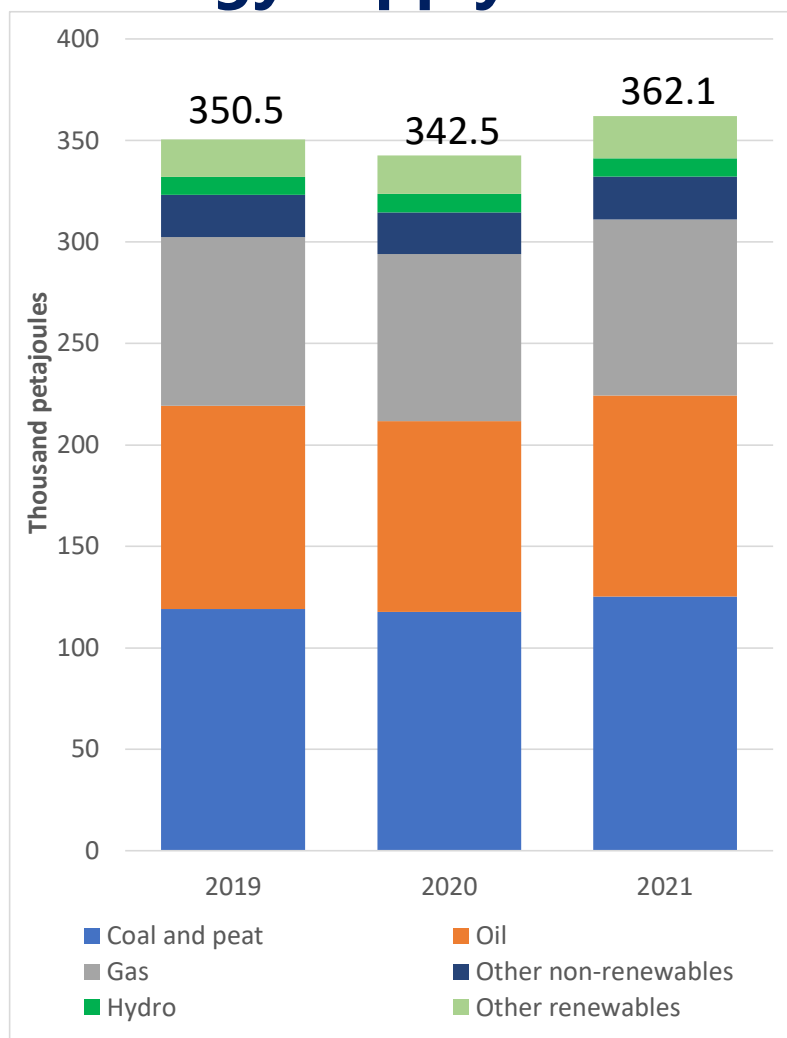


APEC GDP during the COVID-19 pandemic



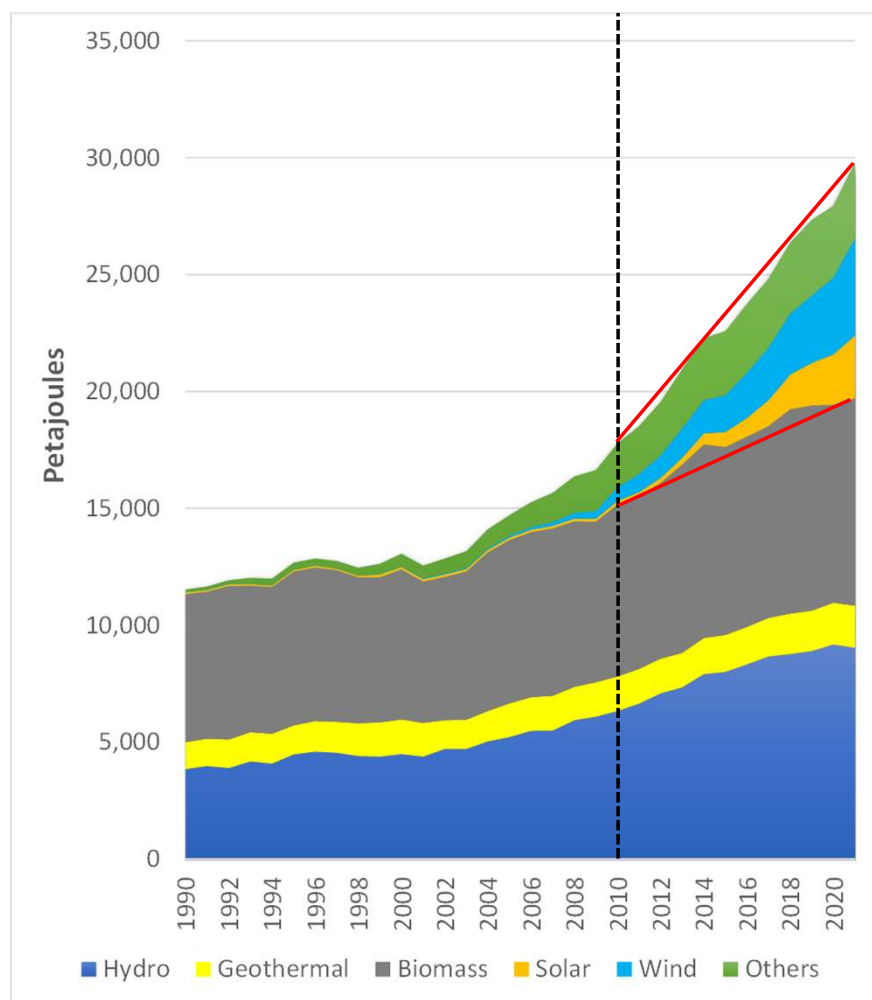
- APEC GDP decreased by 1.5% from 2019 to 2020 due to reduced economic activities brought about by COVID-19 lockdowns
- However, in 2021, there was a 6.1% rebound in economic growth as economies were able to adjust to the “new normal”

APEC energy supply



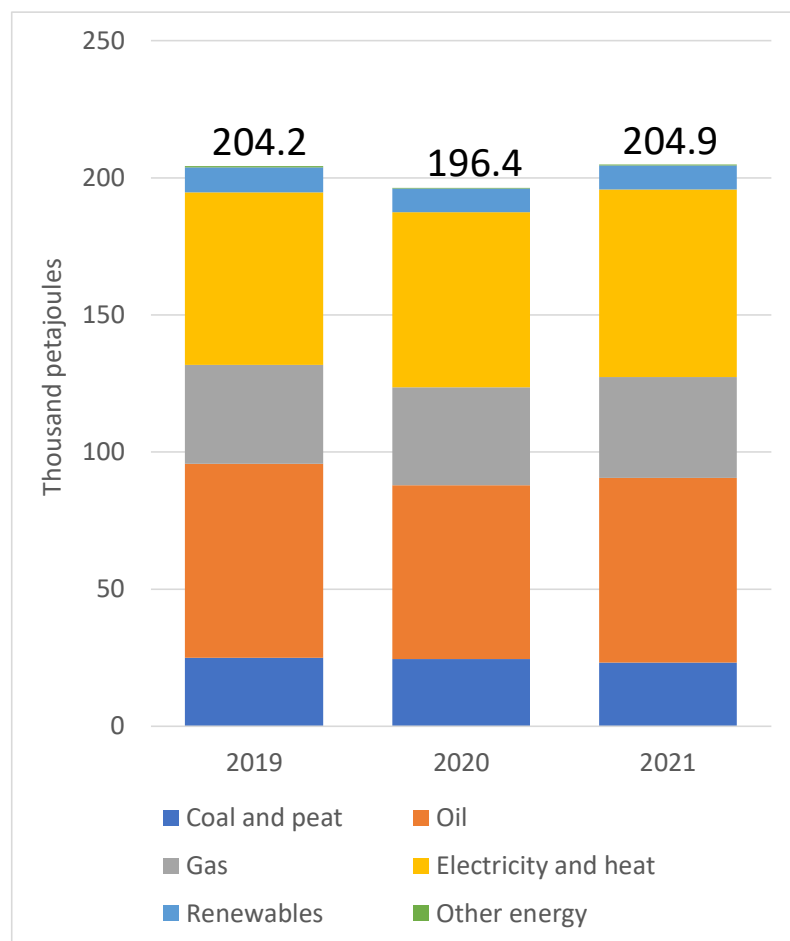
- Energy supply decreased by 2.3% from 2019 to 2020 due COVID-19 lockdowns
- However, like the GDP, energy supply rebounded by 5.7% from 2020 to 2021. This increase (19 648 PJ) is almost equal to the combined energy supply of Canada and Mexico in 2021.
- Among fossil fuels, coal had the fastest growth rate of 6.4% from 2020 to 2021 after a 1.2% decline between 2019 and 2020.
- Oil supply increased by 5.3% after a 6.2% decrease between 2019 and 2020.
- Gas increased by 5.5% after decreasing by 1.1% from 2019 to 2020.
- Renewable energy, although having a share of just 8.2% in APEC energy supply, increased by 7.3% from 2020 to 2021 after a 2.2% growth between 2019 and 2020.

Renewable energy production in APEC



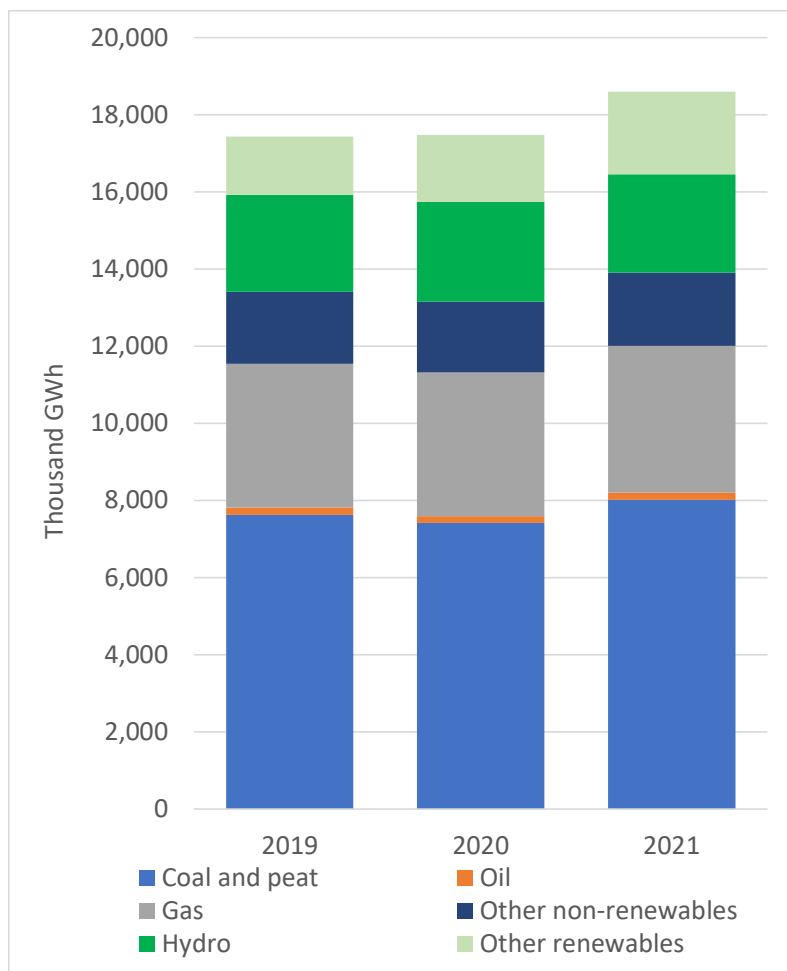
- The average compounded growth rate from 1990 to 2021 was 3.1% per year.
- From 2010 (which is the reference year of the APEC RE doubling goal) to 2021, the CAGR increased to 4.9% per year.
- Among renewable energy sources, solar and wind had the fastest growth rates at 29.5% and 19.5%, respectively, during the same period.
- Hydro, geothermal, biomass, and other RE had CAGRs of 3.3%, 1.8%, 1.9% and 5.1%, respectively.

Final energy consumption by energy



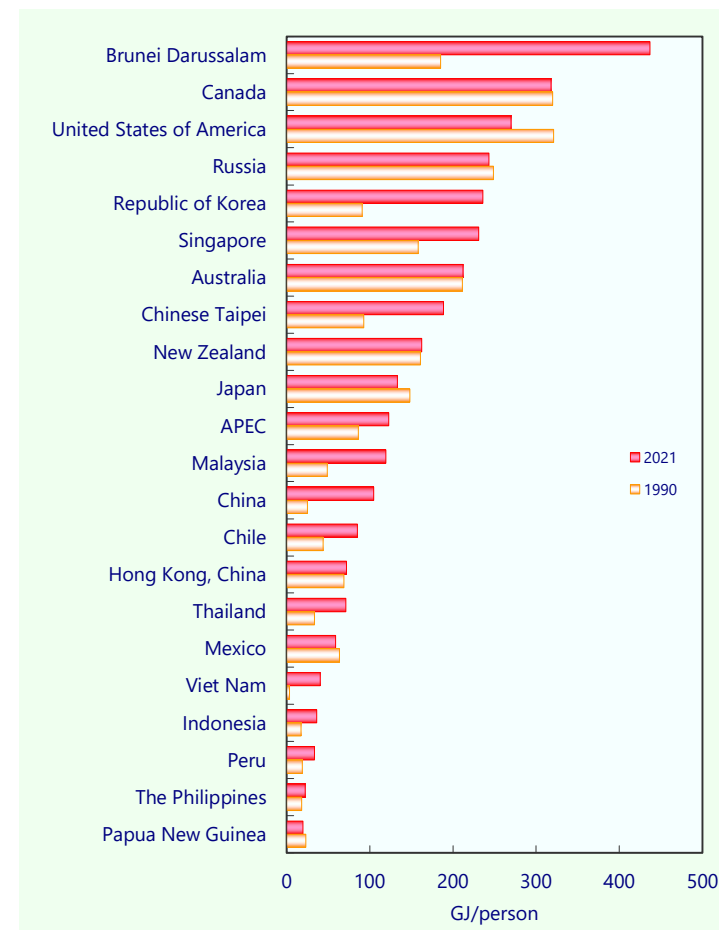
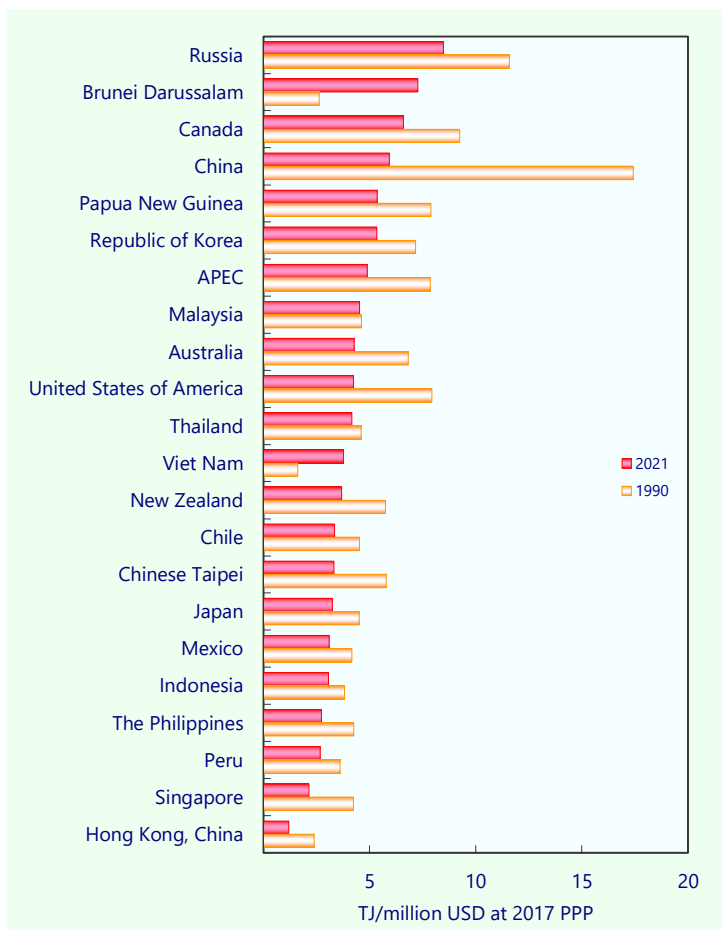
- Like energy supply, final energy consumption also decreased in 2020 (3.9%) due to COVID-19.
- In 2021, final energy consumption rebounded by 4.4%, lower than the 5.7% growth of energy supply.
- The fastest growth rate was in electricity consumption at 7.3%. Growth was only 1.4% from 2019 to 2020.
- After decreasing by 10.1% in 2020, oil consumption increased by 6.2% in 2021.
- Only coal had a decreasing consumption in 2021 at 5.4% from 2020.

Electricity generation



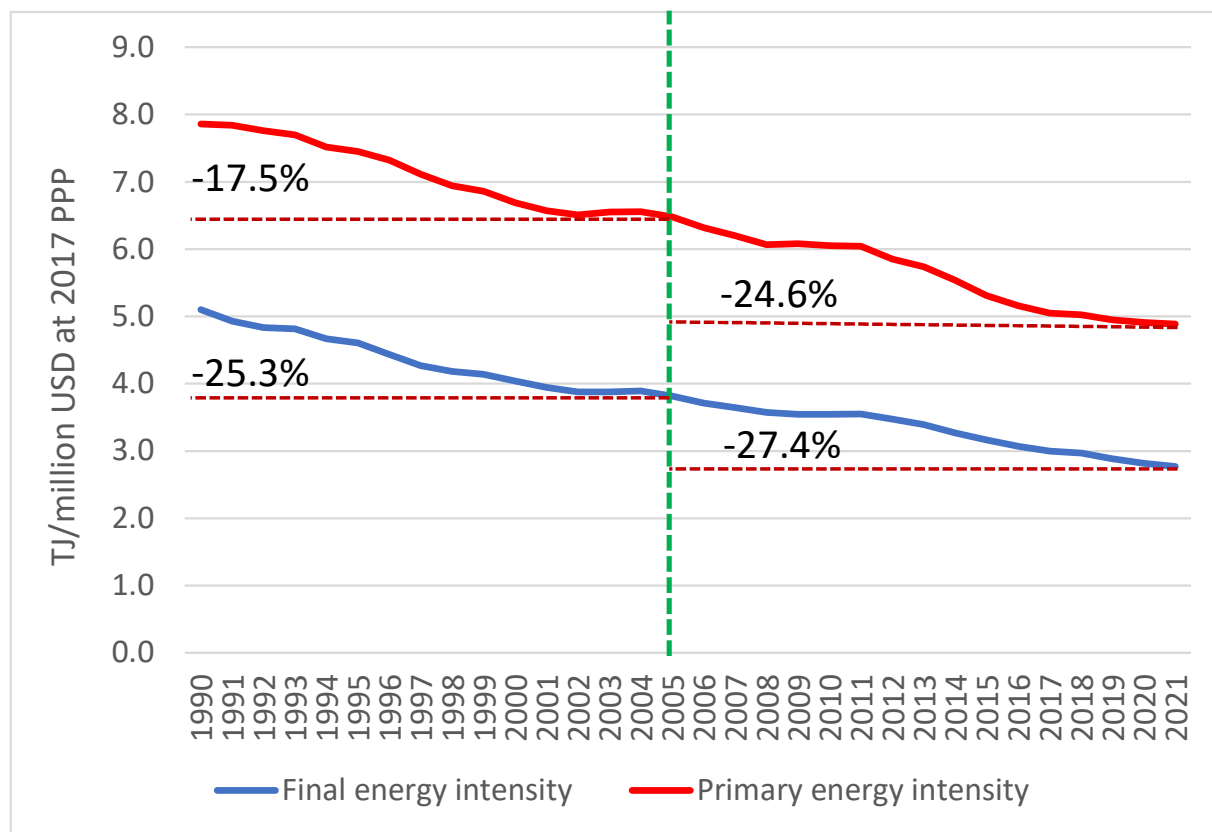
- Unlike energy supply and final energy consumption, electricity generation did not decrease in 2020 although the growth rate was only 0.2%, significantly lower than the 3.2% CAGR from 1990 to 2019.
- From 2020 to 2021, growth rate rebounded by 6.4% as economies were able to resume economic activities even under the COVID-19 pandemic.
- Also, despite COVID-19, growth of electricity generation from renewables continued with growth rates of 7.3% in 2020 and 8.8% in 2021.

Primary energy intensity and primary energy per capita



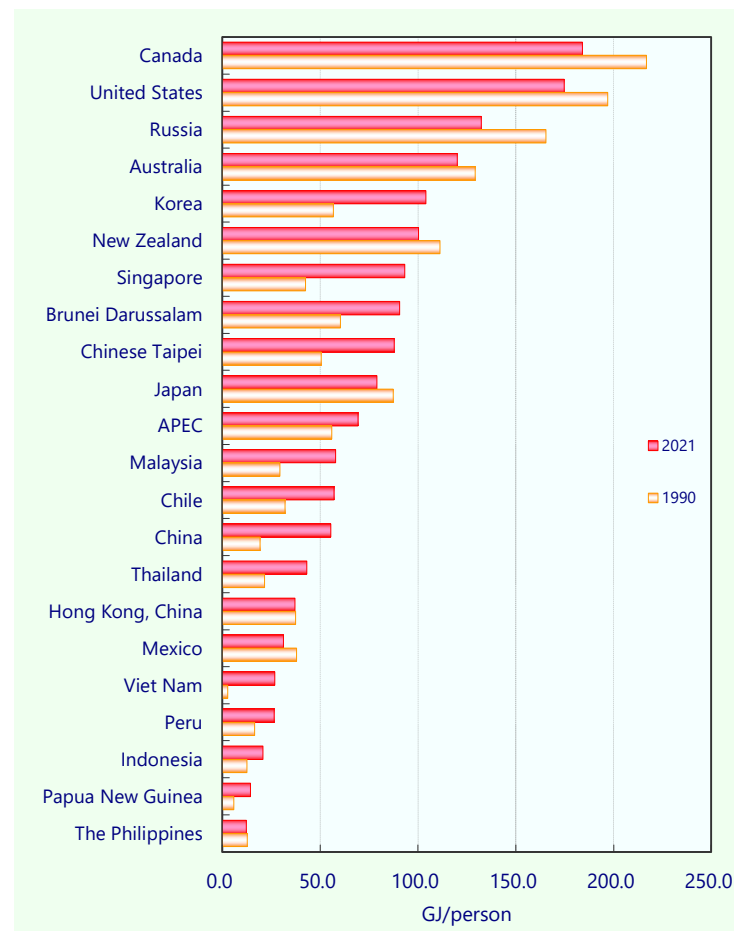
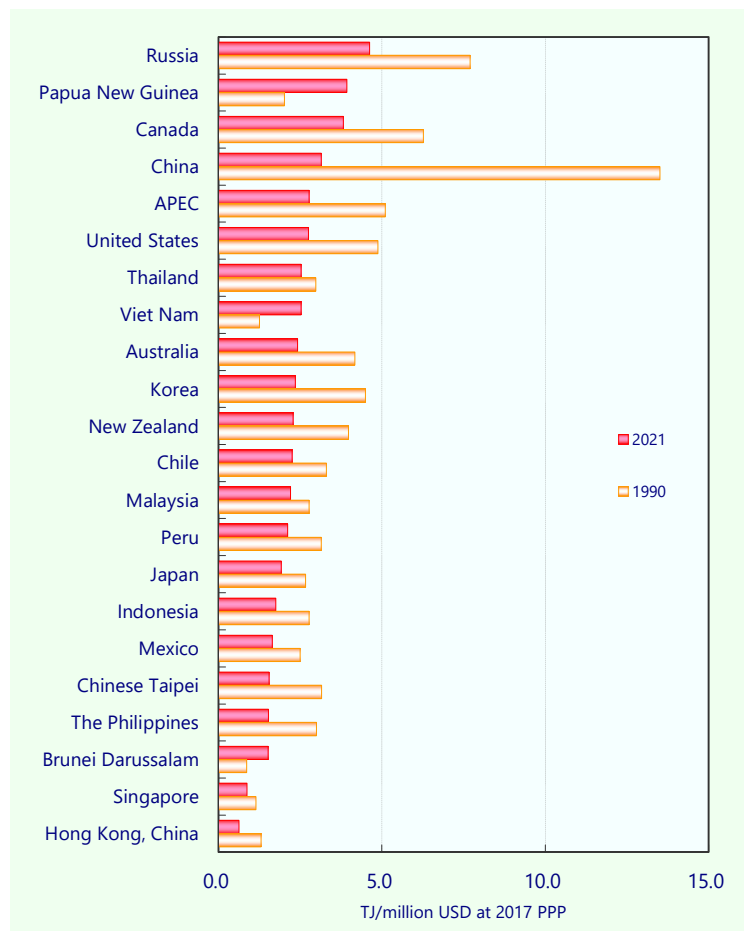
Majority of member economies decreased their energy intensities (except for 3 economies)

Energy intensities



- Final energy intensity of APEC decreased by:
 - **45.8% from 1990 to 2021**
 - **25.3% from 1990 to 2005**
 - **27.4% from 2005 to 2021**
- Primary energy intensity decreased by:
 - **37.8% from 1990 to 2021**
 - **17.5% from 1990 to 2005**
 - **24.6% from 2005 to 2021**

Final energy intensity and final energy consumption per capita



Majority of member economies decreased their energy intensities (except for 3 economies)

Conclusions

- ❑ In 2021, APEC, as a whole, adjusted to the new normal during the COVID-19 pandemic regaining economic growth that resulted in increasing energy consumption
- ❑ Fortunately, the energy intensities continued to improve.
 - ❑ Final energy intensity improved by 27.4% from 2005 to 2021
 - ❑ Primary energy intensity improved by 24.6% during the same period.
- ❑ Likewise, renewable energy also continued its growth trend surpassing the growth of fossil fuels.

Thank you.

<https://aperc.or.jp>

<https://www.egeda.ewg.apec.org>

