

4-1. APERC Coal Report 2022 (Draft)

APERC Workshop

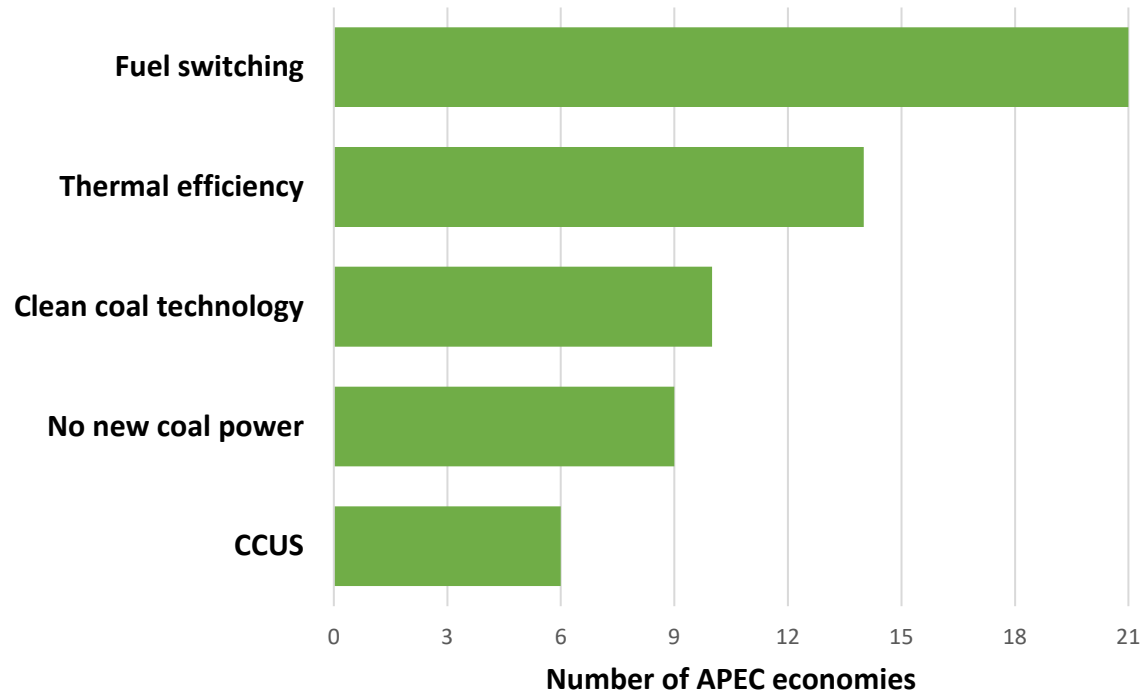
The 64th Meeting of APEC Energy Working Group (EWG64)
31 October 2022 (GMT+8)

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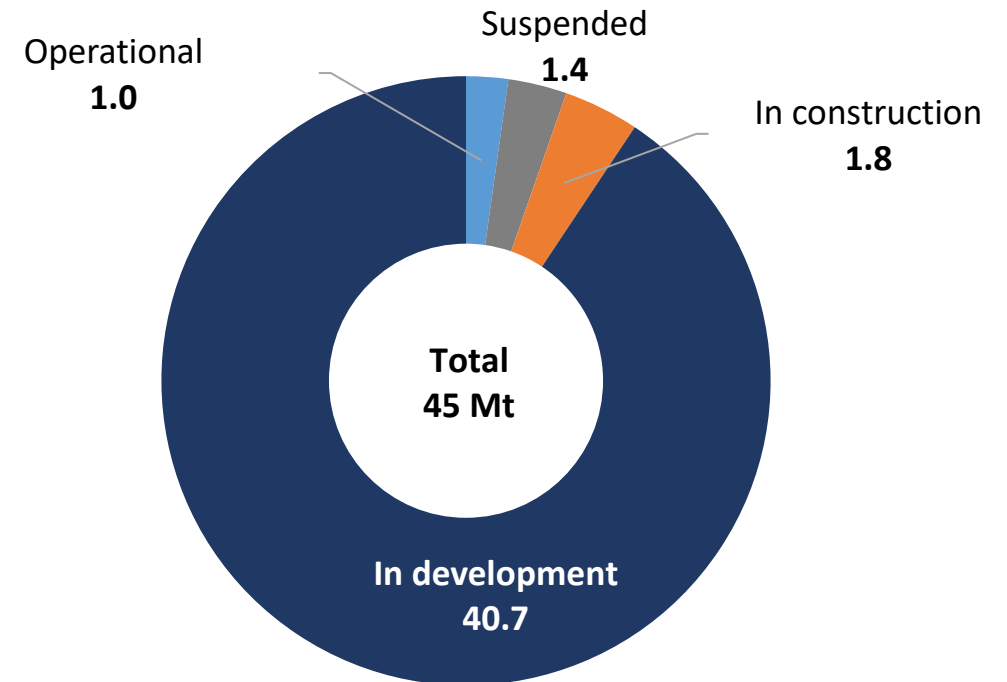
APEC: Increased focus on decarbonisation

Current measures to promote decarbonisation



Sources: Boom & Bust (2022), Global Energy Monitor, E3G (2022), APERC analysis.

Coal power-related CCS capacities in APEC, 2020

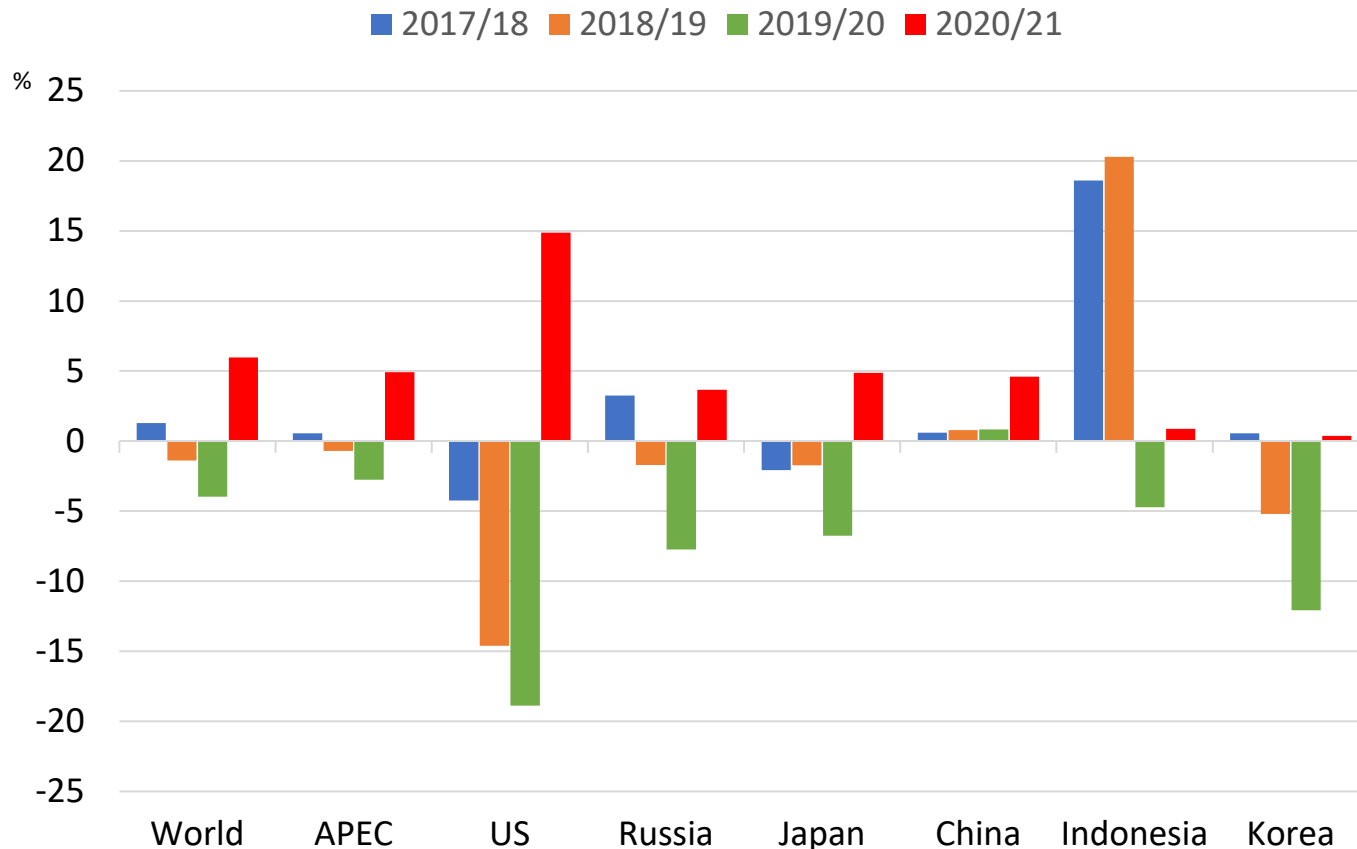


Sources: Global CCS Institute (2021), APERC analysis.

- Clean coal technology and CCUS in coal-consuming sectors have accelerated in APEC economies.
- Development of coal power-related CCS capacities in APEC have increased substantially.

APEC and global coal use increased in 2021

Change in coal consumption in APEC regions and the world

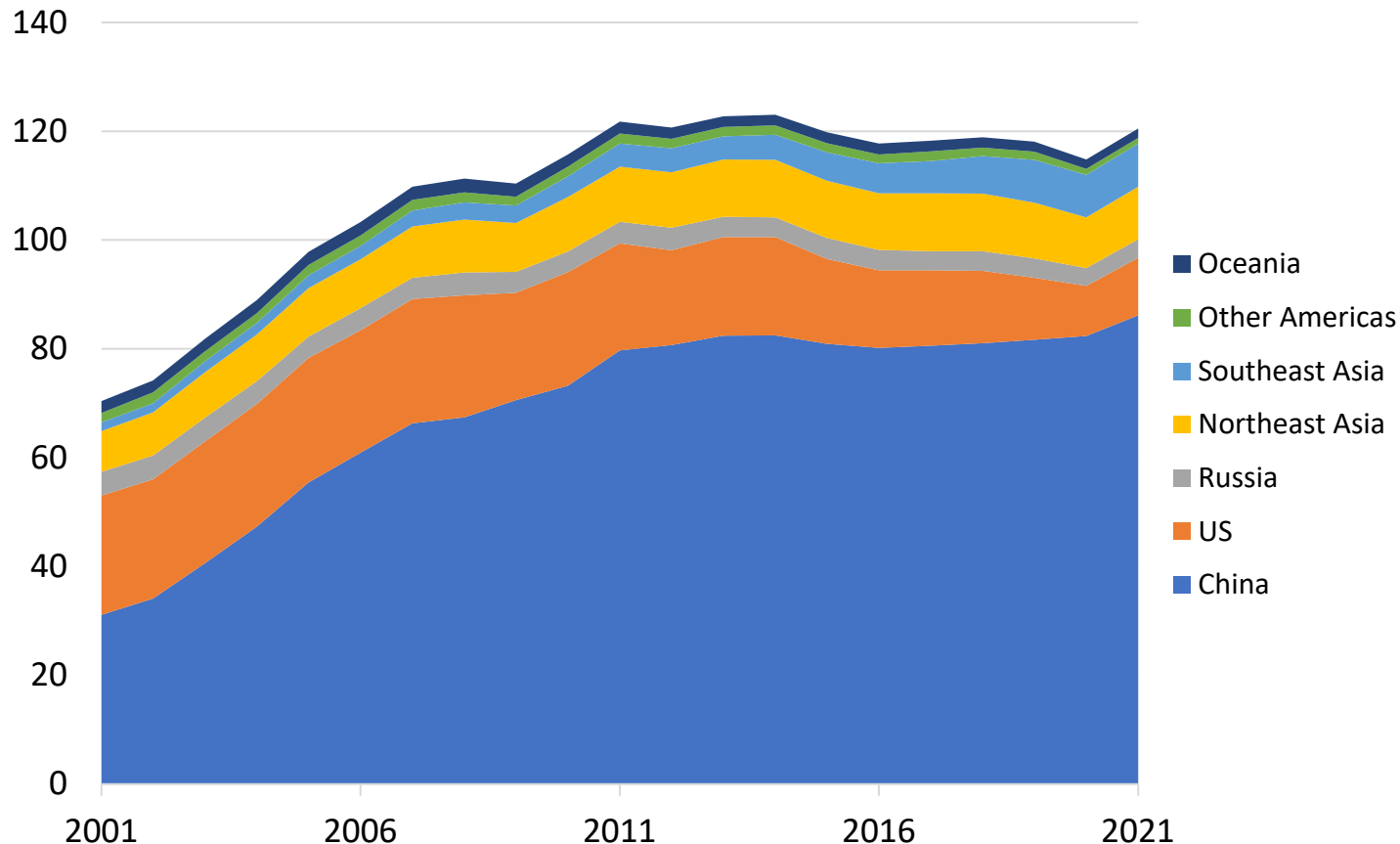


Sources: BP (2022), APERC analysis.

- Global coal consumption rebounded by 6% in 2021 in response to the global economic recovery and volatile gas prices.
- APEC coal consumption rebounded by 5% in 2021, driven by the five largest coal consumption economies.
- Coal consumption in the U.S. rose by roughly 15% in 2021, a reversal of recent trends and the largest annual increase in U.S. coal use in more than 20 years.
- China's coal consumption grew by 4.6% in 2021, Russia, Japan, Indonesia and Korea also consumed more coal than the previous year.

2021 coal use close to an all-time peak

APEC coal consumption by region, EJ

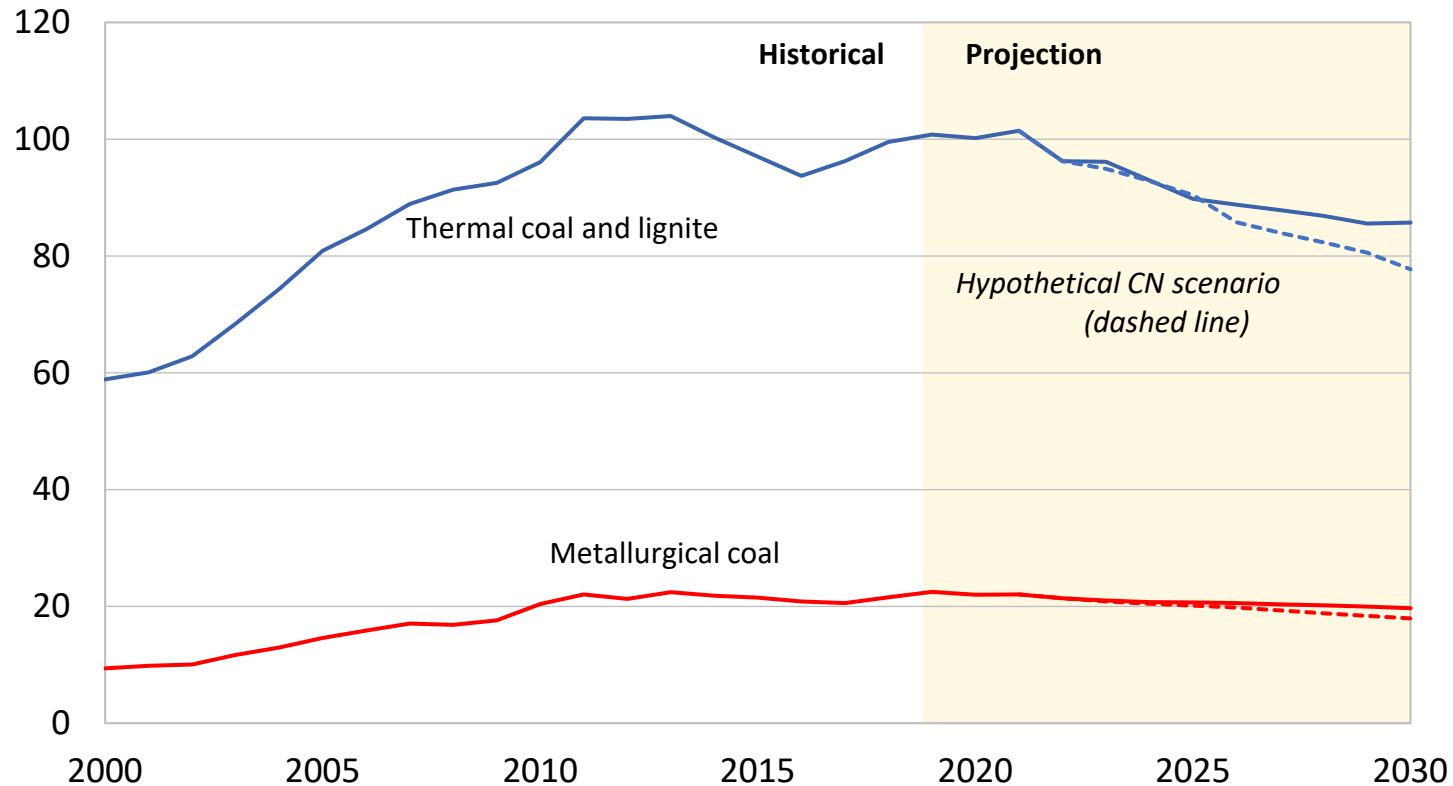


- APEC coal consumption peaked in 2014 and gradually declined through 2020, but rebounded strongly in 2021, close to the peak in 2014.
- China is the largest coal consumer, accounting for approximately 71% of the total APEC coal consumption.
- The U.S. and Russia consumed 9% and 3% of APEC's total coal consumption in 2021, respectively.
- Northeast Asia accounted for 8% of APEC coal consumption in 2021, followed by Southeast Asia, Oceania and other Americas.

Sources: BP (2022), APERC analysis.

Thermal coal use declines faster than metallurgical coal

APEC coal consumption projection, EJ

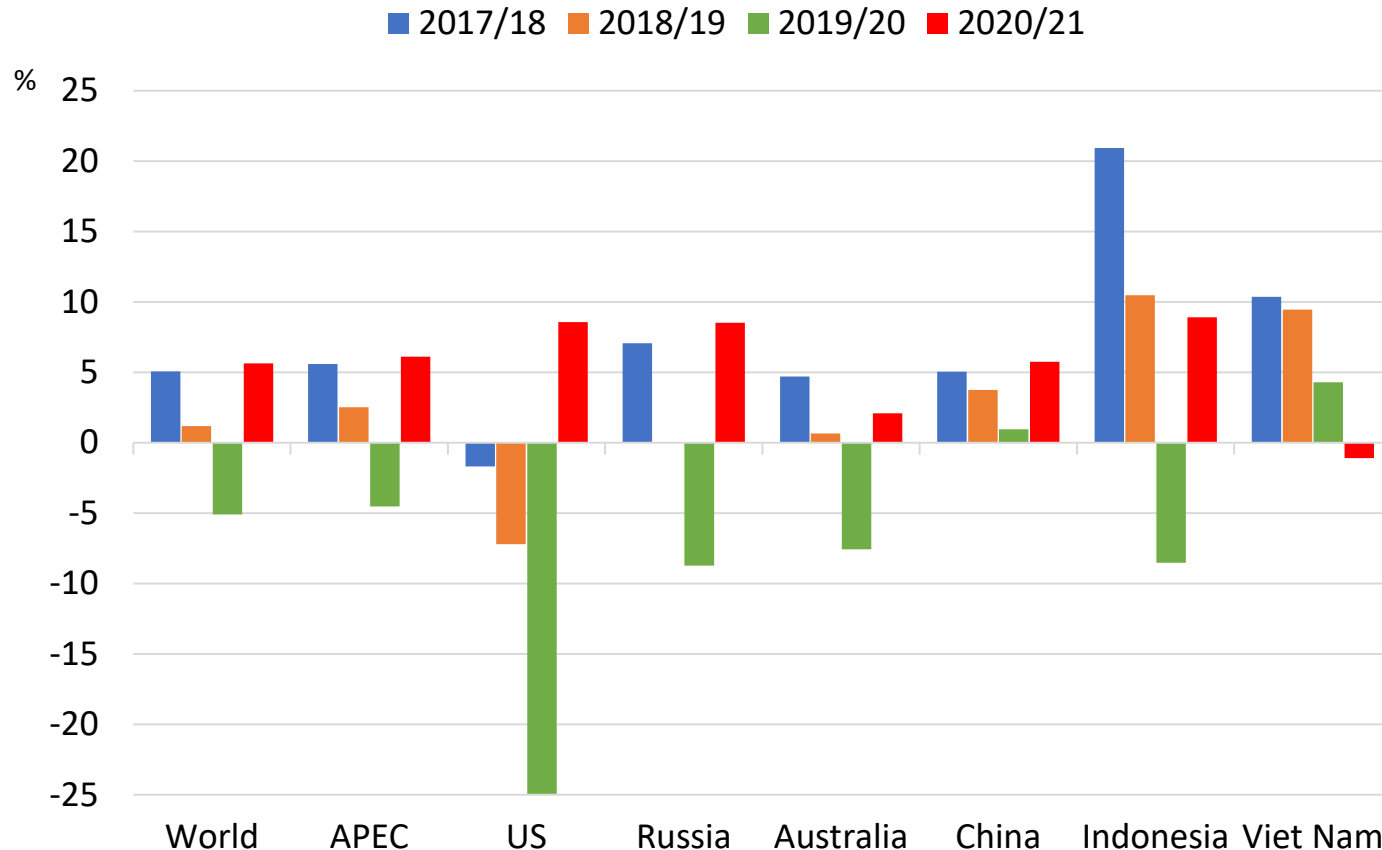


Sources: EGEDA (2021), APEC Outlook (2022).

- Thermal coal consumption is projected to decline through the 2020s, mainly occurring in the power sector.
- Metallurgical (met) coal consumption will maintain a high plateau, with consumption decreasing by a small amount in both scenarios.

APEC and global coal production grew in 2021

Change in coal production in the globe and APEC region

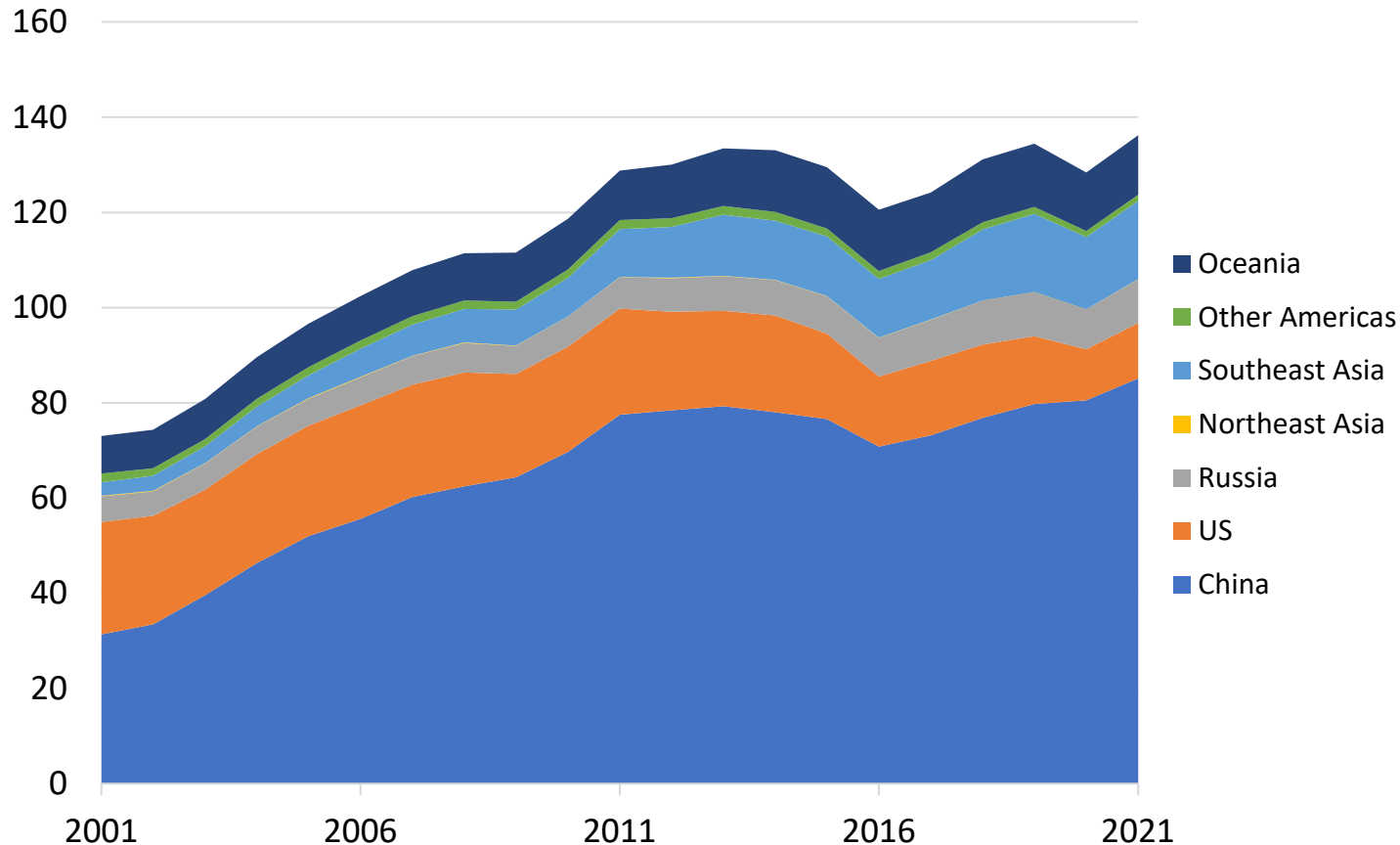


- Global and APEC coal production rose by 5.6% and 6.1% in 2021, respectively.
- Significant increases in coal production were recorded in Indonesia, the U.S., Russia, China, and Australia in 2021.

Sources: BP (2022), APERC analysis.

Coal production reached an all-time high record in 2021

APEC coal production by region, EJ

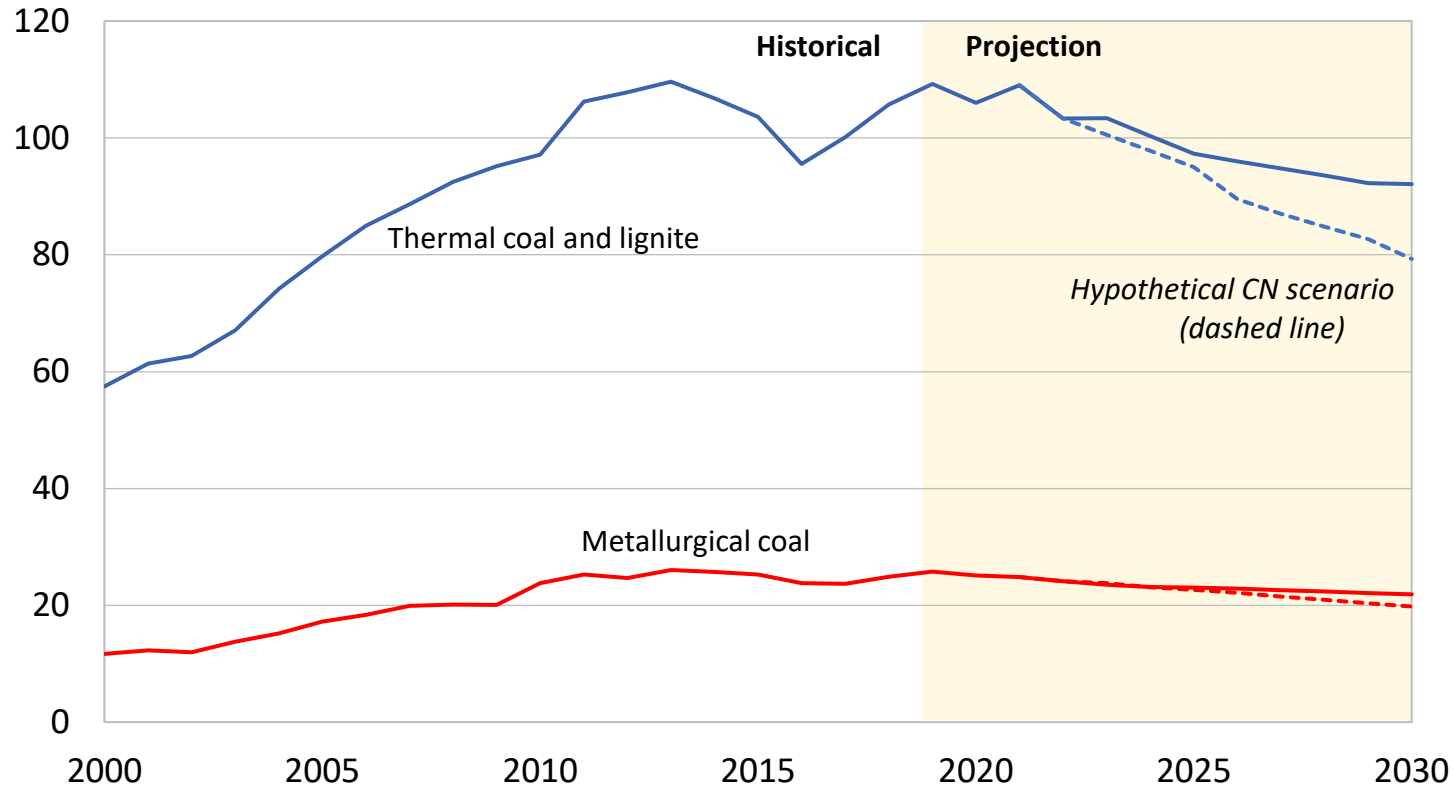


Sources: BP (2022), APERC analysis.

- APEC coal production has increased for decades despite the drops in 2015 and 2016, reaching an all-time high record in 2021.
- In 2021, China produced 63% of APEC coal production, followed by Southeast Asia (12.5%), and Oceania (9.2%). The U.S. and Russia accounted for 8.5% and 6.7%, respectively.
- China, Indonesia, Australia, the U.S. and Russia are major coal producers in APEC, accounting for 98% of APEC coal production in 2021.

Metallurgical coal is hard to substitute in steelmaking

APEC coal production projection, EJ

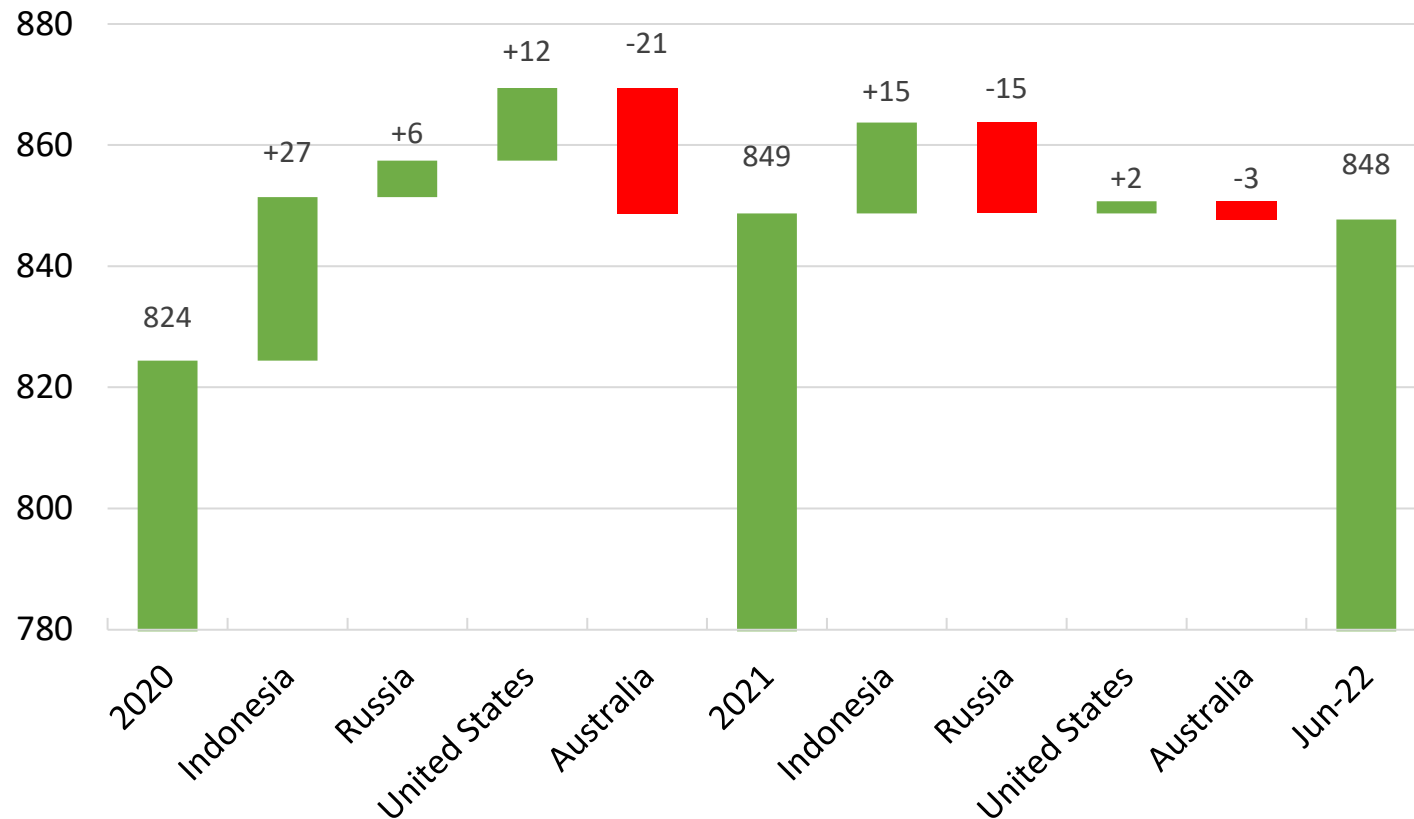


Sources: EGEDA (2021), APEC Outlook (2022).

- Thermal coal production is projected to decline through the 2020s, falling faster in the CN scenario.
- Met coal production will remain robust in the medium term due to the high demand for the iron and steel-making industry.

Thermal coal exports were unchanged in the first half of 2022

Change in thermal coal exports at major APEC coal exporters, Mt

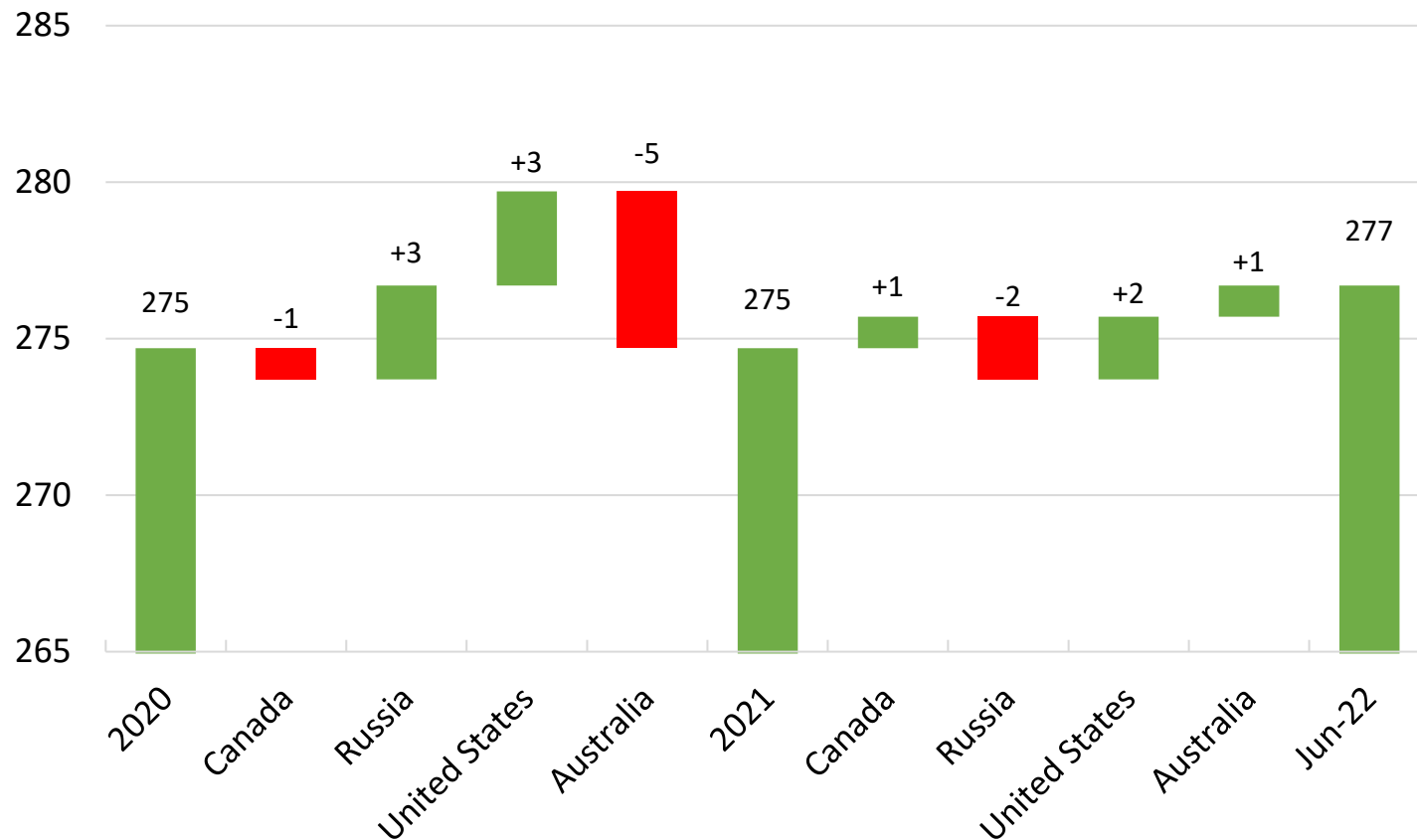


Sources: IEA (2022a, 2022b), APERC analysis.

- Indonesia, Australia, Russia, and the U.S. are major thermal coal exporters in APEC, accounting for approximately 98% of APEC thermal coal exports.
- While thermal coal exports rose in Indonesia, Russia and the U.S. in 2021, thermal coal exports from Australia dropped as China decreased coal imports from that economy.
- Russia's coal exports showed the biggest drop in the first half of 2022 due to international sanctions and Russian coal import bans from Western countries.

2021 met coal exports remained at the 2020 level

Change in met coal exports at major APEC coal exporters, Mt

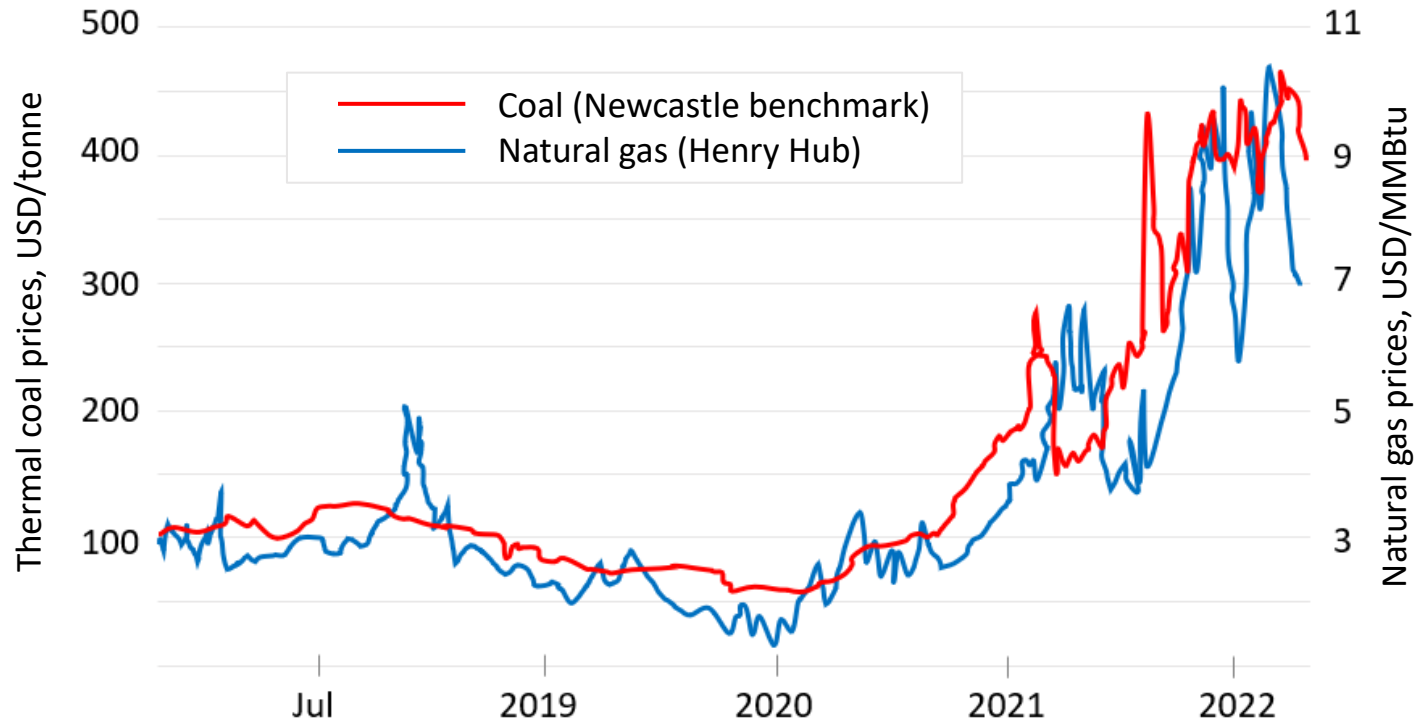


Sources: IEA (2022a, 2022b), APERC analysis.

- Lower met coal export in Australia and Canada was mostly offset by higher exports from Russia and the U.S. in 2021.
- Canada, the U.S. and Australia all increased met coal exports, while Russian met coal exports fell by 2 Mt in the first six months of 2022.

Thermal coal prices reached an all-time high in September 2022

Thermal coal and natural gas spot prices, 2018-2022.



Sources: Trading Economics.

- In October 2021, thermal spot coal prices rose over five-fold relative to July 2020 level due to coal supply disruptions.
- Thermal coal prices spiked to a new all-time peak in September 2022 due to the impact of sanctions against Russia on coal.
- Natural gas prices substantially impact coal prices due to gas-coal competition in the power sector.

Thank you.

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