



Coal 2018 Analysis and Forecasts to 2023

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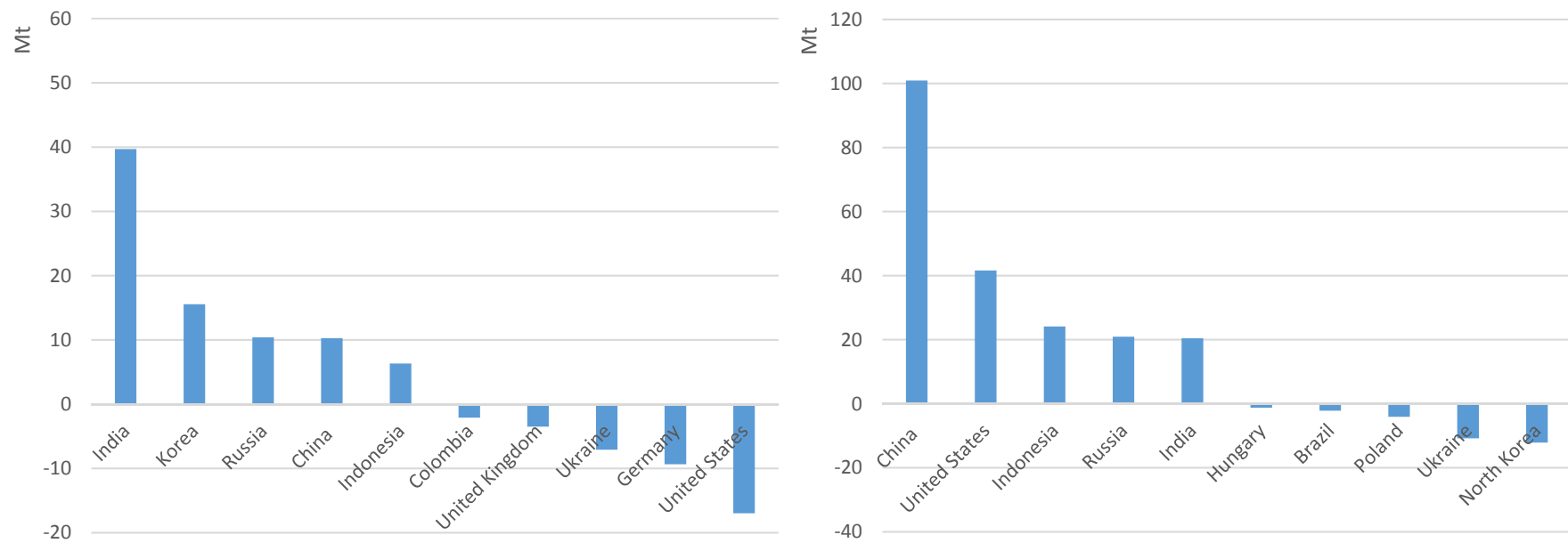
Coal market update

- After two years of decline, global coal demand grew in 2017 and is estimated to increase further again in 2018
- Coal demand grew strongly in India, Southeast Asian countries and Korea in 2017, while decline continued in Europe and North America
- With seaborne thermal coal trade growing and no large new mining capacity, prices remain high
- High prices pushed up coal production in price sensitive exporters, particularly the US (up 6.3%) and Indonesia (up 5.2%)
- Climate and air quality regulations, divestment campaigns, phase out policies, declining costs of renewables and more abundant gas are all putting additional pressure on coal



2017, when growths were bigger than declines again

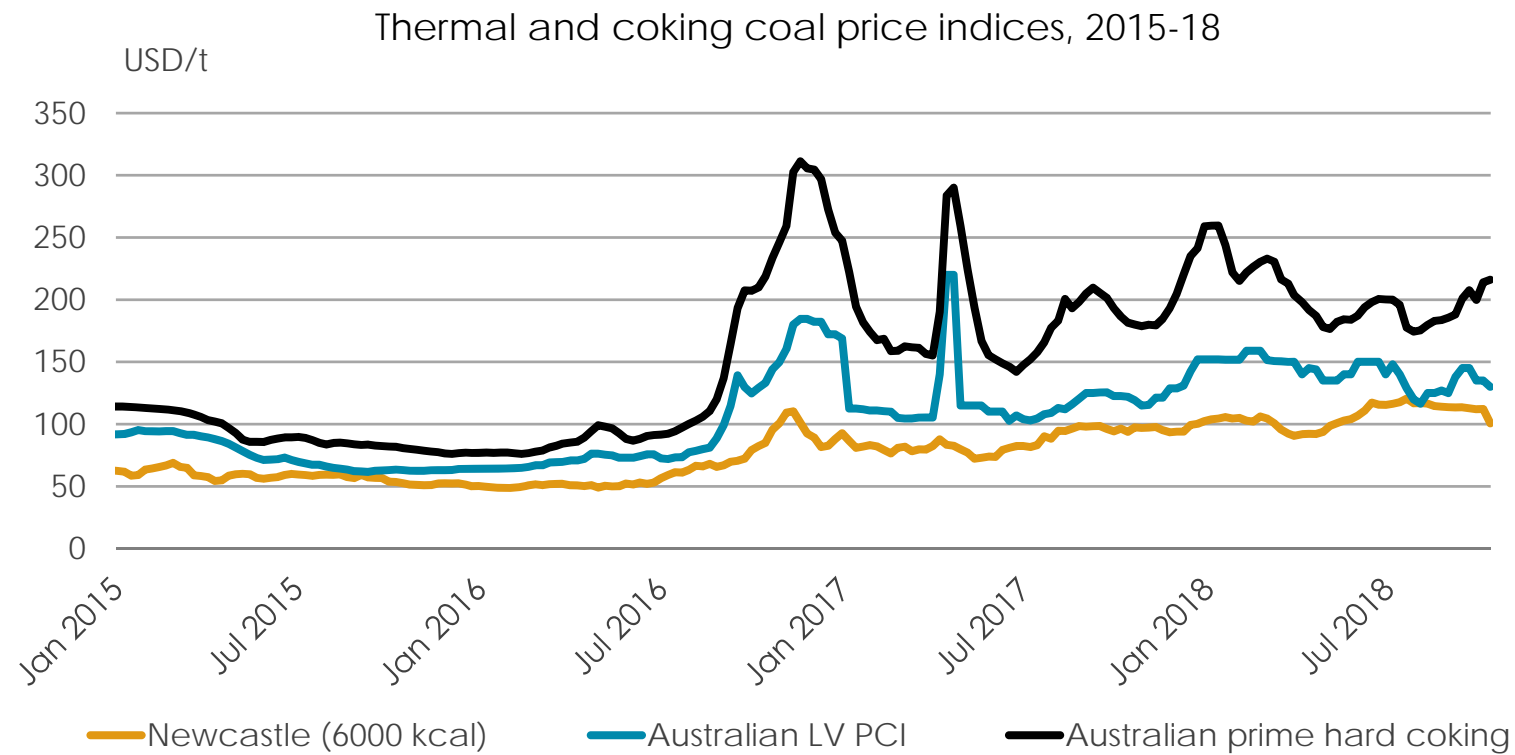
2017-2016 difference in coal consumption (left) and production (right)



Whereas growth is mostly in Asia and decline in Europe, United States is in a very particular position



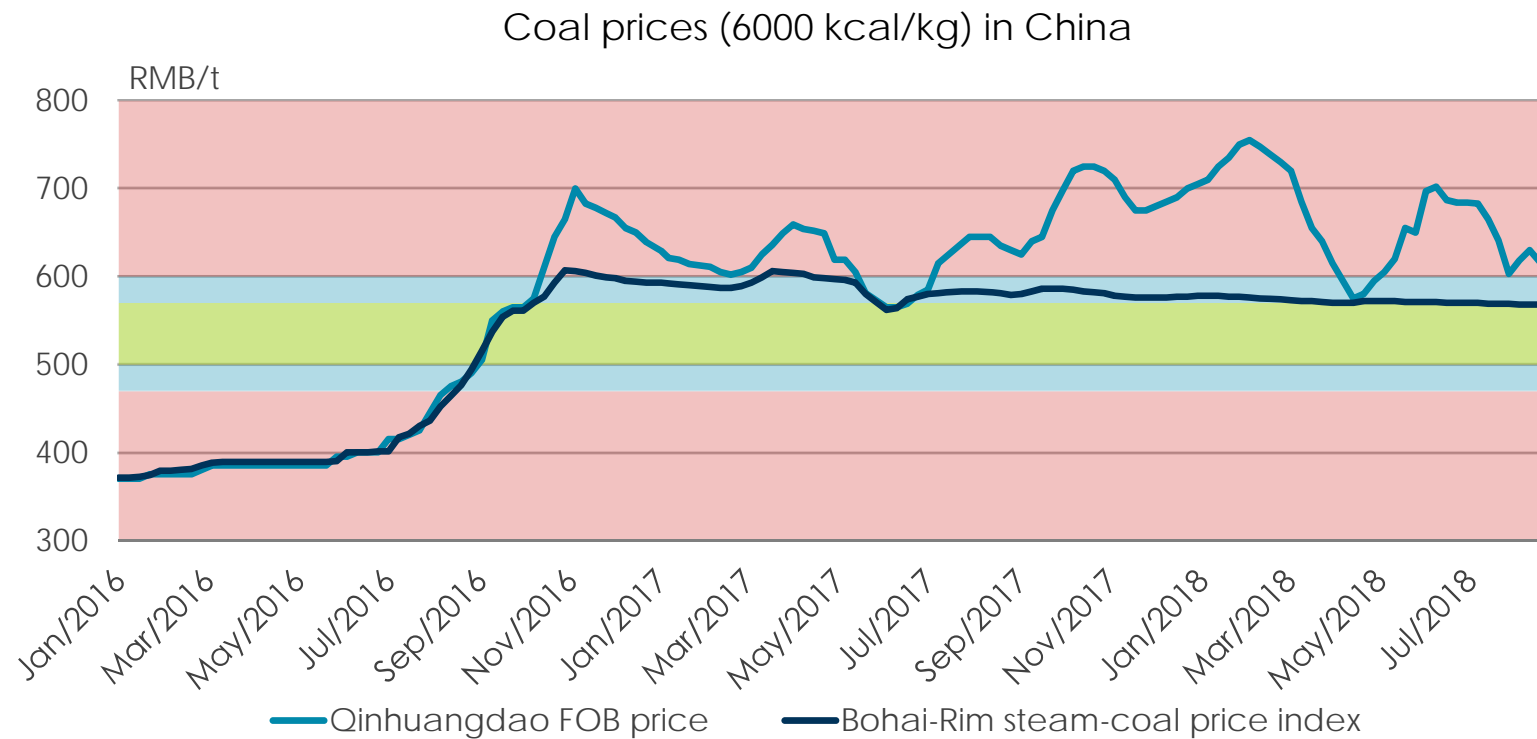
Prices remain high



Sustained demand, Chinese supply side reforms and lack of investment in coal mining underpinned high prices



China is still the price setter in international markets

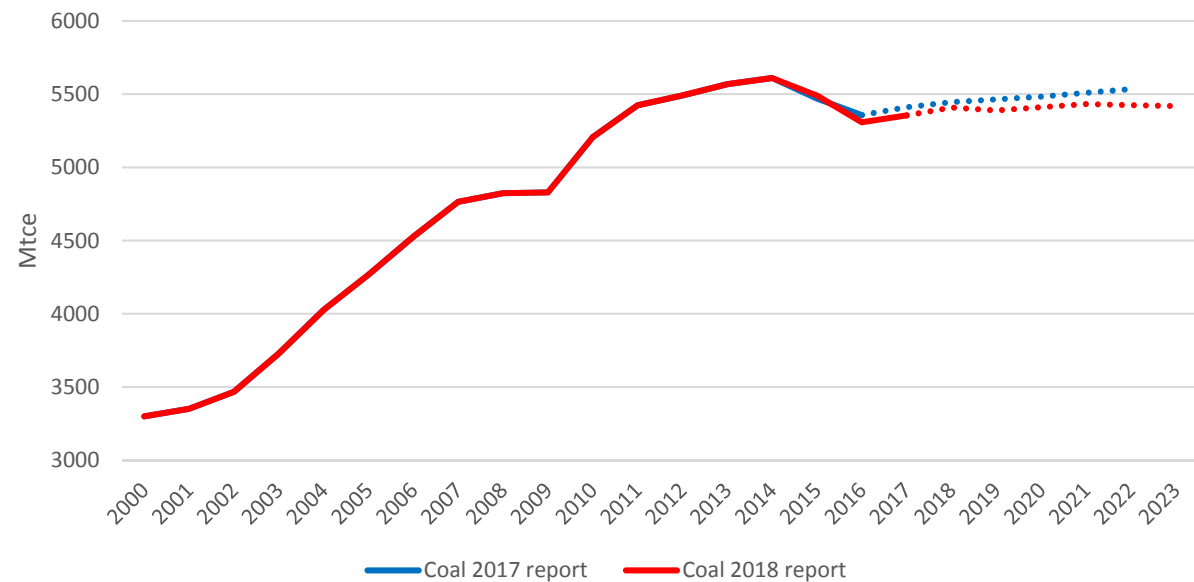


The comfort zone for the Chinese producers and consumers is the global reference for international coal prices



Much talk but not much change

Comparison between Coal 2017 and Coal 2018 global coal demand forecasts

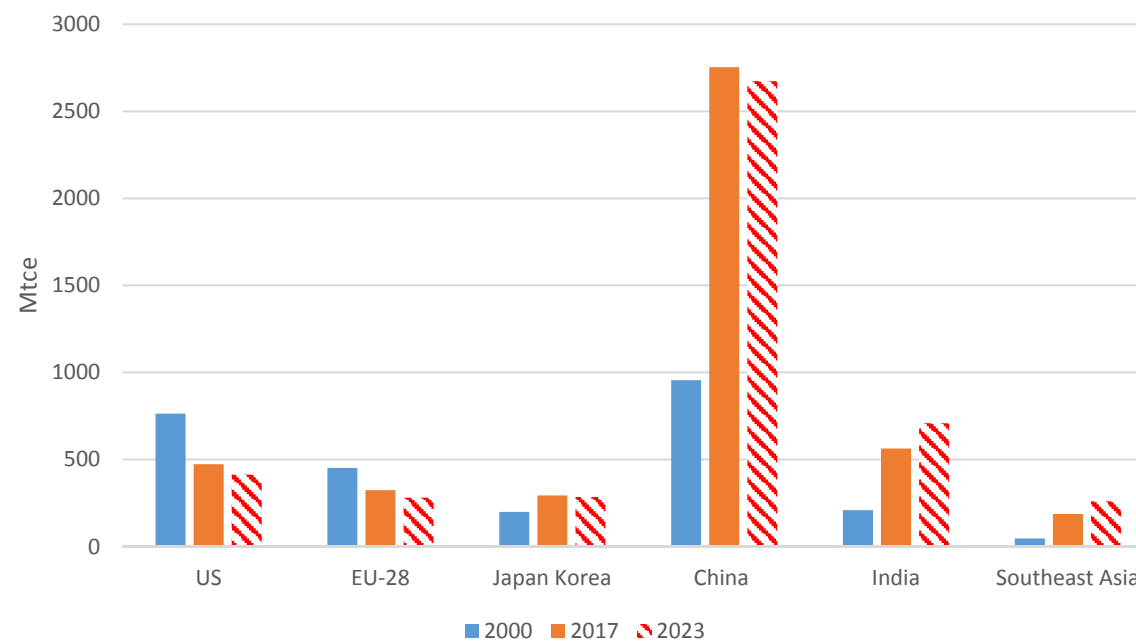


IEA statistics (continuous line) and IEA forecast (dotted line)

**Despite numerous policy changes and announcements,
the forecast of coal demand is almost unchanged compared with last year's forecast**

One planet, two coal worlds

Coal demand in select countries/regions in 2000, 2017 and 2023 (forecast)



India and southeast Asia will lead coal demand growth while it will continue to decline in Europe and United States

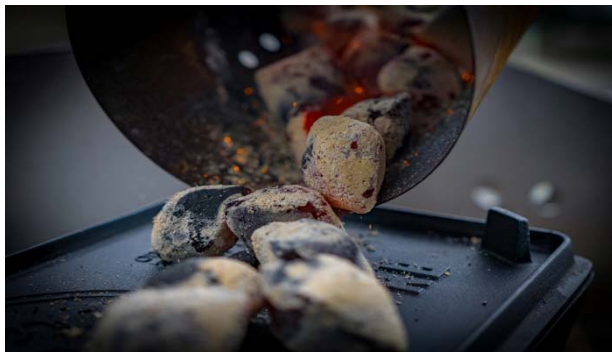
Understanding China to understand coal



Power



Heavy industry



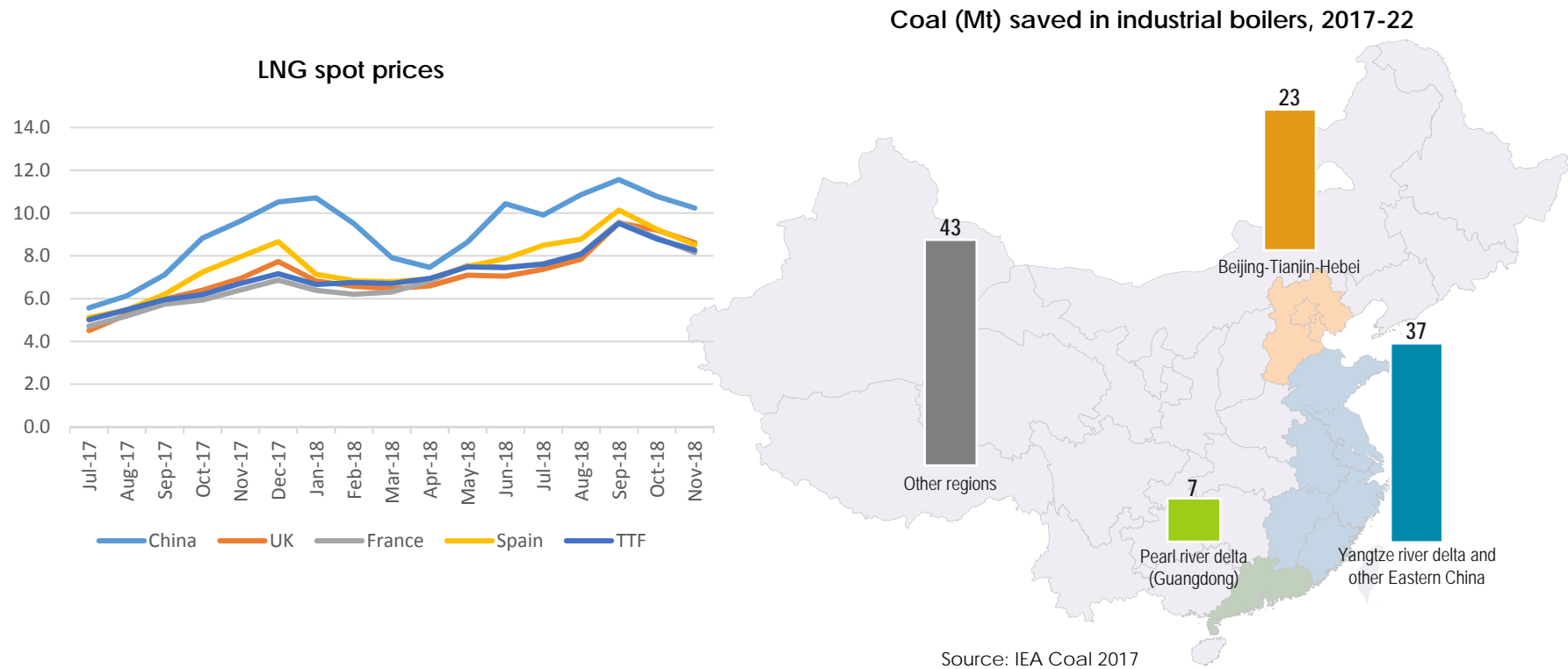
Small industrial and residential



Coal conversion

Four largest coal consuming sectors in China follow different trends

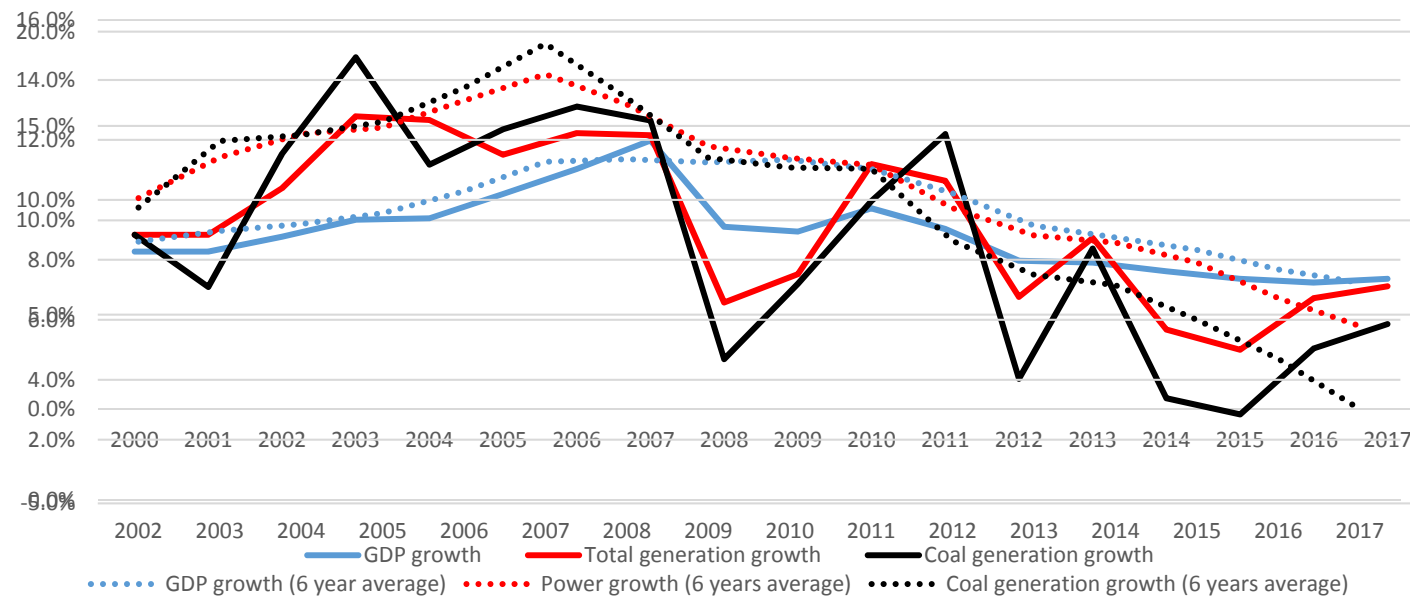
Fight for blue skies



**Phase out of coal boilers and stoves in China pushed up LNG prices all over the world.
In an interconnected world, Chinese coal is at the centre of the energy stage.**

China's path to a less energy intensive economy

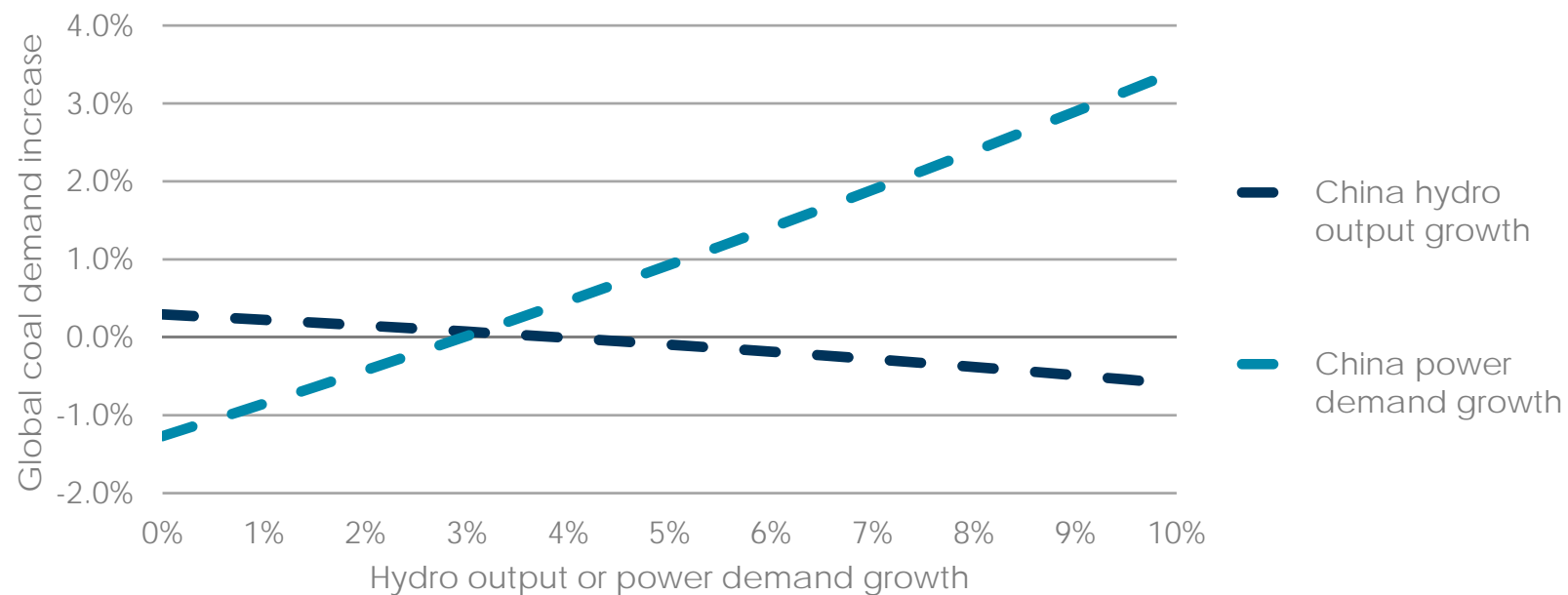
GDP, power demand and coal generation growth in China



Whereas the structural transformation of the Chinese economy is unequivocal, and “blue skies” remains the policy priority, electricity demand is boosted by air quality policies, growing middle class and other factors

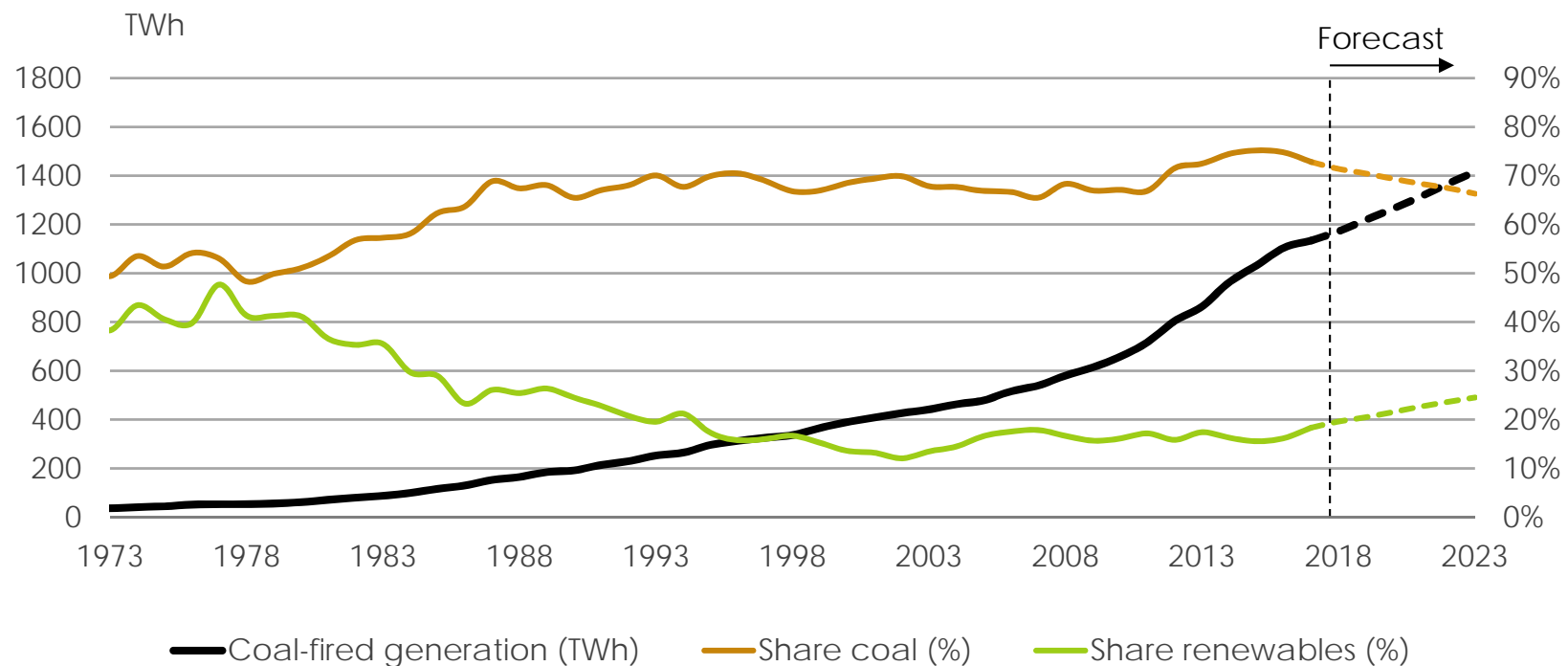
Dominance of Chinese power sector in global coal market

Relationship between global coal demand and hydro generation/power demand in China



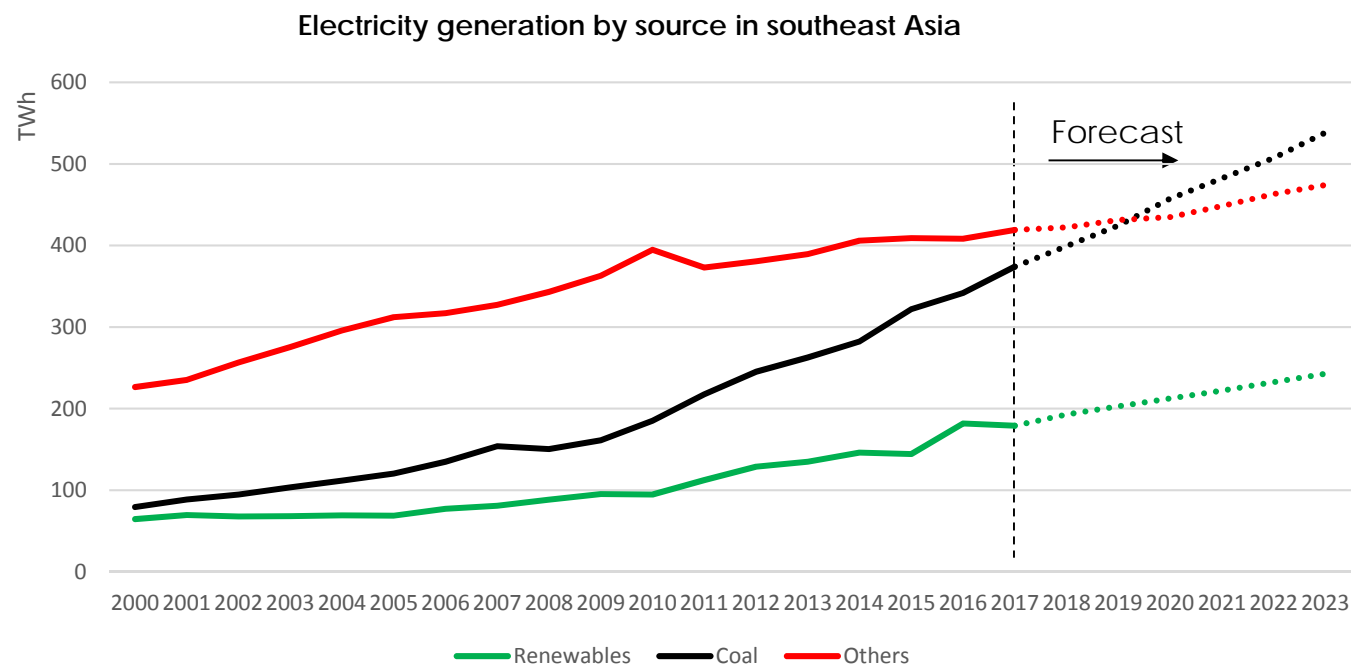
Changes in Chinese power demand and hydro output have a significant impact on global coal demand.

Coal power generation in India is set to continue to grow



**Coal has been a cornerstone of India's power system.
Renewables and more efficient coal plants reduce the forecast rate of growth.**

Coal for power will be the driver of demand growth in southeast Asia



Increasing use of coal for electricity will push up consumption in some of the countries in southeast Asia (Indonesia, Vietnam, Philippines and Malaysia)

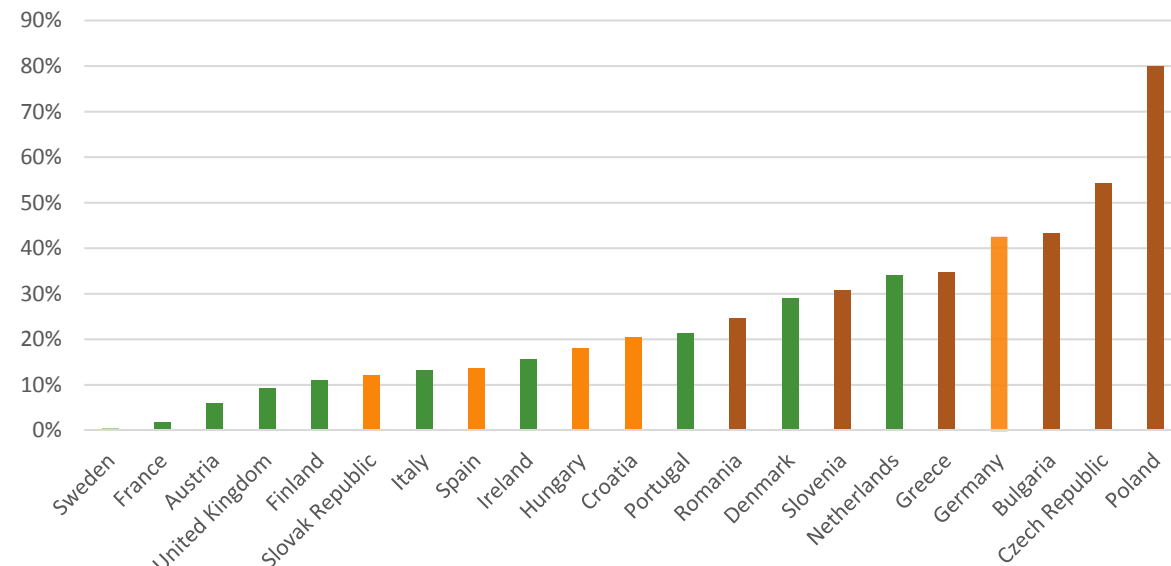
(Western) EU on its way out of coal

Coal phase out in EU-28



No coal power Phase out announced
Phase out under discussion No phase out

Coal's share in Power Generation

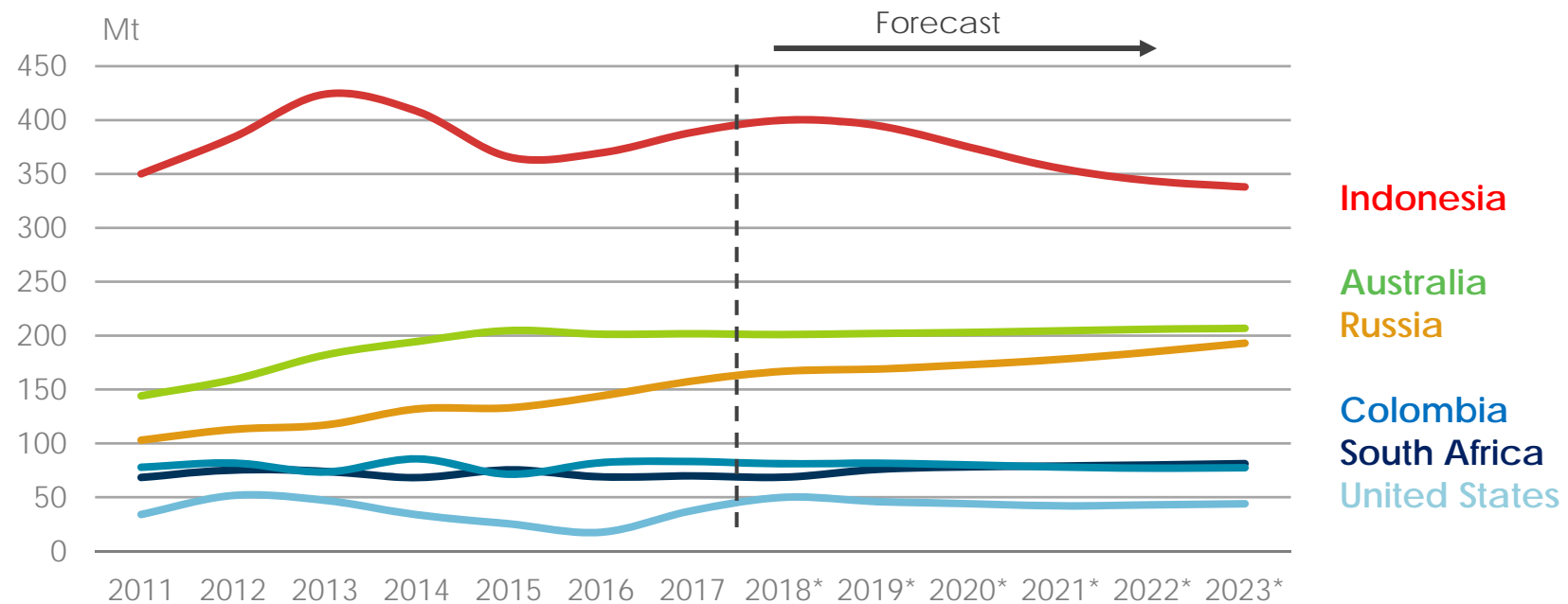


Cyprus, Belgium, Estonia, Latvia, Lithuania, Luxembourg and Malta do not have coal power plants in operation

**Phase-out policies are broadly announced and implemented in EU countries.
The challenge imposed by the end of coal-based electricity is country-specific**

Low investment due to uncertain demand

The evolution of exports from six major thermal coal exporters between 2011 and 2023



*Forecast

**Russia's infrastructure expansion will support export growth.
United States and Indonesia will continue to be the most price sensitive exporters**

International CCUS Summit, Edinburgh



UK and IEA hosted 50 senior delegates from across government, industry and the finance sector to support new momentum for CCUS



Key messages

- **Global coal demand through 2023 set to be stable**, as growth in India and other Asian countries will offset decline in Europe and US
- **China remains the key player in coal market**. The rise of power demand in China, the main driver of a recent global coal rebound, will likely slow down in the coming years; but uncertainties remain
- **Despite high prices, investment in new mines remains low**. Uncertain demand for imported coal, risks associated with climate policy and local opposition have cooled investors' appetites
- **One planet, two coal worlds**. In one world, closing coal power plants is a key climate policy. In the other, coal will play a continuing role thanks to its affordability and local availability. Carbon capture, utilization and storage is the bridge between the two worlds



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