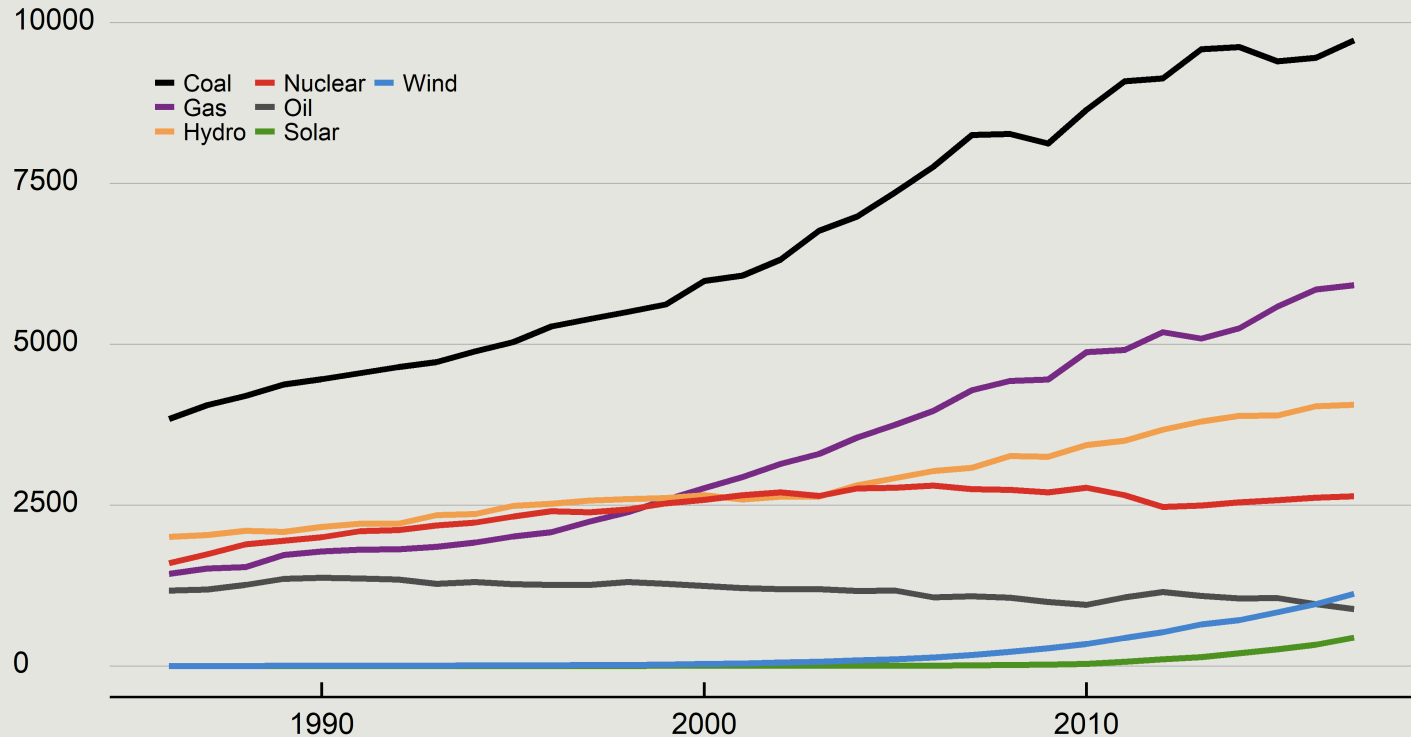


**THE COAL ERA IS
NOT OVER**

Coal has remained at top for decades

Global electricity generated by fuel type

terawatt hours

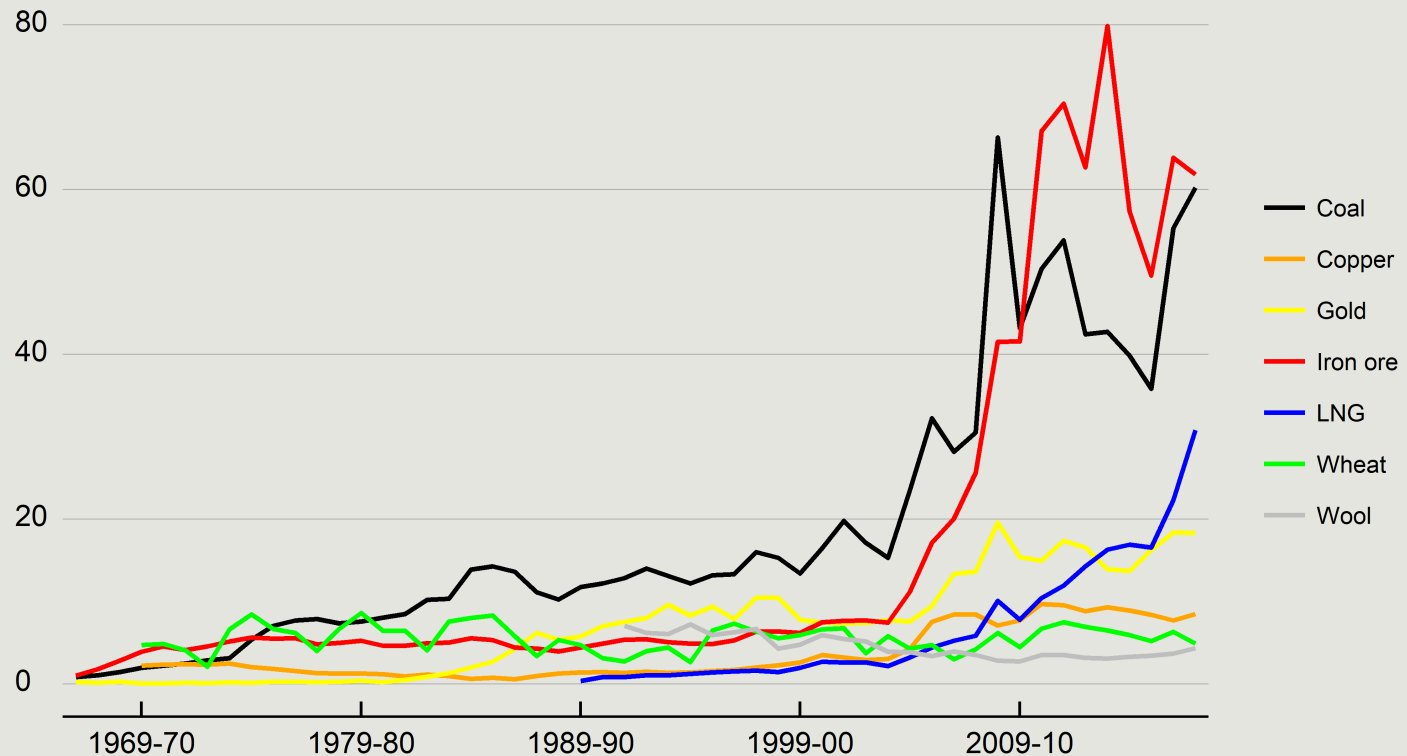


Source: BP Statistical Review of World Energy

Australian exports of coal are at record highs

Australia's major commodity exports

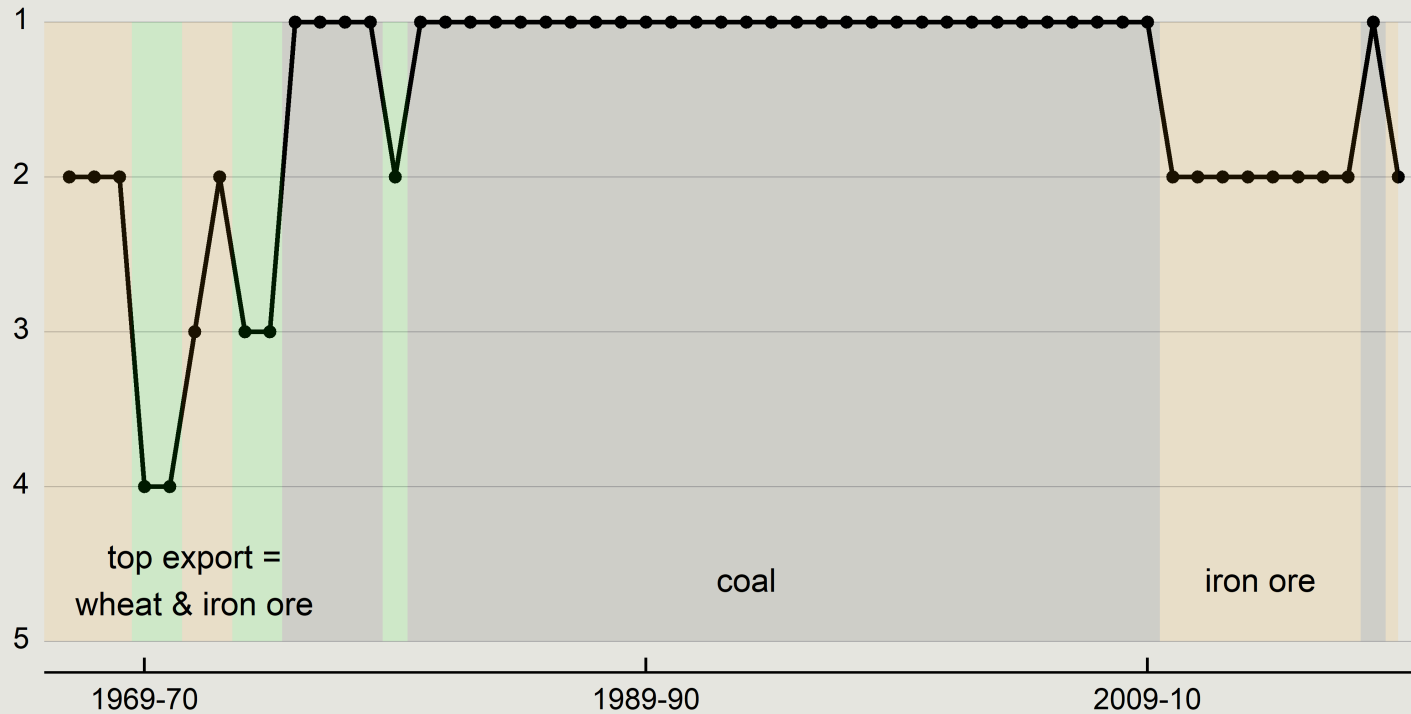
\$b, 2018 dollars



Coronation of coal ... again

King coal is back

ranking of coal exports

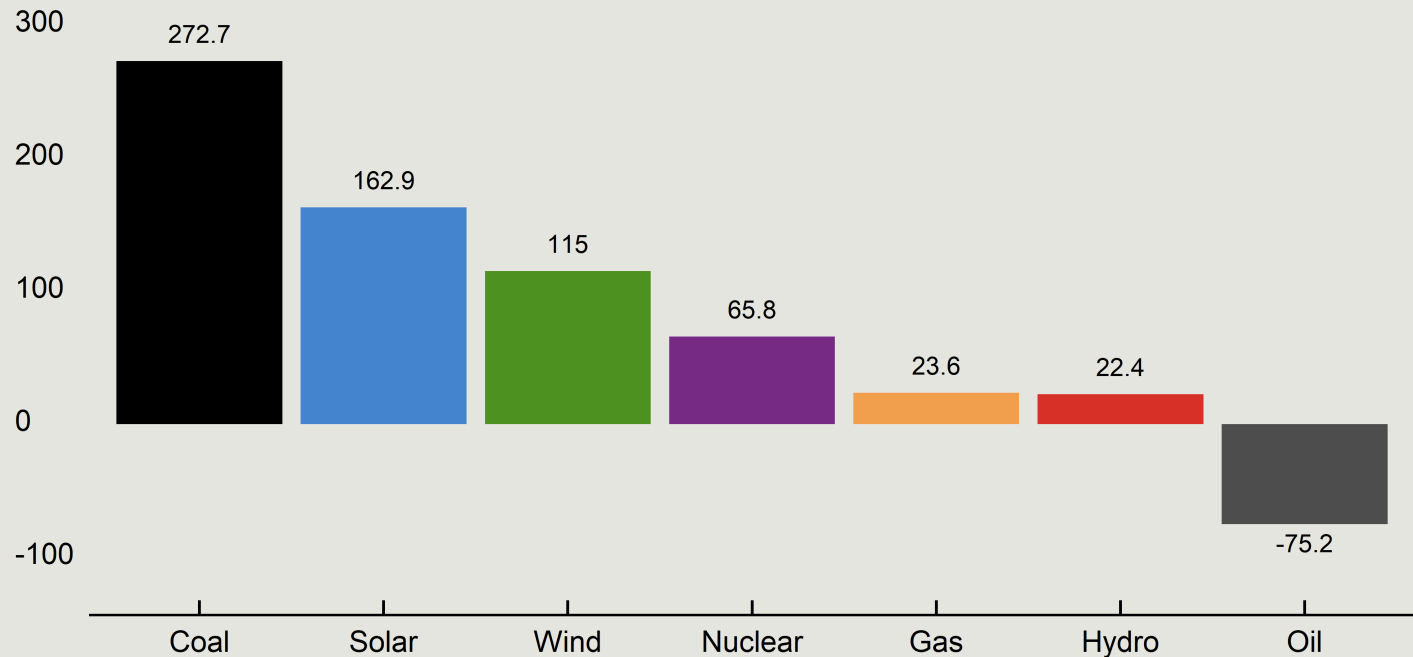


Note: wool exports were confidential before 1989.

Coal use is increasing ...

Change in global electricity generation from 2016 to 2017

terawatt hours

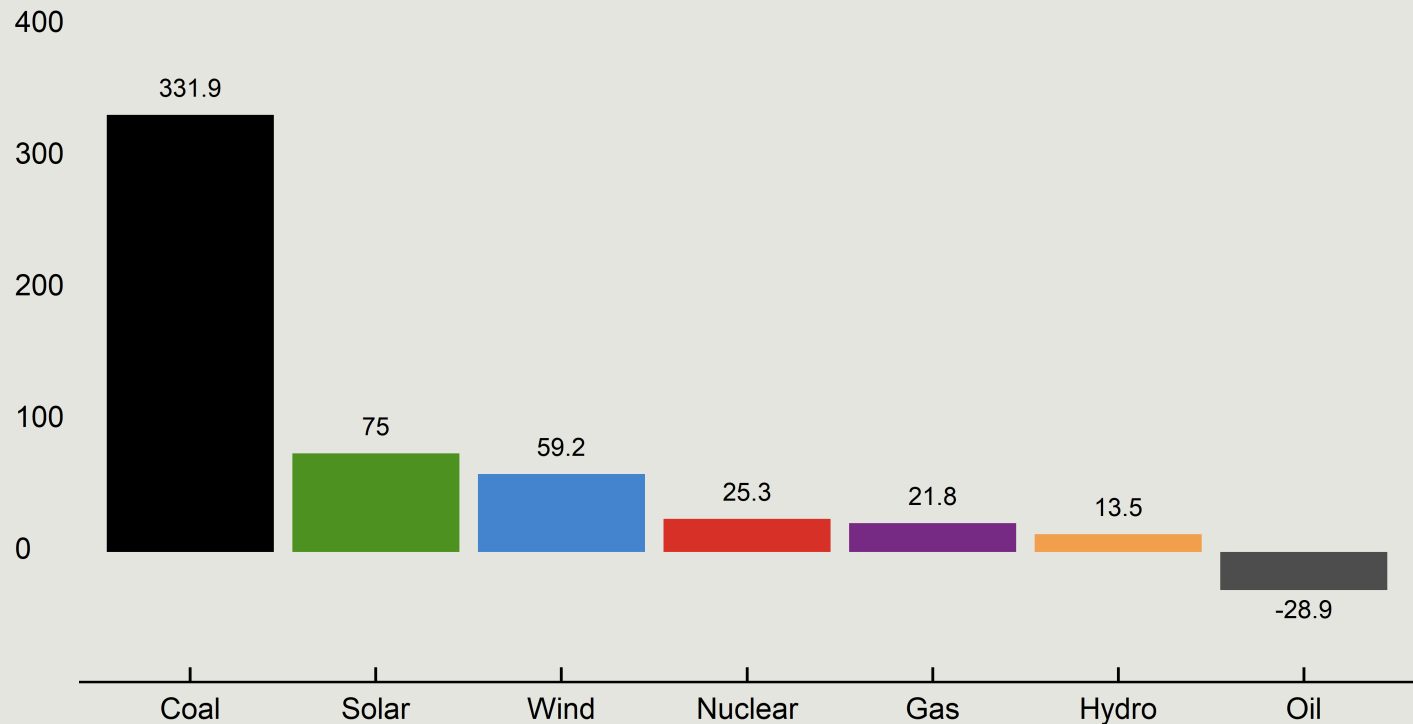


Source: BP Statistical Review of World Energy

... and surging in Asia

Change in electricity generation in Asia Pacific from 2016 to 2017

terawatt hours

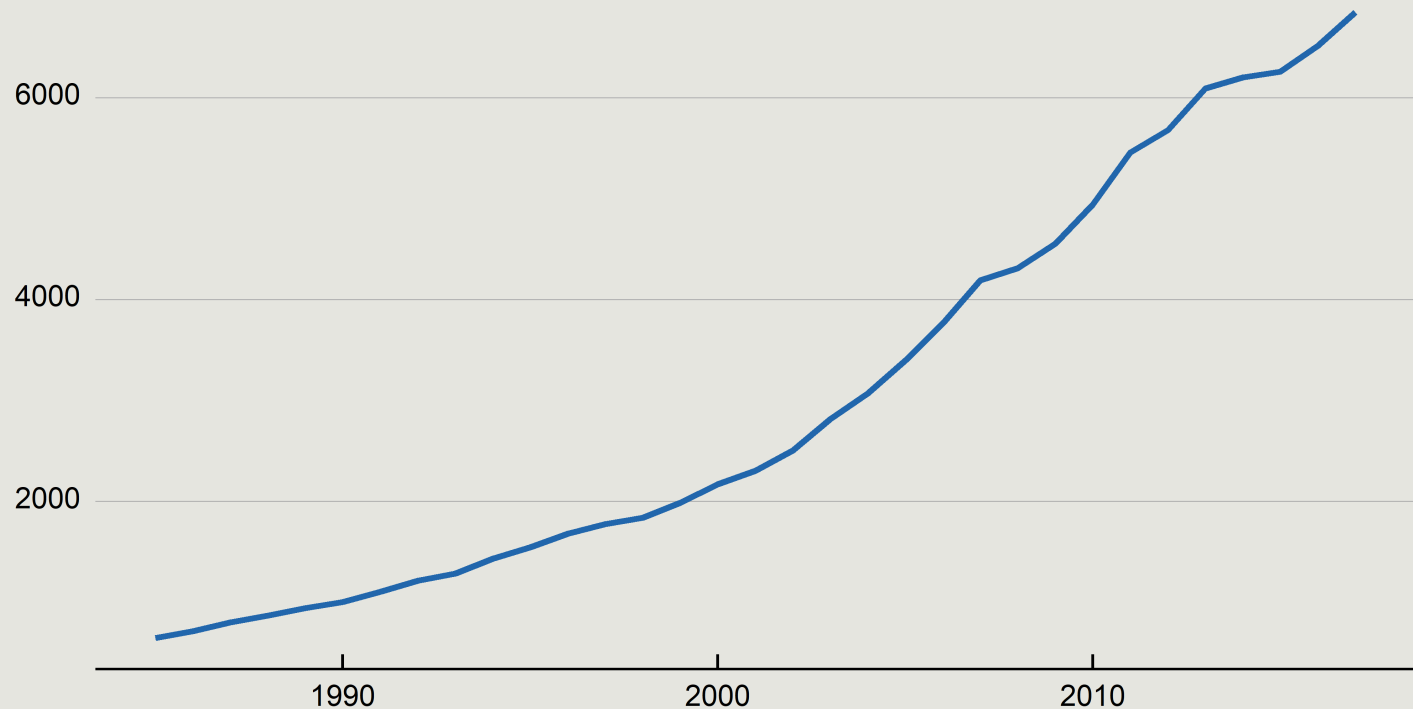


Source: BP Statistical Review of World Energy

Coal growth in Asia is not slowing down

Electricity generated by coal in Asia Pacific

terawatt hours

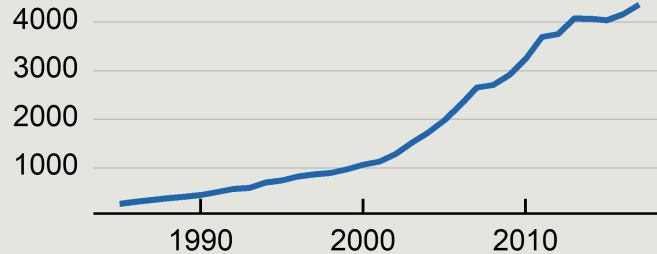


Source: BP Statistical Review of World Energy

Coal power around the world

China

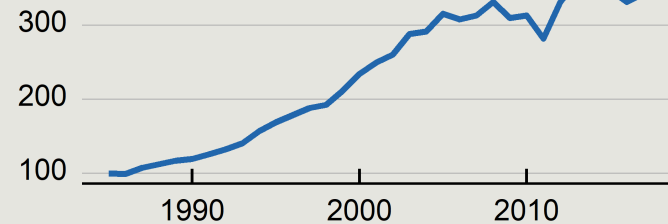
terawatt hours



Source: BP Statistical Review of World Energy

Japan

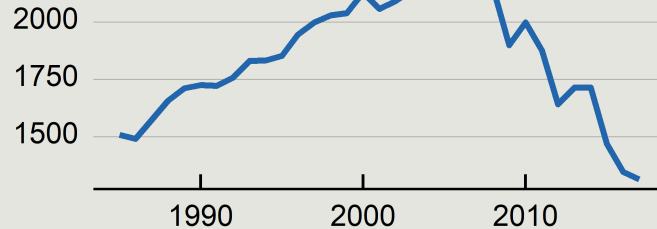
terawatt hours



Source: BP Statistical Review of World Energy

United States

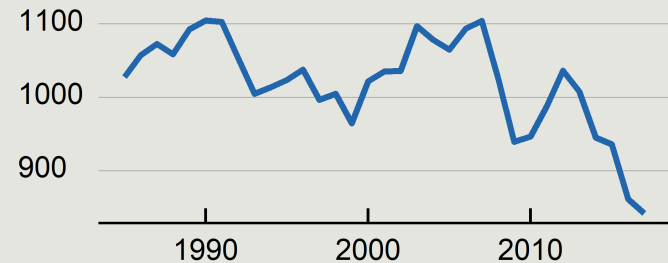
terawatt hours



Source: BP Statistical Review of World Energy

Europe

terawatt hours

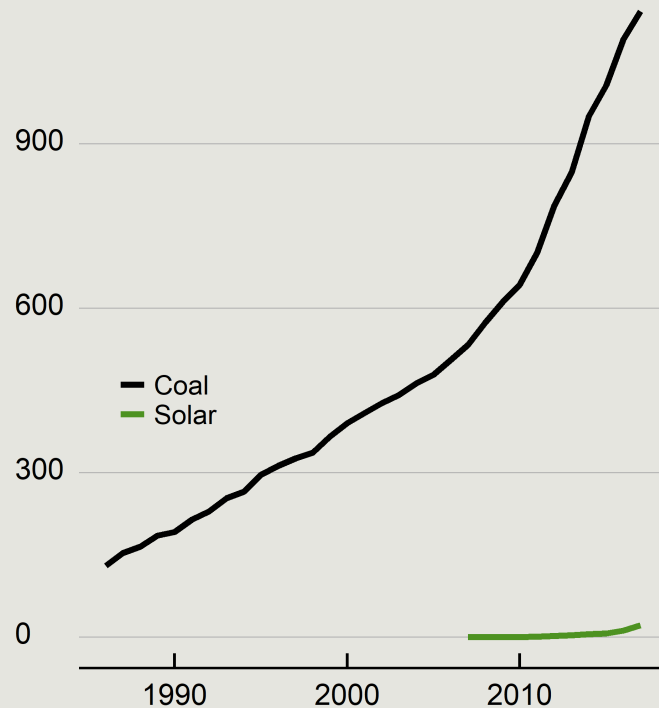


Source: BP Statistical Review of World Energy

Solar will not power India on its own

Indian electricity

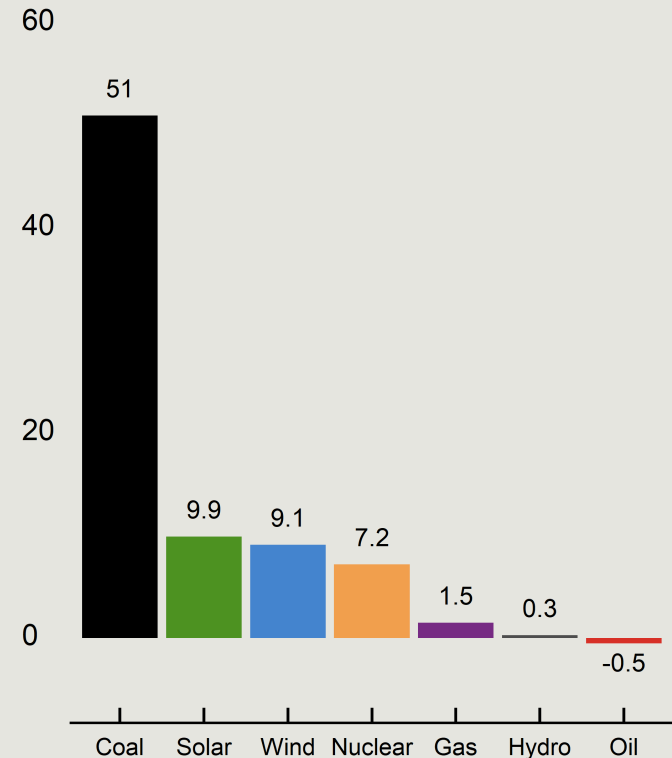
terawatt hours



Source: BP Statistical Review of World Energy

Change from 2016 to 2017

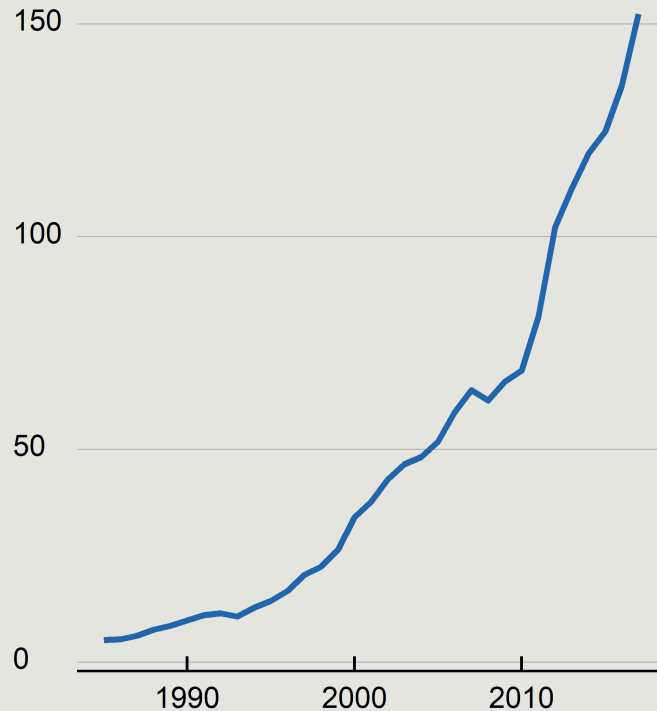
terawatt hours



Indonesia will not export as much

Indonesian coal power

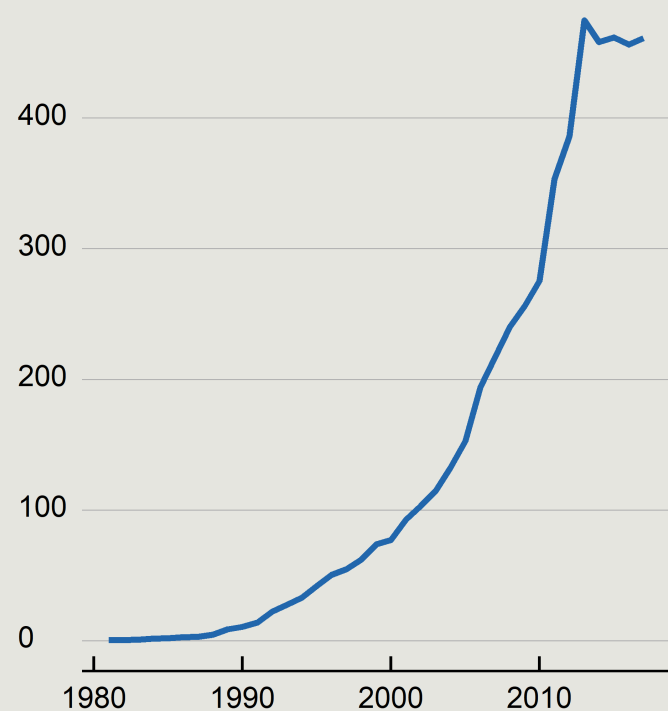
terawatt hours



Source: BP Statistical Review of World Energy

Indonesian coal production

million tonnes of oil equivalent



Source: BP Statistical Review of World Energy

US coal exports could increase

Thwarted Exports

Out of seven West Coast export terminals proposed in the past five years, none has opened.

- 1 **Cherry Point, Wash.**
Critical permit denied by Army Corps of Engineers over violation of Lummi Nation's treaty rights
- 2 **Grays Harbor, Wash.**
Proponent dropped plans
- 3 **Longview, Wash.**
Currently under environmental review
- 4 **Port of St. Helens, Ore.**
Proponents pulled their plans
- 5 **Port of Morrow, Ore.**
Oregon Department of State Lands denied a needed permit
- 6 **Coos Bay, Ore.**
Proponents let lease agreement expire
- 7 **Oakland Army Base, Calif.**
Oakland City Council passed ban on coal handling

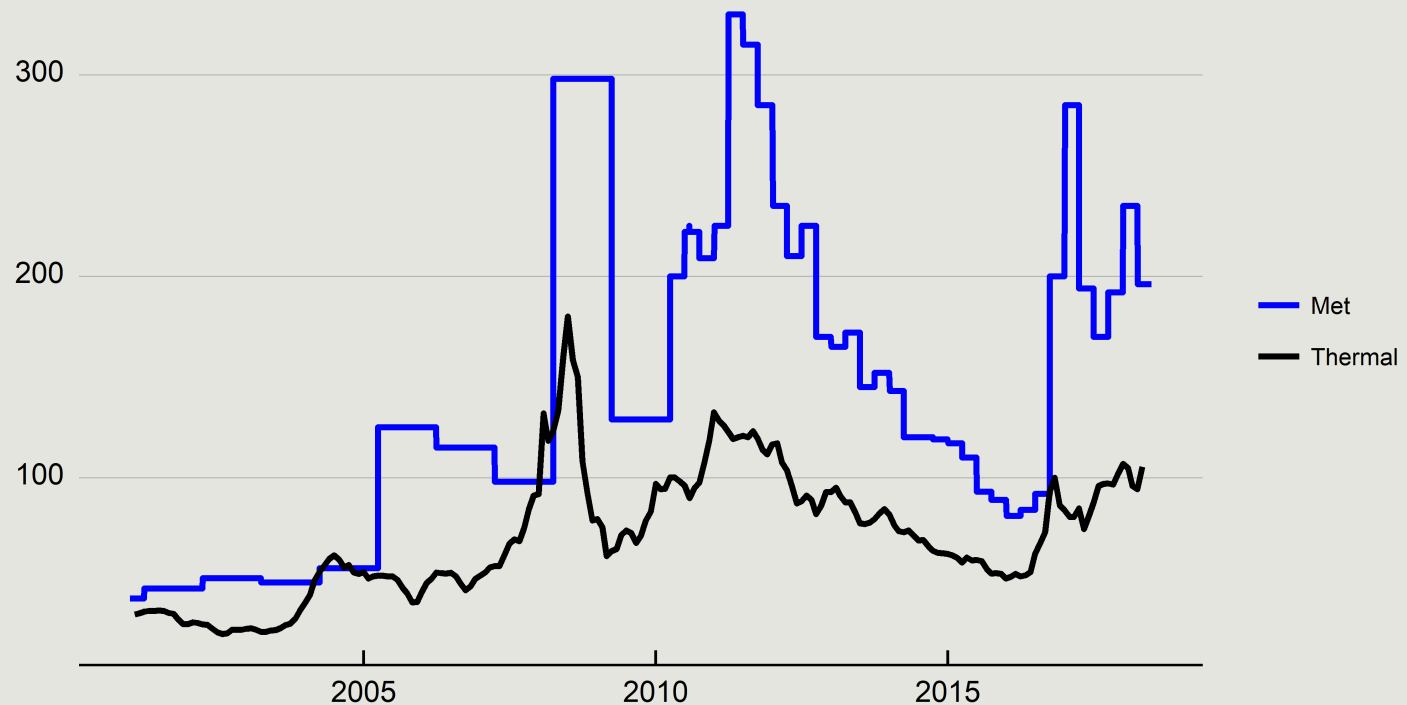


- US coal exports to Asia more than doubled in 2017, although from a low base.
- Additional US coal exports to Asia are limited by the lack of bulk coal export facilities on the US west coast. However, there are 7 proposed coal terminals and combined they could handle over 125 million tonnes per year.
- Earlier this year, Wyoming, Montana, Kansas, Utah, South Dakota, and Nebraska took Washington state to the federal court, arguing that the state's rejection of coal export terminals was a restraint on their trade.

Coal prices are strong

Coal prices

per metric tonne, US nominal dollars

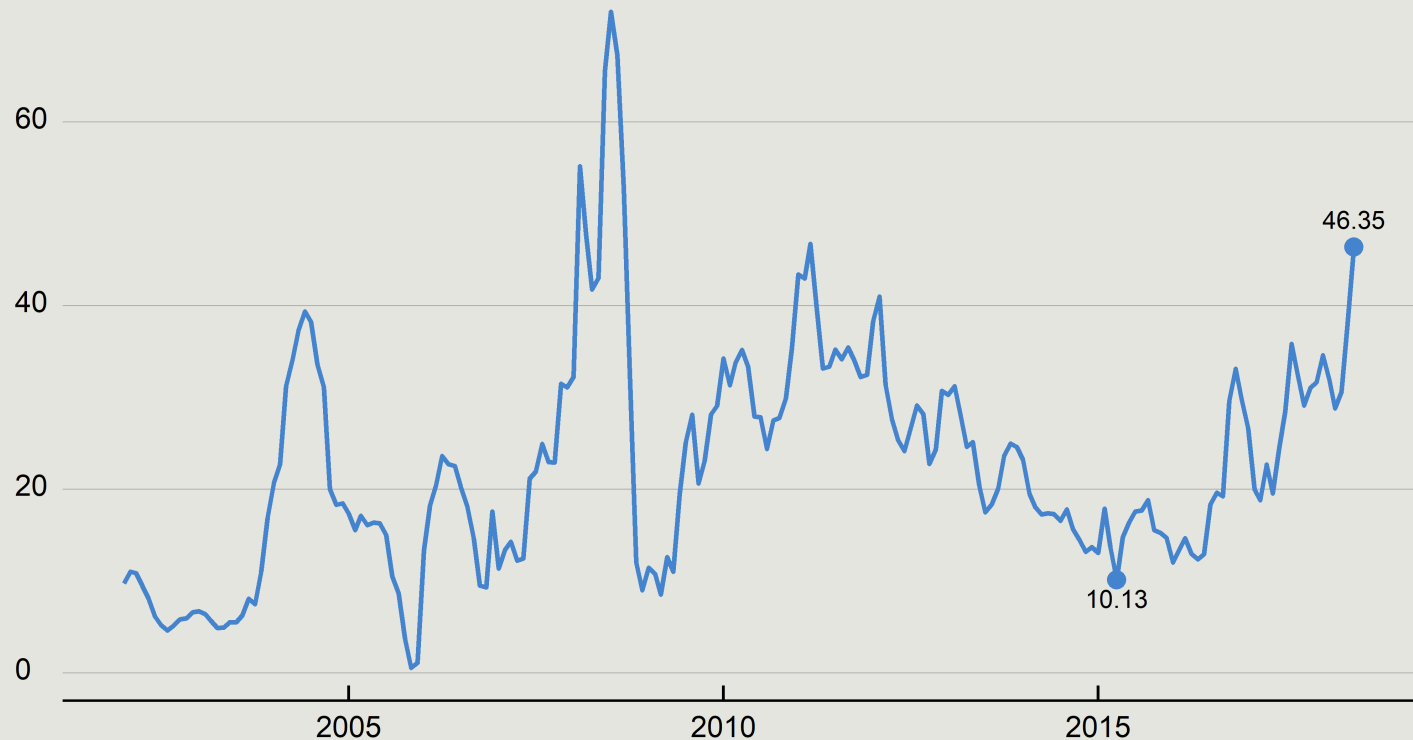


Source: World Bank Commodity Price Data, Bloomberg and IHS Markit

Demand is very strong for high quality coal

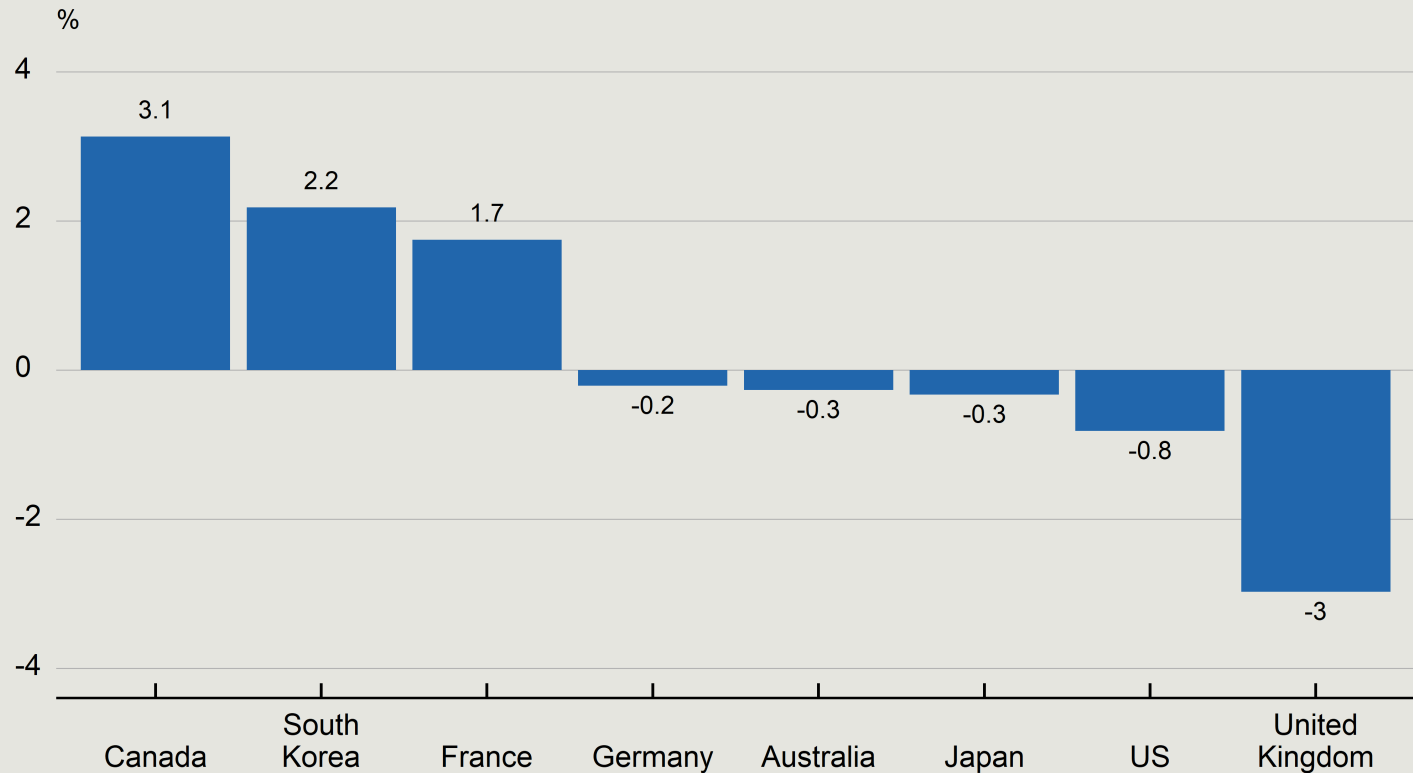
Premium for high quality Aussie coal

\$ / tonne, difference between Newcastle 6000 kcal/kg and Indonesia 4700 kcal/kg



Carbon emissions can fall while using more fossil fuels

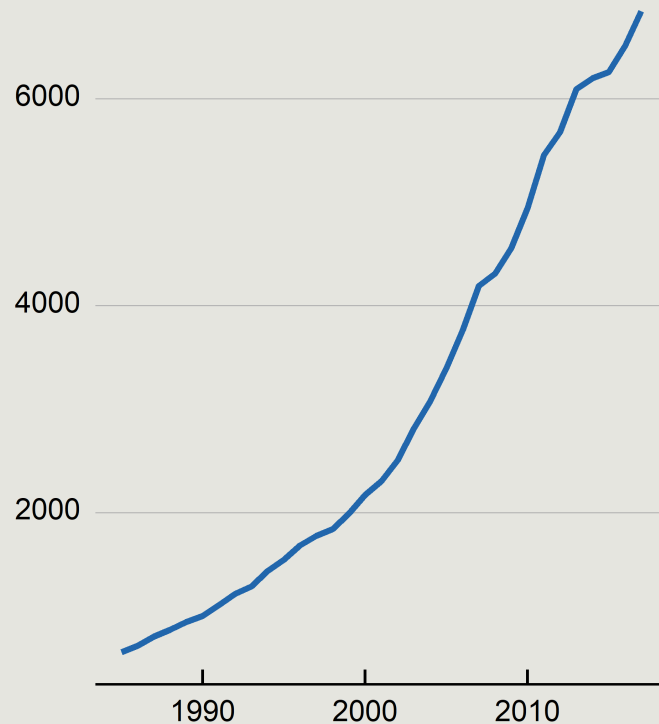
Change in carbon emissions over last year



Source: BP Statistical Review of World Energy

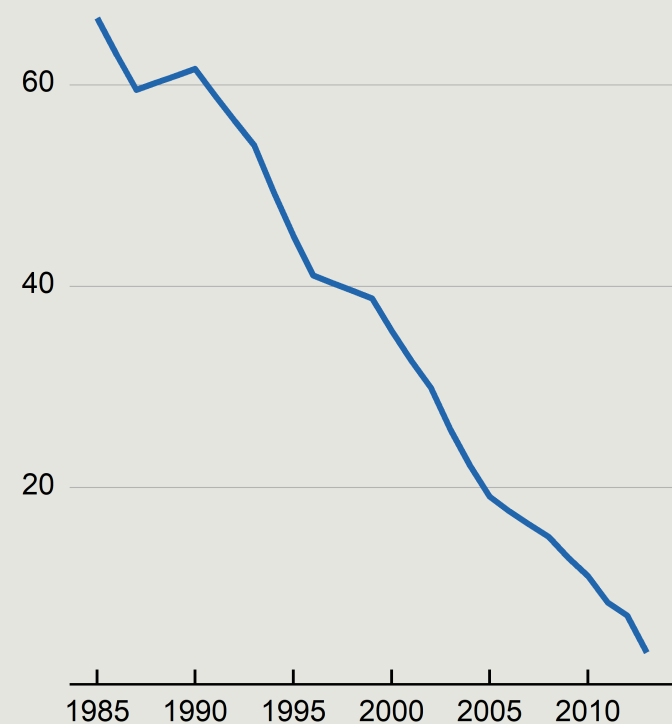
Coal has helped bring down poverty

Electricity generated by coal in Asia Pacific
terawatt hours



Source: BP Statistical Review of World Energy

Proportion of population living in poverty
East Asia & Pacific, below US\$1.90 per day, real dollars



Source: World Bank DataBank, Poverty and Equity

A lot more coal must be mined

