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IEA's Medium Term Coal Market Report 2016

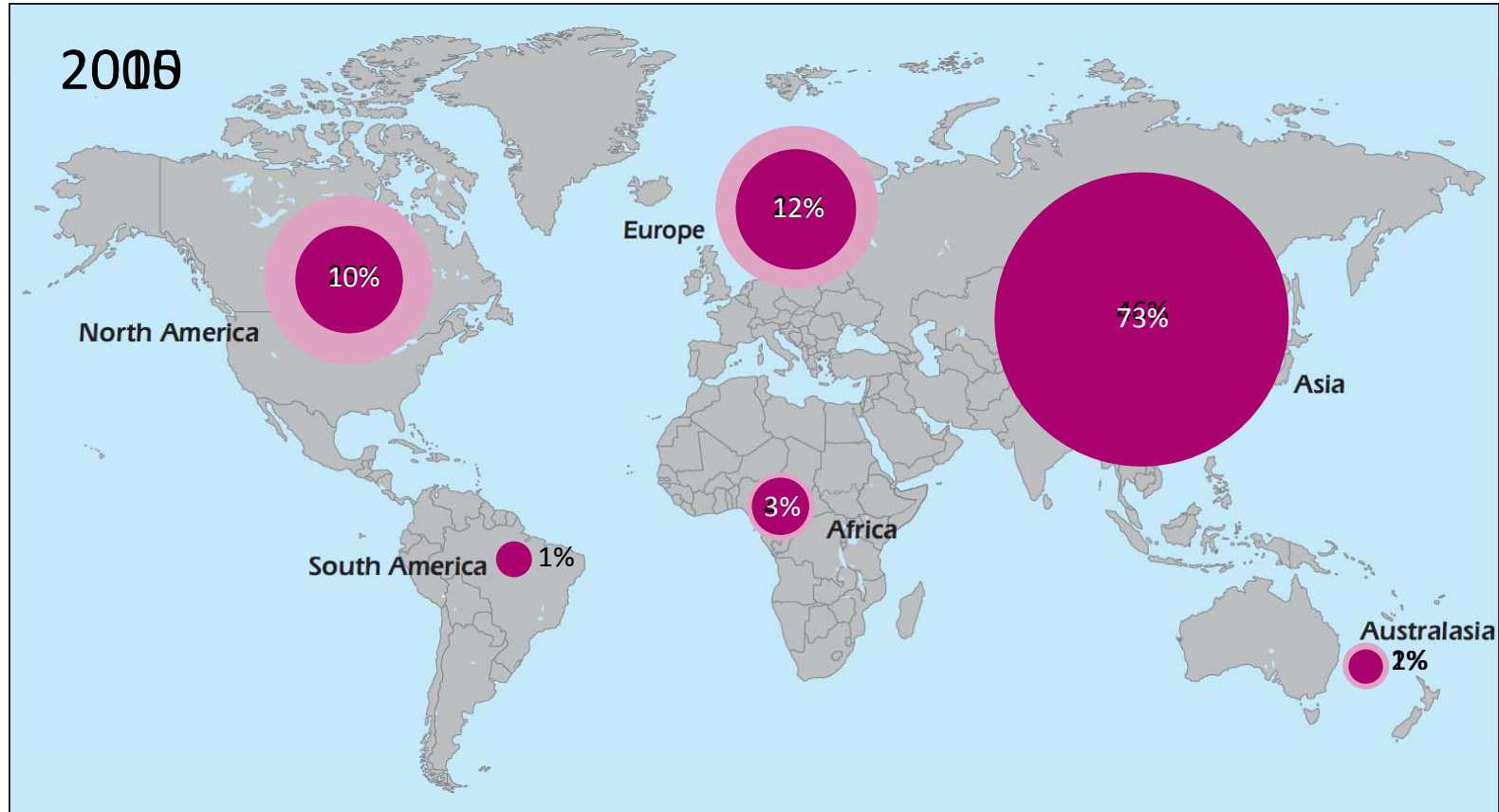
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Madrid, 30 January 2017

Coal markets: recent developments

- **Global coal demand declined in 2015 for the first time in this century**
 - *Coal demand drop in China and US in 2015 was unprecedented*
- **China's coal demand declined in 2015 for the second year in a row**
 - *Last time this happened was 1981. Economic restructuring and energy diversification underpinned such decline*
- **International coal trade shrank in 2015 for the first time in 20 years**
 - *There is none to offset declines in Europe, India and especially China*
- **India, Australia and Russia increased production significantly in 2015**
 - *Despite low prices, cost reduction in Australia and Russia, and increasing demand in India were drivers for production ramp up*
- **Coal prices ramped up in 2016 to unexpected levels one year ago**
 - *Chinese supply side policy changes was the main driver, exacerbated by disruption in Australia and other places*

The shift of coal to Asia is accelerating

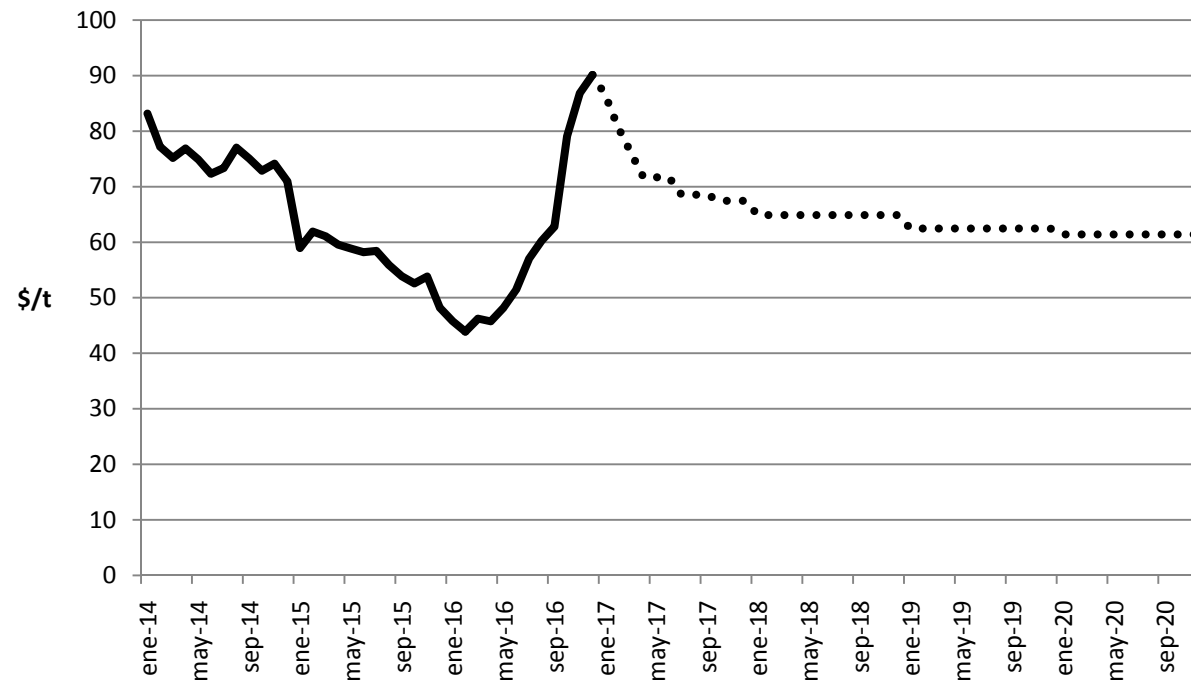


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- *Coal consumption has decreased in North America and Europe while increasing strongly in Asia*
- *The coal world is becoming completely asymmetrical*

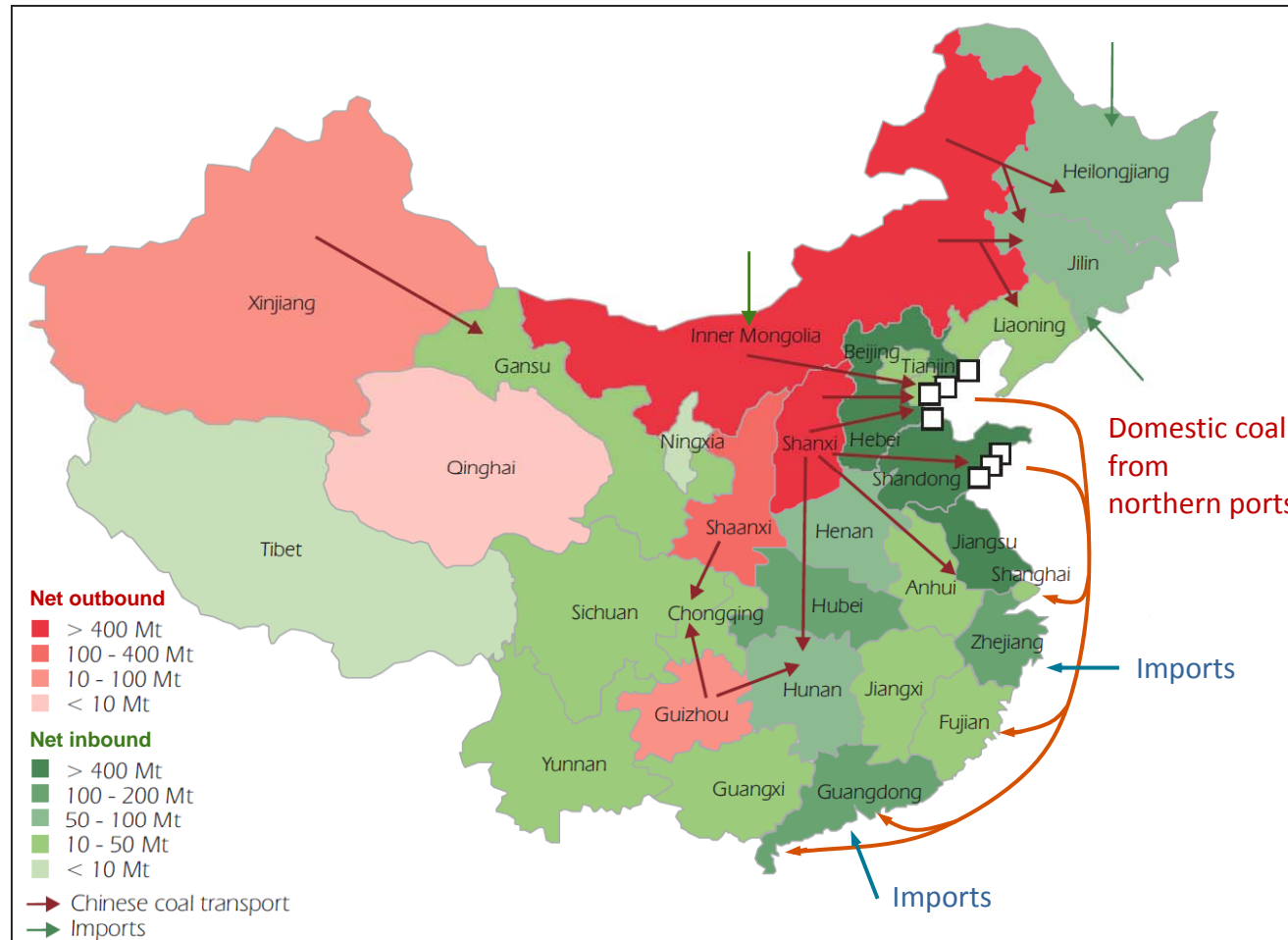
High prices, but low expectations

Price of thermal coal



- *Thermal coal prices doubled mostly pushed by Chinese supply cut, but the market players expect the trend to reverse*

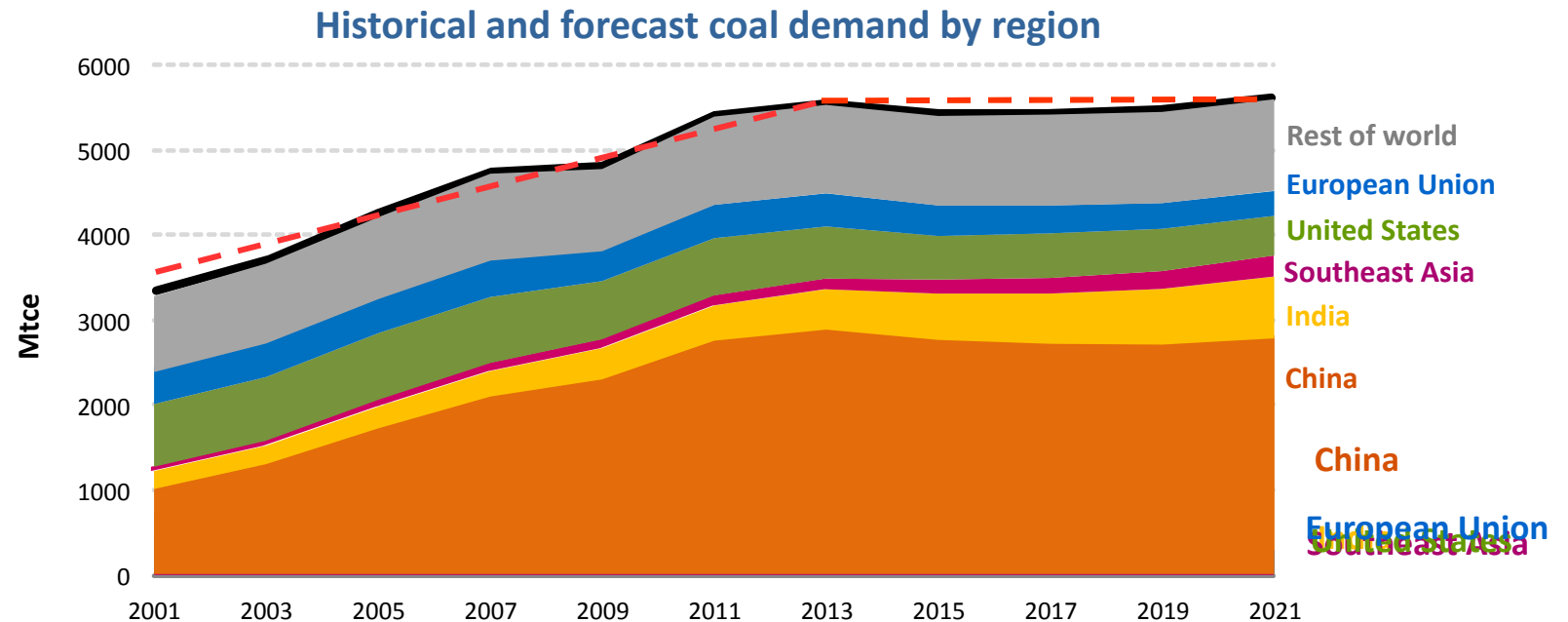
Does China set the global prices?



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The large arbitrage in the southern import ports between domestic and imported coal is key to determines prices – in China and elsewhere

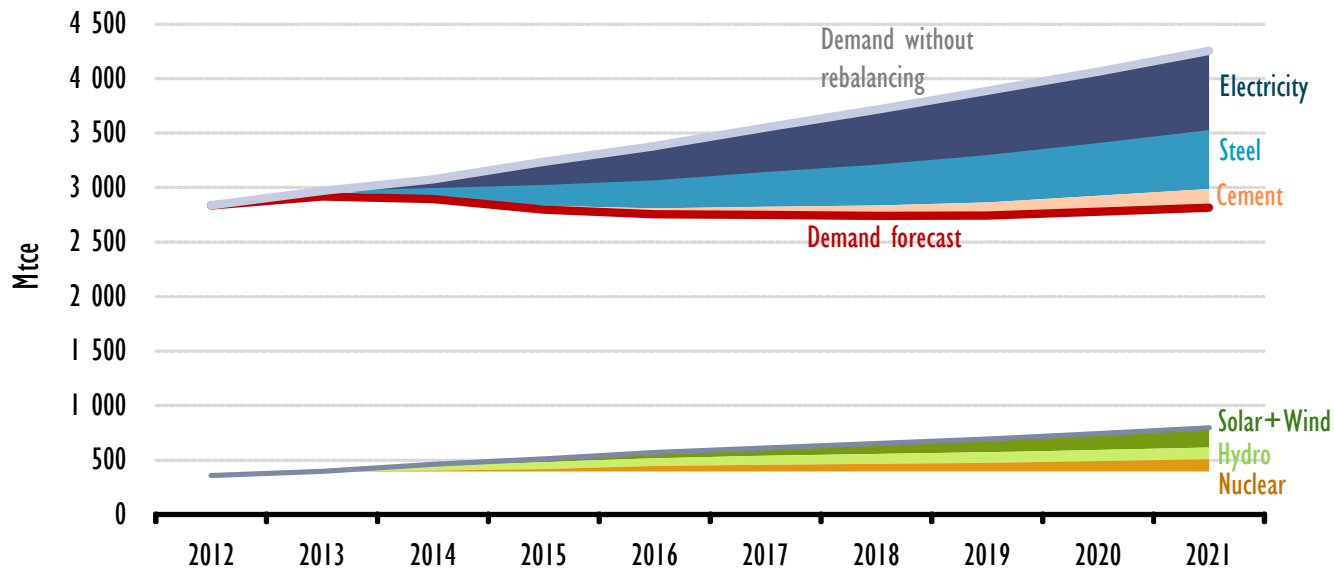
Global coal demand: from growth to plateau



- *Largest growth will be in India and ASEAN region*
- *Largest decline will be in US and Europe*
- *Largest uncertainty is China*

Coal consumption in China in the future: a flat trajectory

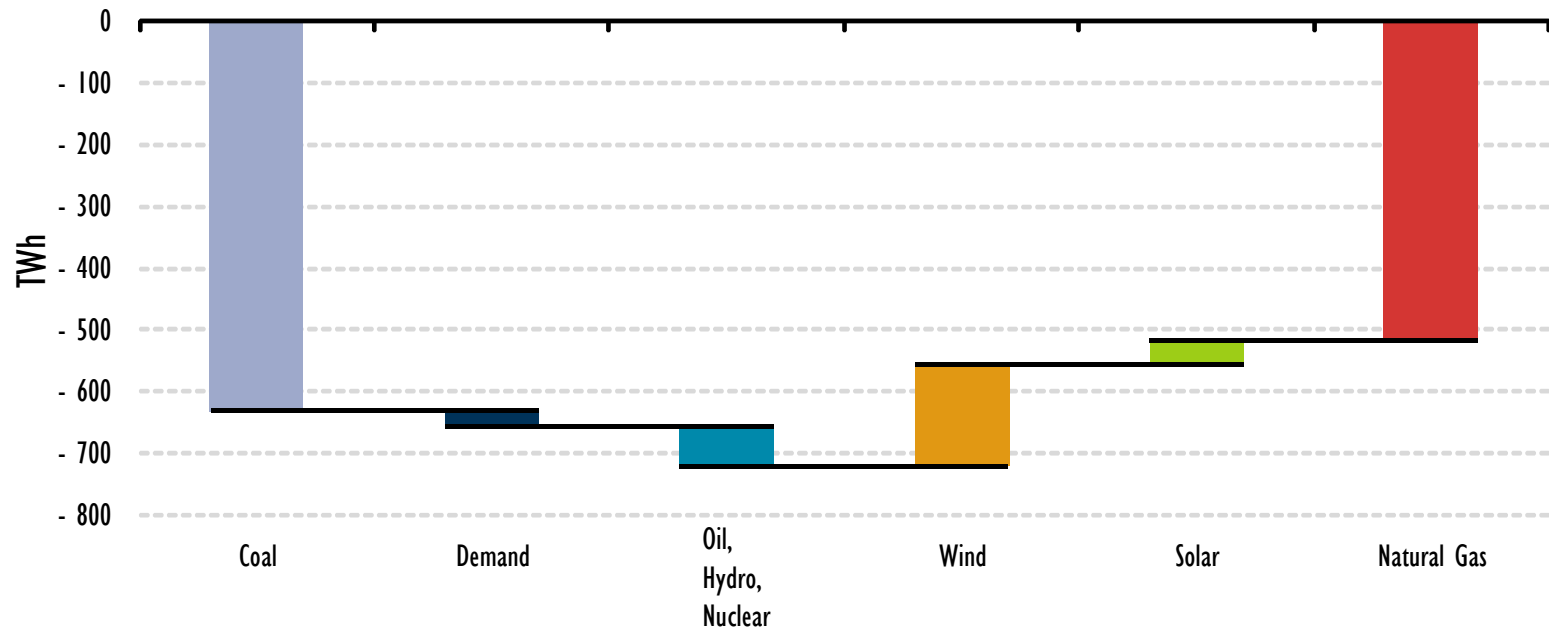
Impact of diversification and economic rebalancing on Chinese coal demand



- *Rebalancing of the economy and the increasing share of generation from hydro, nuclear and other renewables flatten the projection*

Who is hitting US coal?

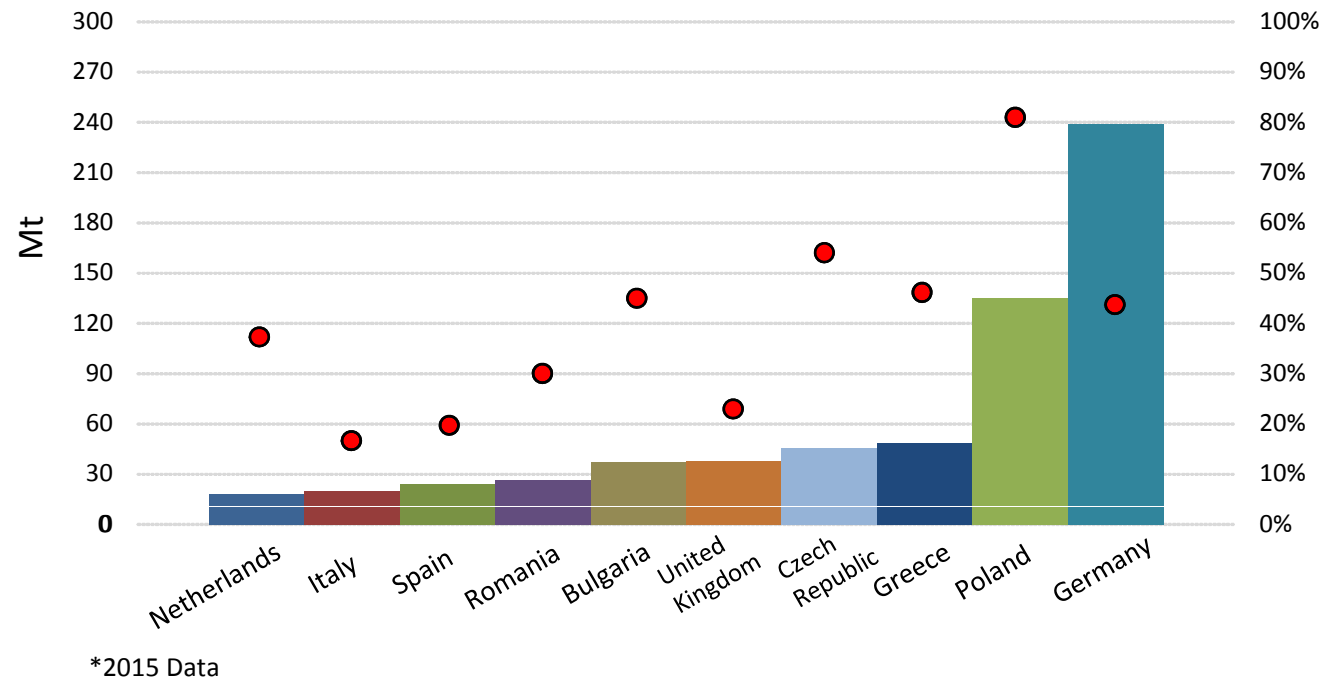
2006–2015 change in power generation in the US



- *Coal power generation has largely been replaced by gas generation*
- *But energy efficiency and wind were also significant*

A farewell to coal in Europe?

Coal demand and share in power in the 10-largest consumers in the EU



- *Belgium was the last European country ending coal generation*
- *But for others, things are far more complex*

China: giving access to electricity

Countries where coal plants have been announced or built by Chinese companies



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After successful electrification at home, Chinese companies are building new coal-fired power plants in numerous countries.

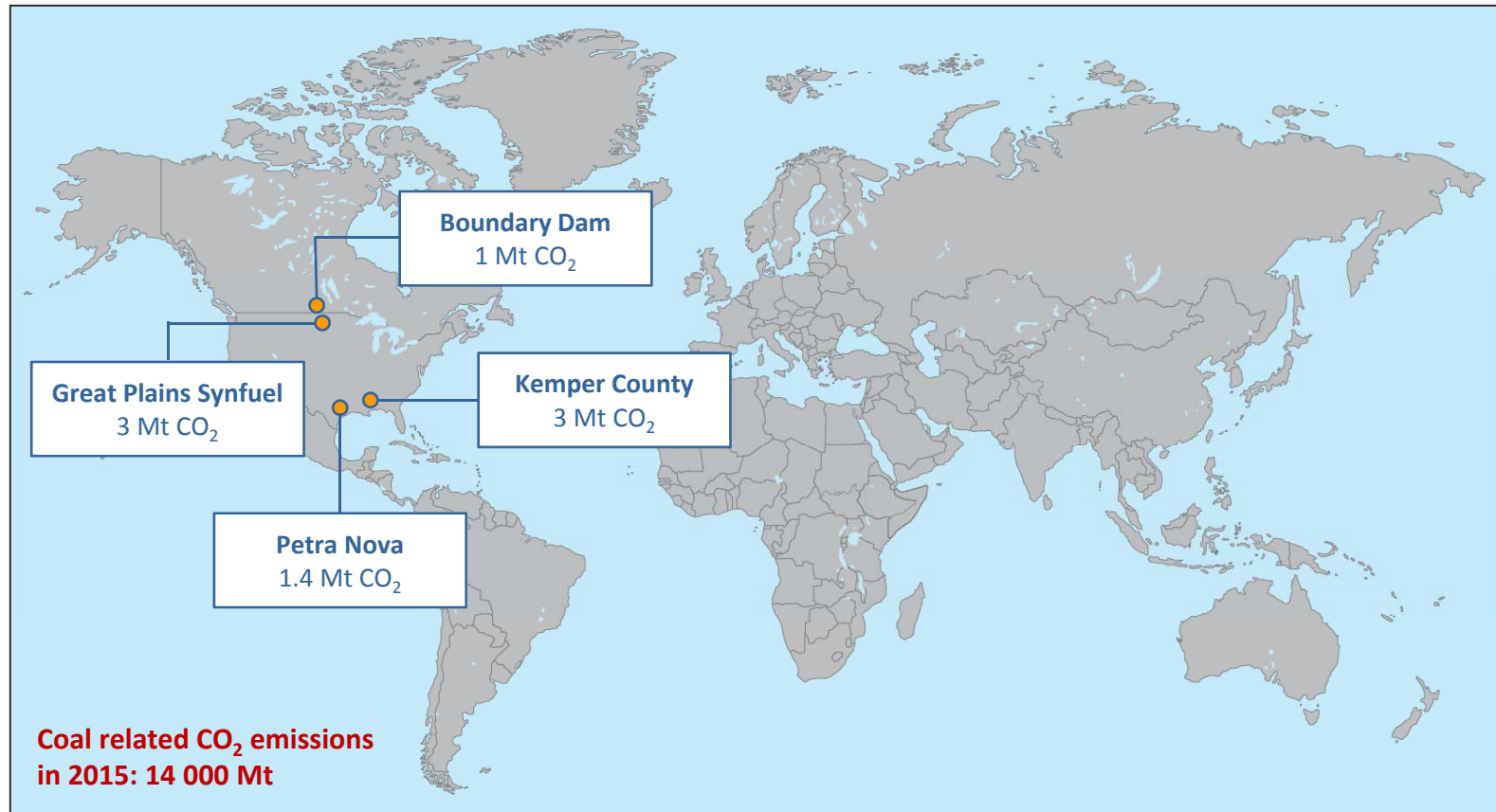


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CCS: few steps, no strides.

Large-scale coal-based CCUS projects in the world



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- ***Despite concrete progress on CCS, only 0.06% of coal-based CO₂ emissions are captured***
- ***Strong action from governments is urgently needed***

Coal markets: the outlook

- Global demand growth to stall in the next coming years
 - *With decline in Europe and US almost offsetting increase in India and ASEAN region, China will determine the global trends*
- In China, coal demand is in structural and slow decline driven by a new economic growth model and diversification from coal
 - *However, dependence on coal of China will remain and demand in 2021 is forecast higher than in 2015*
- Coal trade contracts, but recovers at the end of the outlook period
 - *Viet Nam, Malaysia, Pakistan, Philippines, Morocco and other importers add up to increase coal trade*
- Coal prices have strongly rebounded up in 2016. As a result, the coal industry has found some relief
 - *Looking ahead, low costs, slugging demand and structural oversupply in China do not support high prices*
- Despite concrete progress, CCS development requires stronger support and commitment by governments
 - *Without CCS deployment, coal's future is seriously challenged, but also our climate targets*

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Questions are welcome, please addressed to:

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