Coal demand trends in OECD countries

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Coal is mainly power and steel

Coal use in OECD countries

- Steam (power): 58%
- Steam (non-power): 6%
- Cement: 1%
- Coking coal: 9%
- Lignite: 26%

Total: 2136 Mt
How to compete with lignite?
Increasing weather dependency

- Coal demand
  - Power demand
  - Gas prices
  - Hydro
  - Variable REN

Weather dependency
Coal is not leaving the OECD

Coal demand forecast for OECD countries

- United States
- OECD Europe
- OECD Asia Oceania

Mtce: Metric tons of coal equivalent
REN and gas squeezes coal

Renewable generation forecast in US

- **Other**
- **PV**
- **Wind**
- **Bio**
- **Hydro**

TWh

- 2012
- 2013
- 2014
- 2015
- 2016
- 2017
- 2018
- 2019
- 2020
Large coal retirements

US coal capacity

Clean Power Plan ???

GW

A lot of low cost coal in US

Gas at $6/MBtu

Gas at $4/MBtu

$/MWh

Powder River Basin

Central App

Illinois

Transport

FOR
In Asia, this is another story

Coal and gas generation costs

USD/mbtu

USD/t CO2

CO2 price triggering fuel switch
Coal marker price Asia
LNG Asia average
Japan relies on coal

Coal capacity in Japan

Inviting Bids
Korea also needs power
Turkey needs more energy

Hard coal capacity in Turkey

GW

Projects
License
Under Construction
Operating
Large lignite reserves in Turkey

Lignite capacity in Turkey

GW

25
20
15
10
5
0

Capacity
Utilisation
Cap + Projects
An important milestone

Boundary Dam CCS Project
Thanks for your attention

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