



International  
Energy Agency  
Secure  
Sustainable  
Together

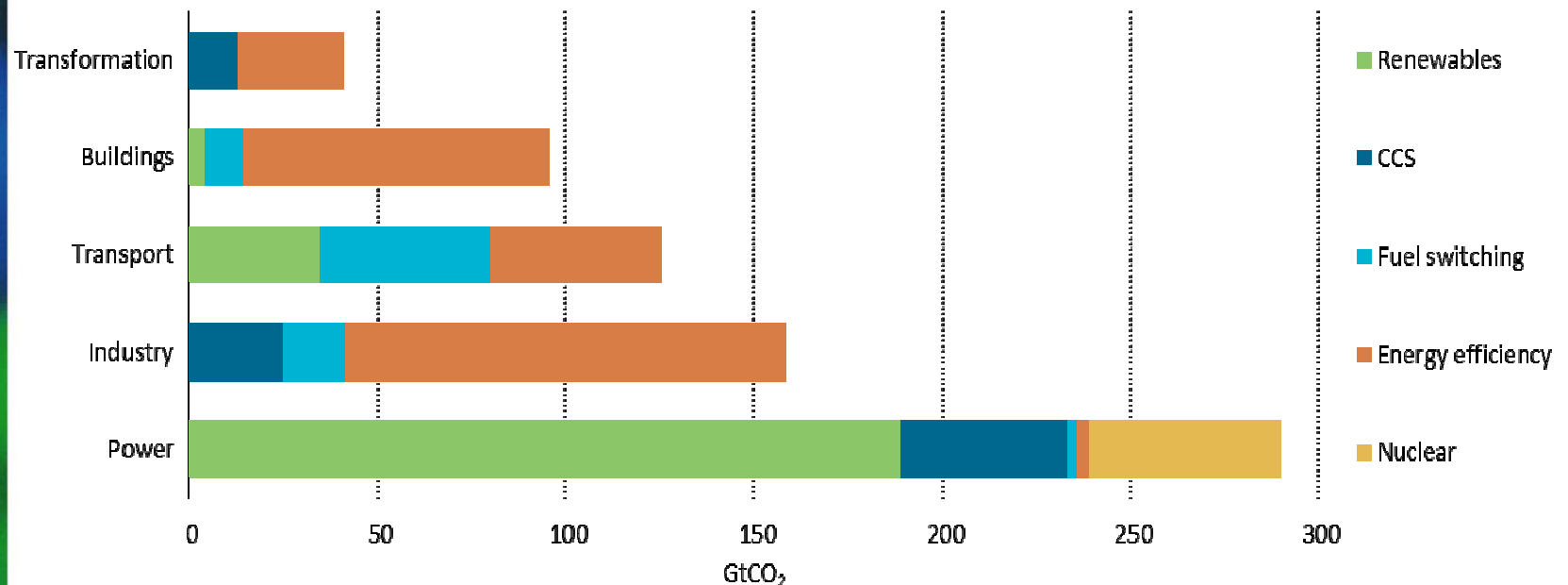
# IEA's outlook on coal and power

**Carlos Fernández Álvarez**  
**Senior Coal Analyst**

**Assocarboni Congress,**  
**Rome, 31 March 2017**

# The momentum from COP21 needs to be accelerated to reach 2DS ambitions

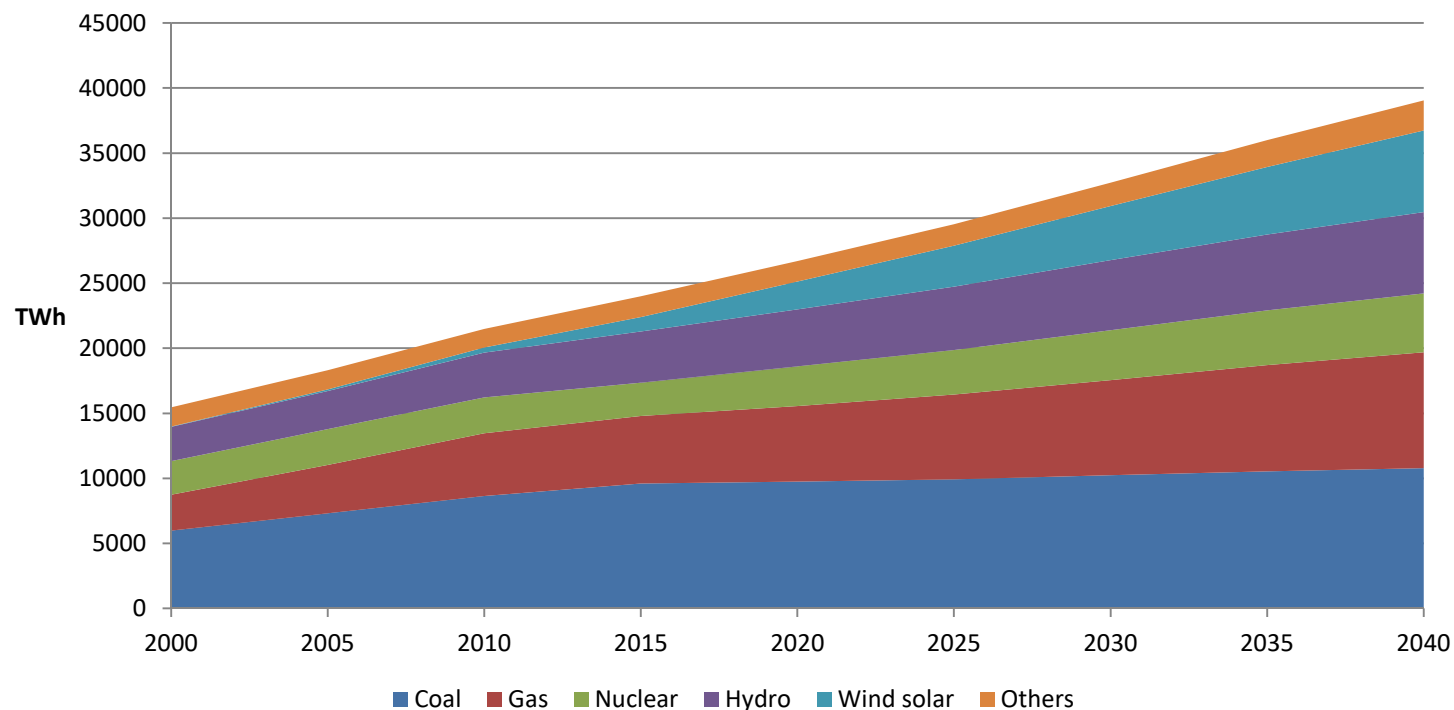
Contribution by sector to global cumulative CO<sub>2</sub> reductions



- *Actions need to be pursued by stakeholders in all sectors to achieve an optimal transition strategy*

# More renewables in the power mix

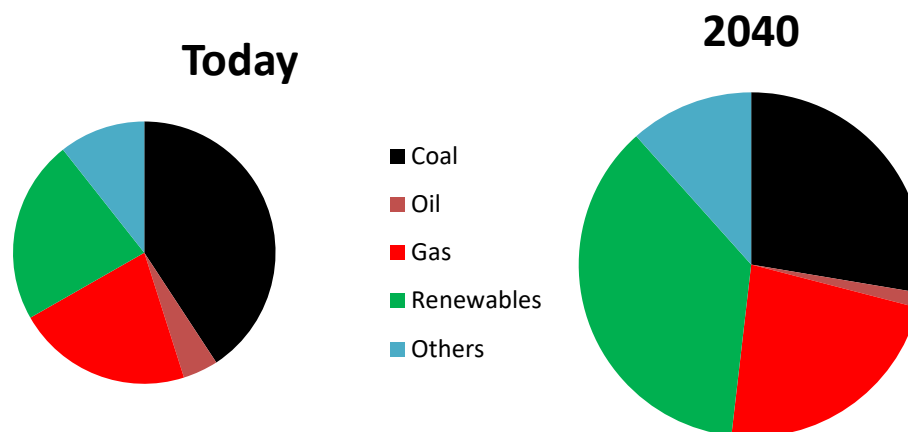
Evolution of the power mix in IEA central scenario (NPS)



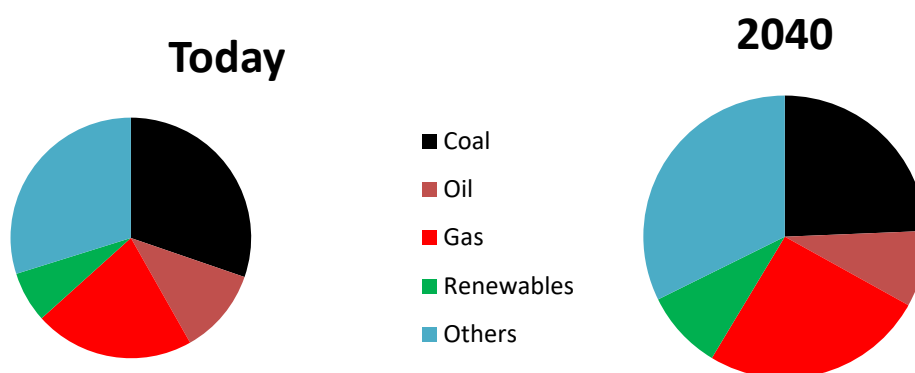
➤ *In IEA's central long term scenario, renewables become the largest source of electricity generation*

# Power sector will lead decarbonisation

Power mix in IEA central scenario (NPS)



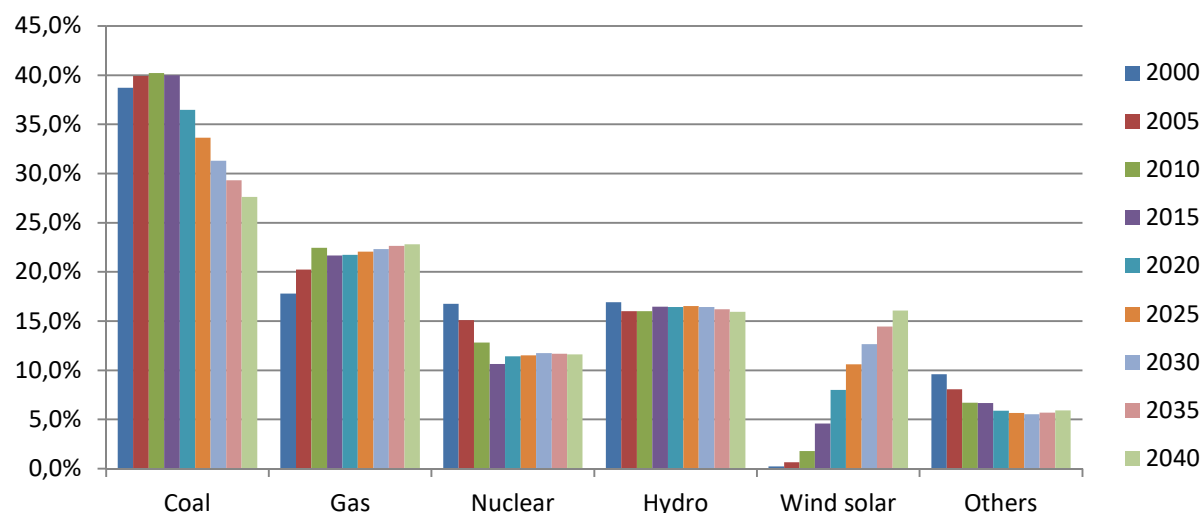
Industry mix in IEA central scenario (NPS)



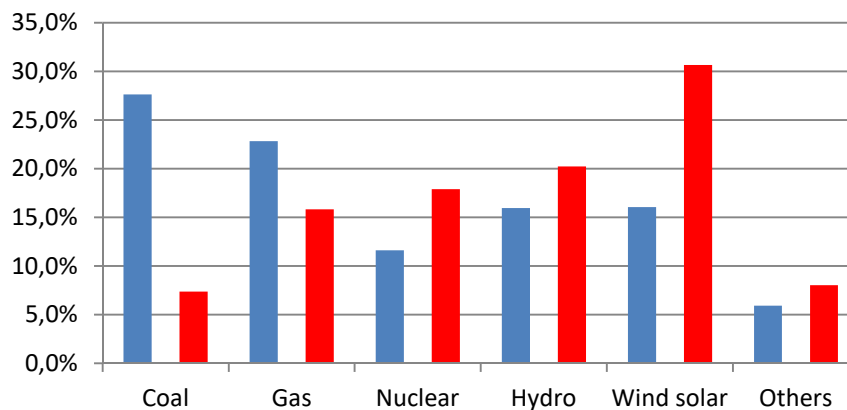
➤ *Decarbonisation of the power sector seems more feasible than in industry*

# But still far from targets

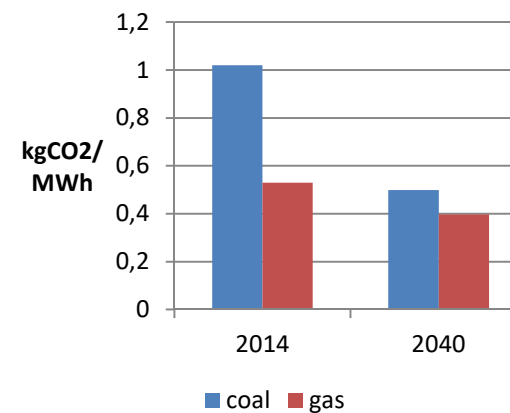
Evolution of power mix in our main scenario



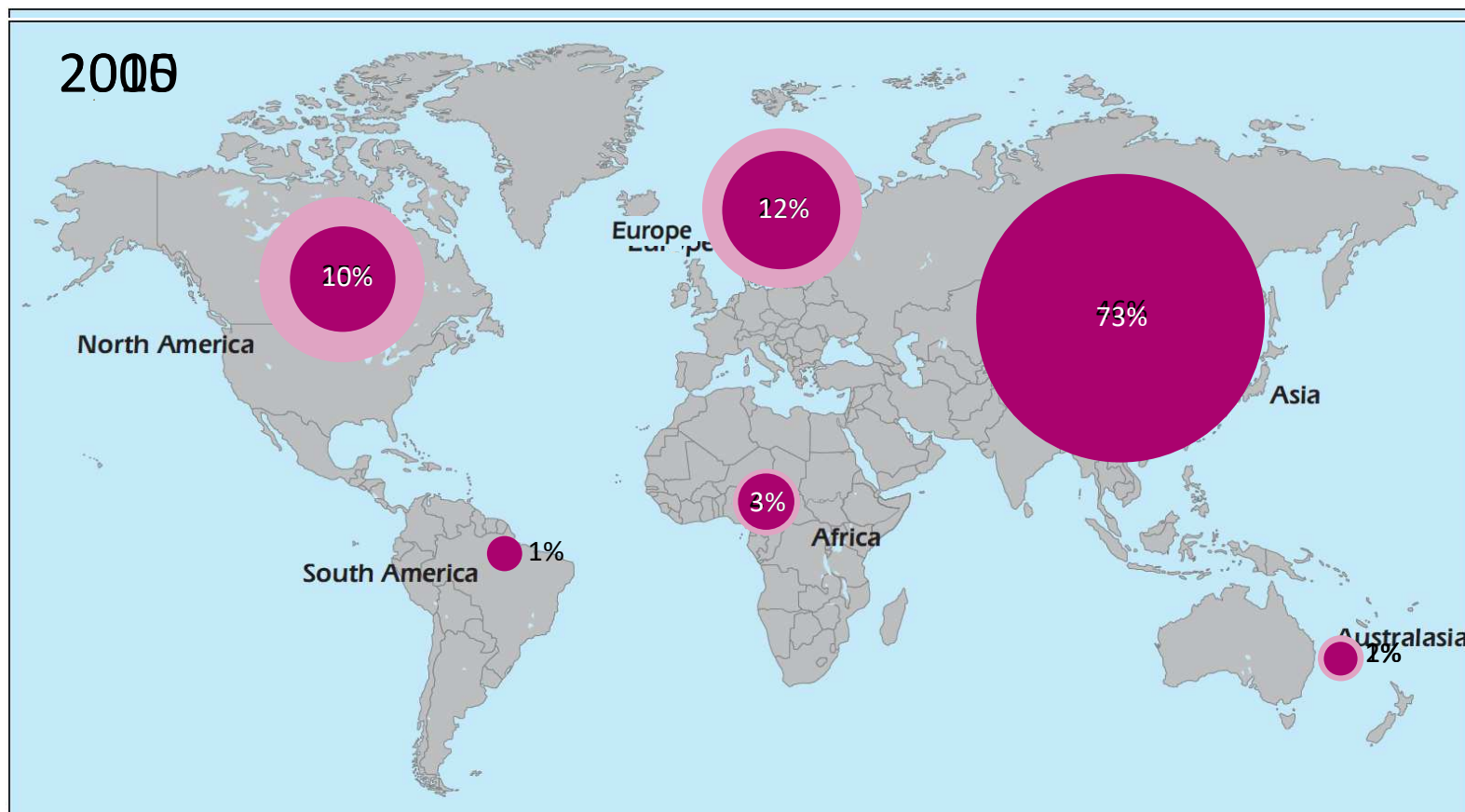
Power sector breakdown in NPS and 450 ppm Scenario



CO2 emissions in 450S



# The shift of coal to Asia is accelerating

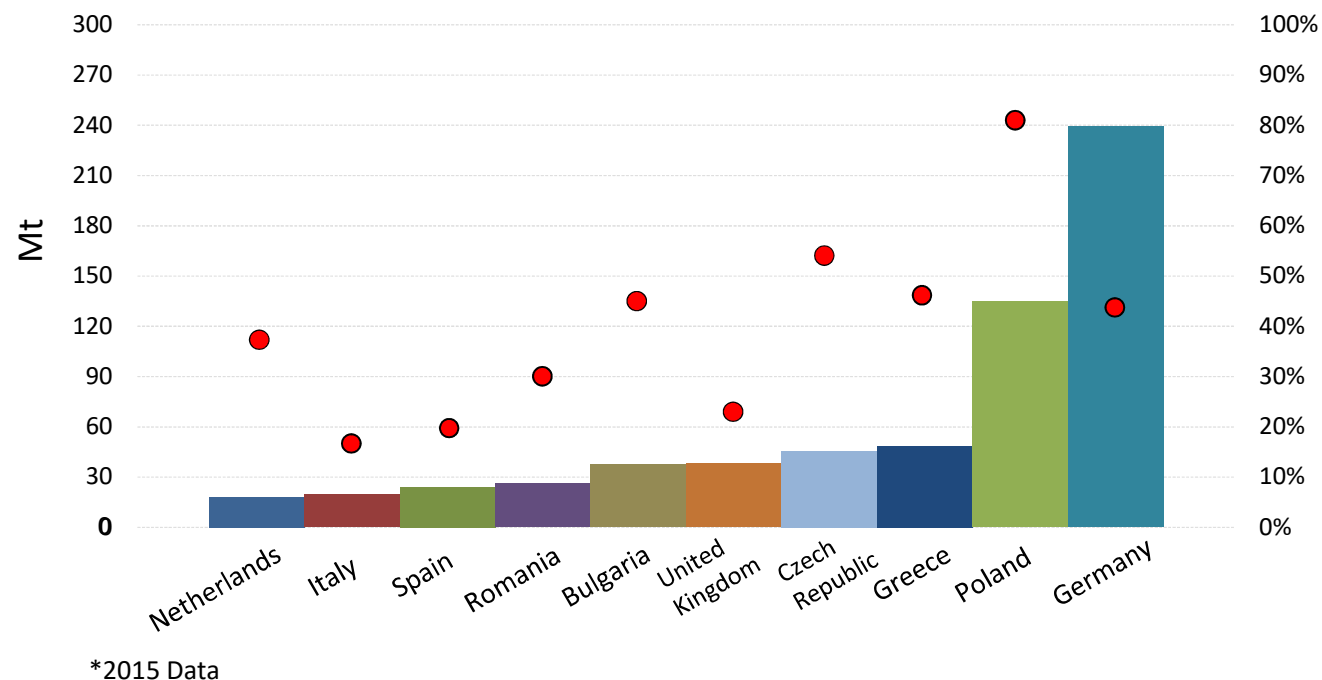


This map is without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries, and to the name of any territory, city or area.

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

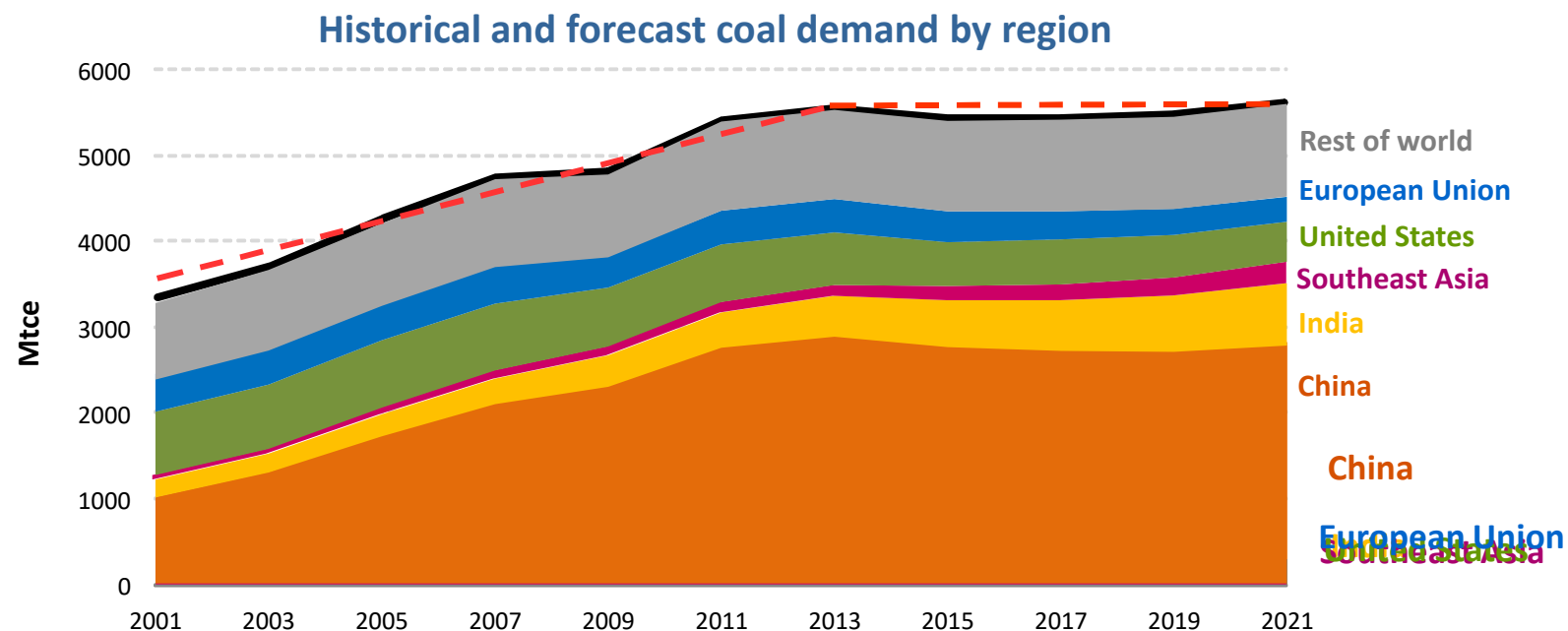
# A farewell to coal in Europe?

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



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

# Global coal demand plateauing



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

## Wrap up

- The energy sector is in a transition to lower carbon sources
  - *The Paris Climate Agreement shows the strong ambition of the countries. However, reality shows that it will be challenging*
- The power sector will take on its shoulder the largest part of the decarbonisation effort
  - *Declining cost of renewables and increasing electrification are changing the long term perspectives*
- Carbon intensity of power generation needs to dramatically decline
  - *Renewables will become the largest source of electricity; in a 2DS, Carbon Capture and Storage is widely deployed*
- Coal's share in both energy primary and electricity mix will decline in the future
  - *Whereas in Asia, coal demand is expected to continue to be strong, in Europe and North America, coal use will plummet*
- China, the main driver of coal markets in this century, is changing its economic model and its energy mix
  - *Whereas coal's share in the primary energy will decline, China's coal dependence will not disappear soon*

# **Medium-Term Coal Market Report 2016**

**Questions are welcome, please addressed to:**

**[Carlos.Fernandez@iea.org](mailto:Carlos.Fernandez@iea.org)**