

CO₂ Capture and Storage (CCS): “Une option *incontournable**”

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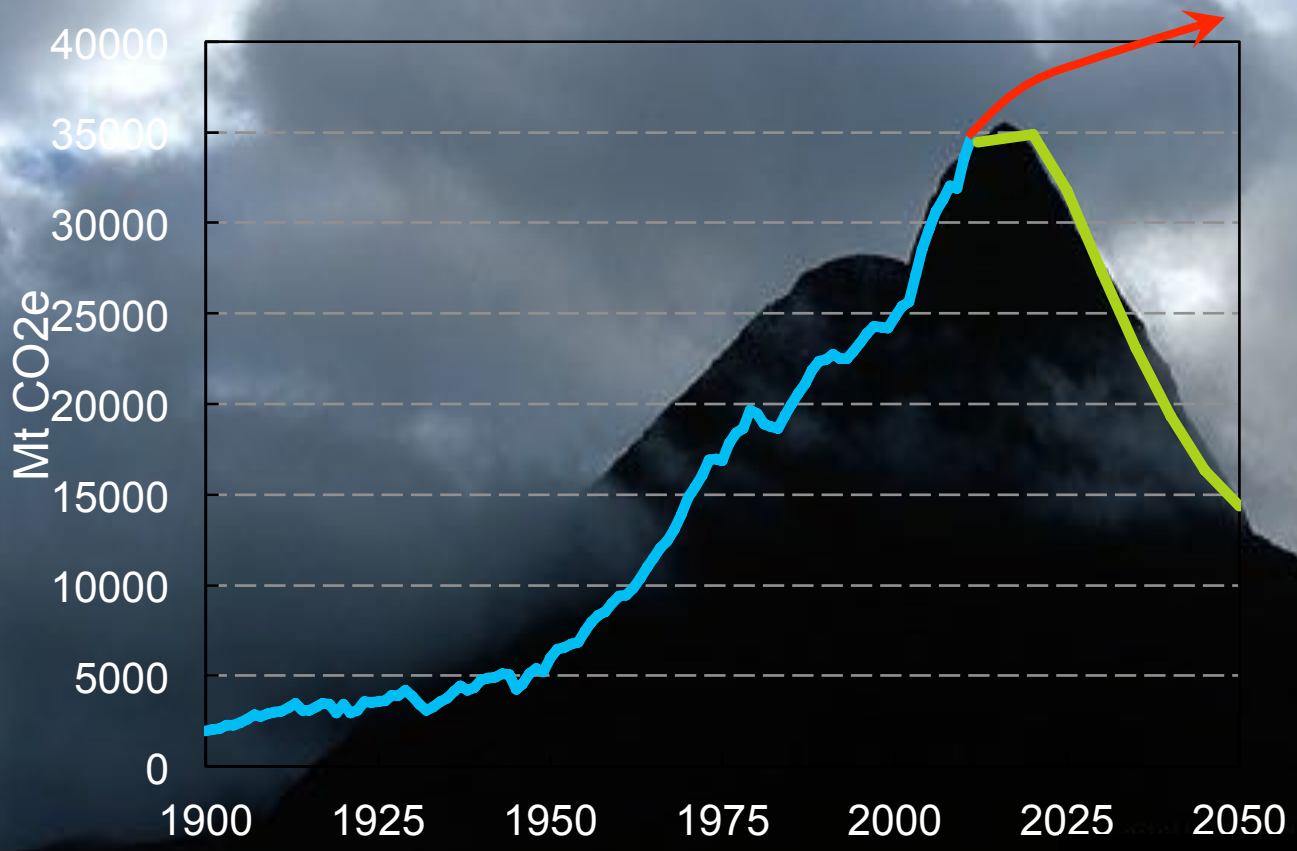
* “a must”

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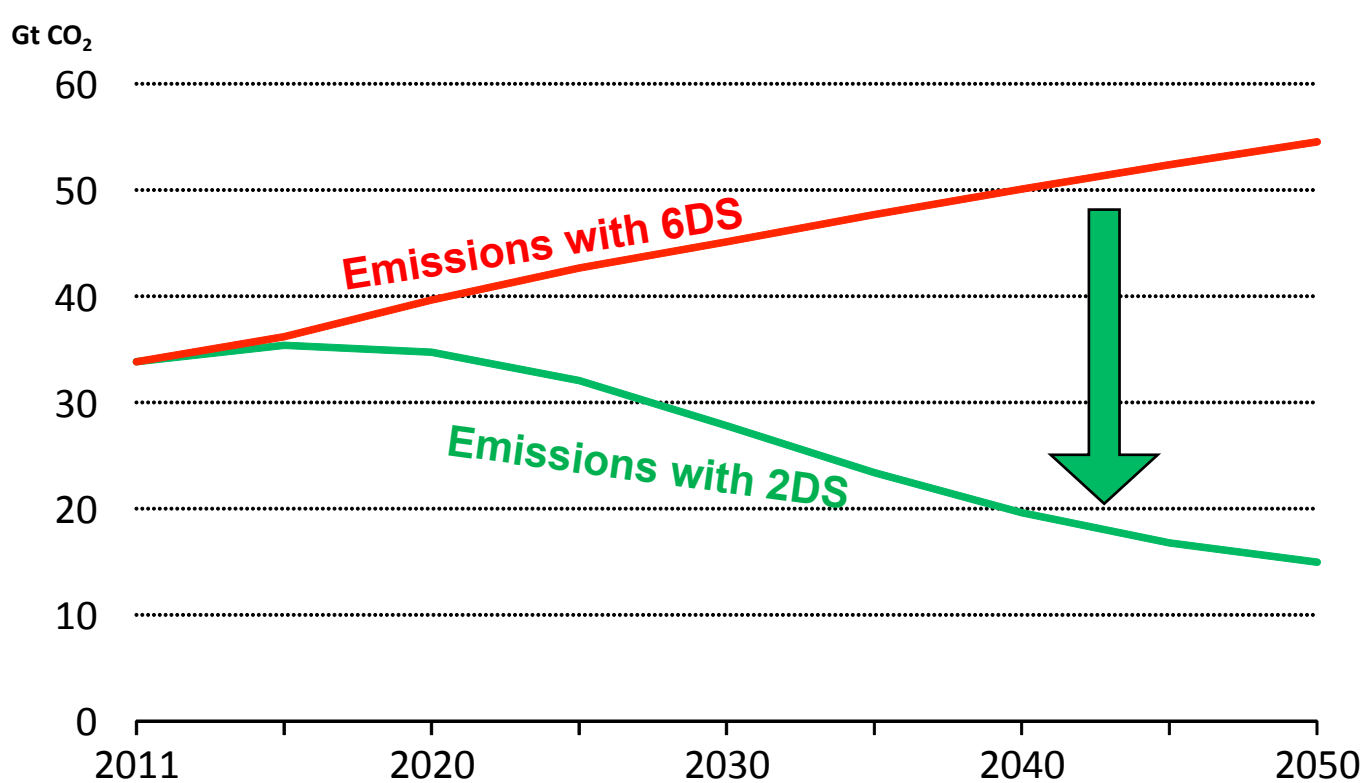
“Getting to the top is optional.

Getting down is mandatory.”

Ed Viesturs

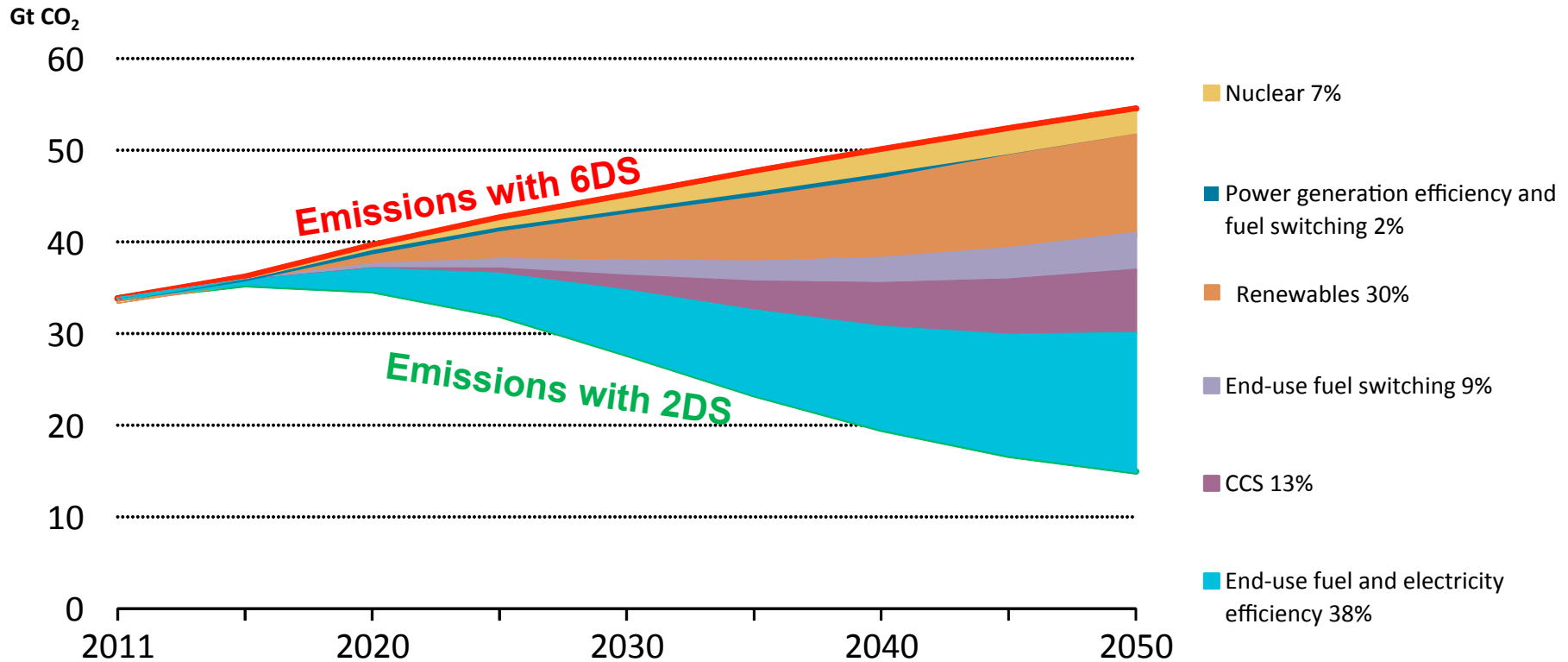


Portfolio of actions to reduce energy sector emissions



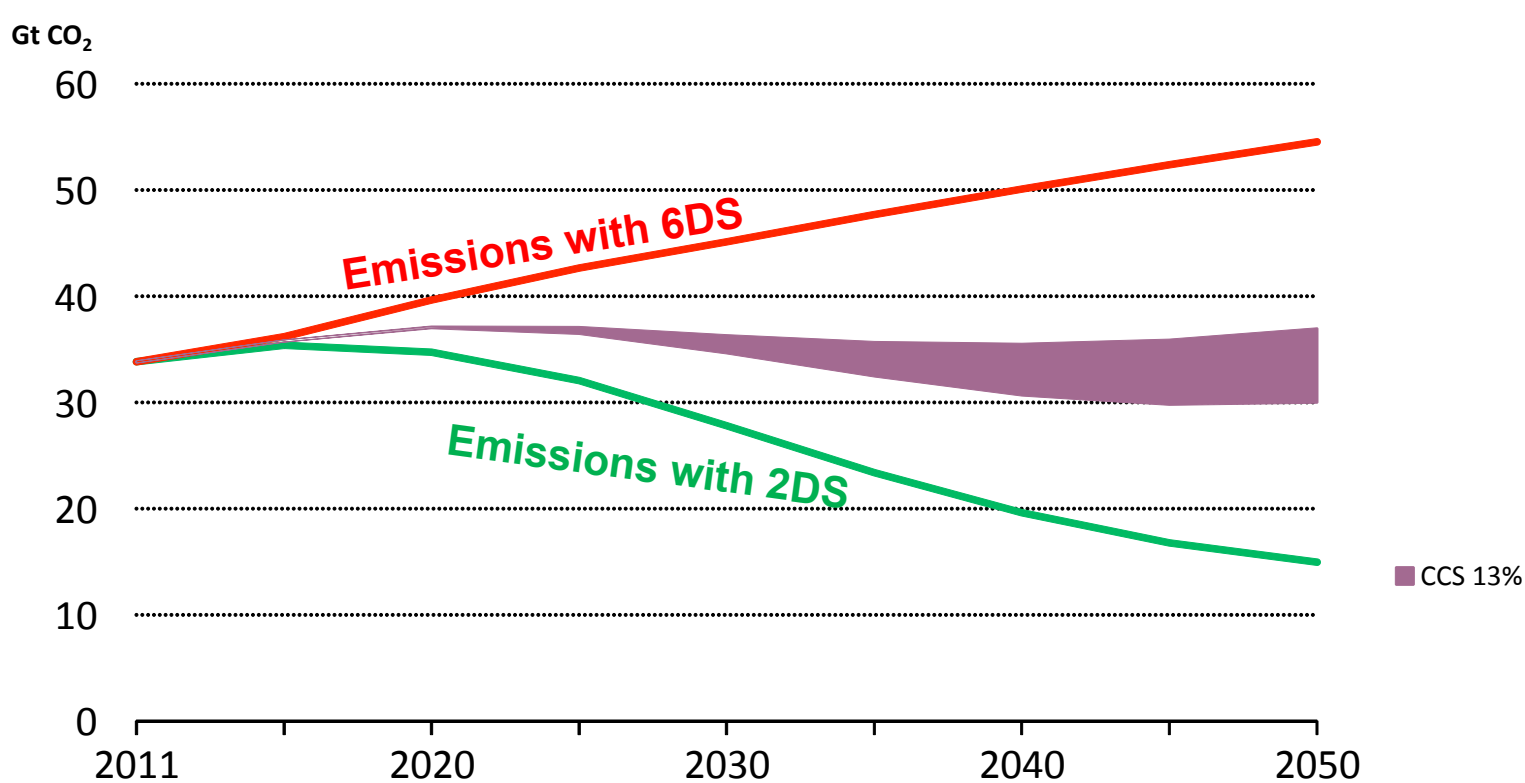
Source: ETP 2014

Portfolio of actions to reduce energy sector emissions



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Portfolio of actions to reduce energy sector emissions



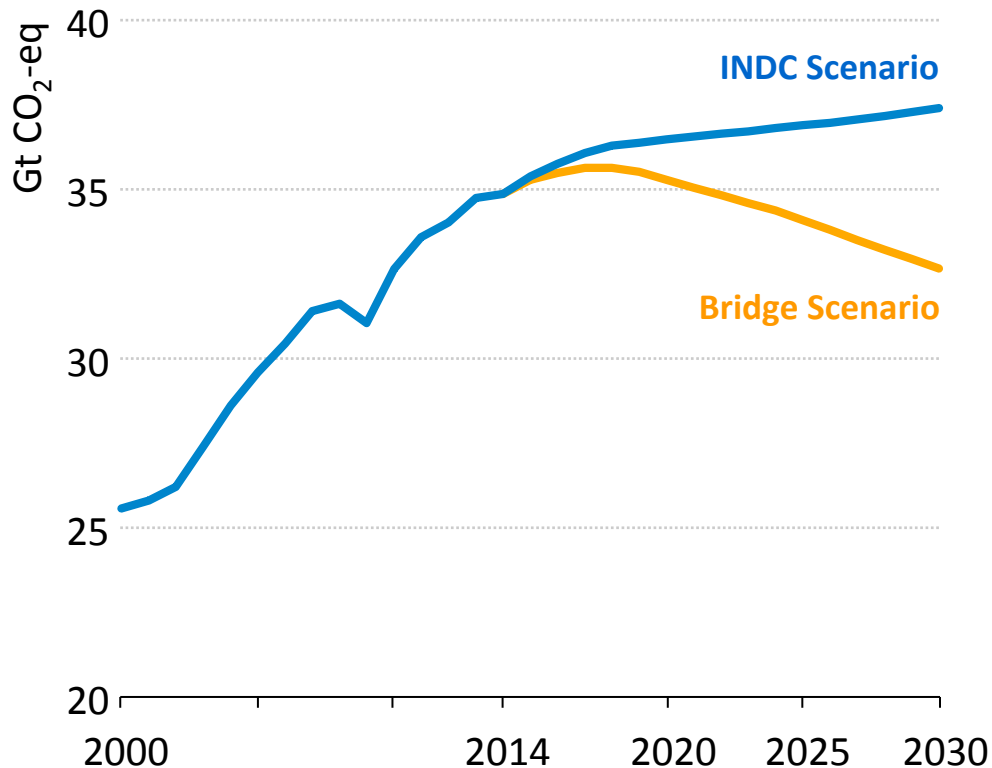


To shift the energy sector onto a low-carbon path that supports economic growth and energy access:

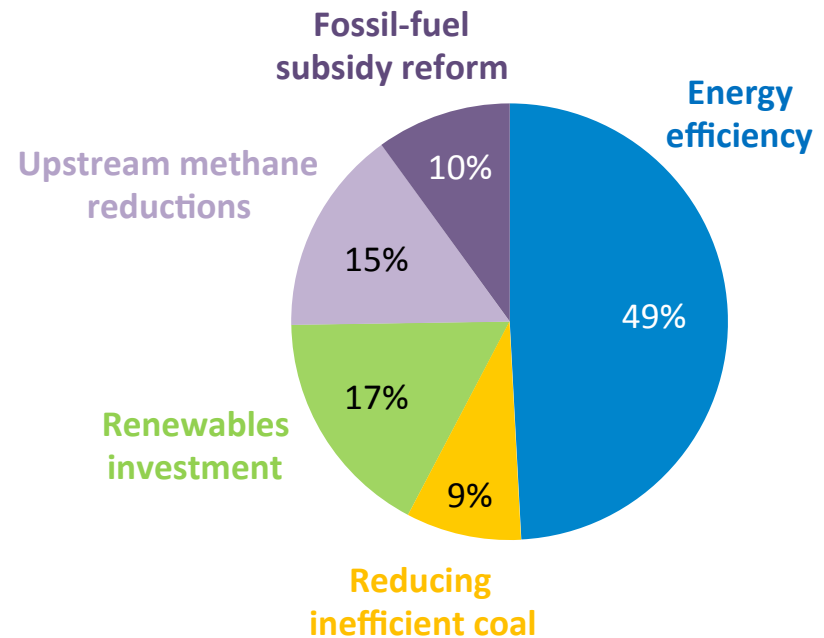
- 1. Take five key actions, led by energy efficiency and renewables, to peak then reduce global energy emissions.*
- 2. Use the Paris Agreement to drive short-term actions consistent with long-term emission goals.*
- 3. Accelerate energy technology innovation to make decarbonisation easier and even more affordable.*
- 4. Enhance energy security by making the energy sector more resilient to climate change impacts.*

Peak in emissions: IEA strategy to raise climate ambition

Global energy-related GHG emissions

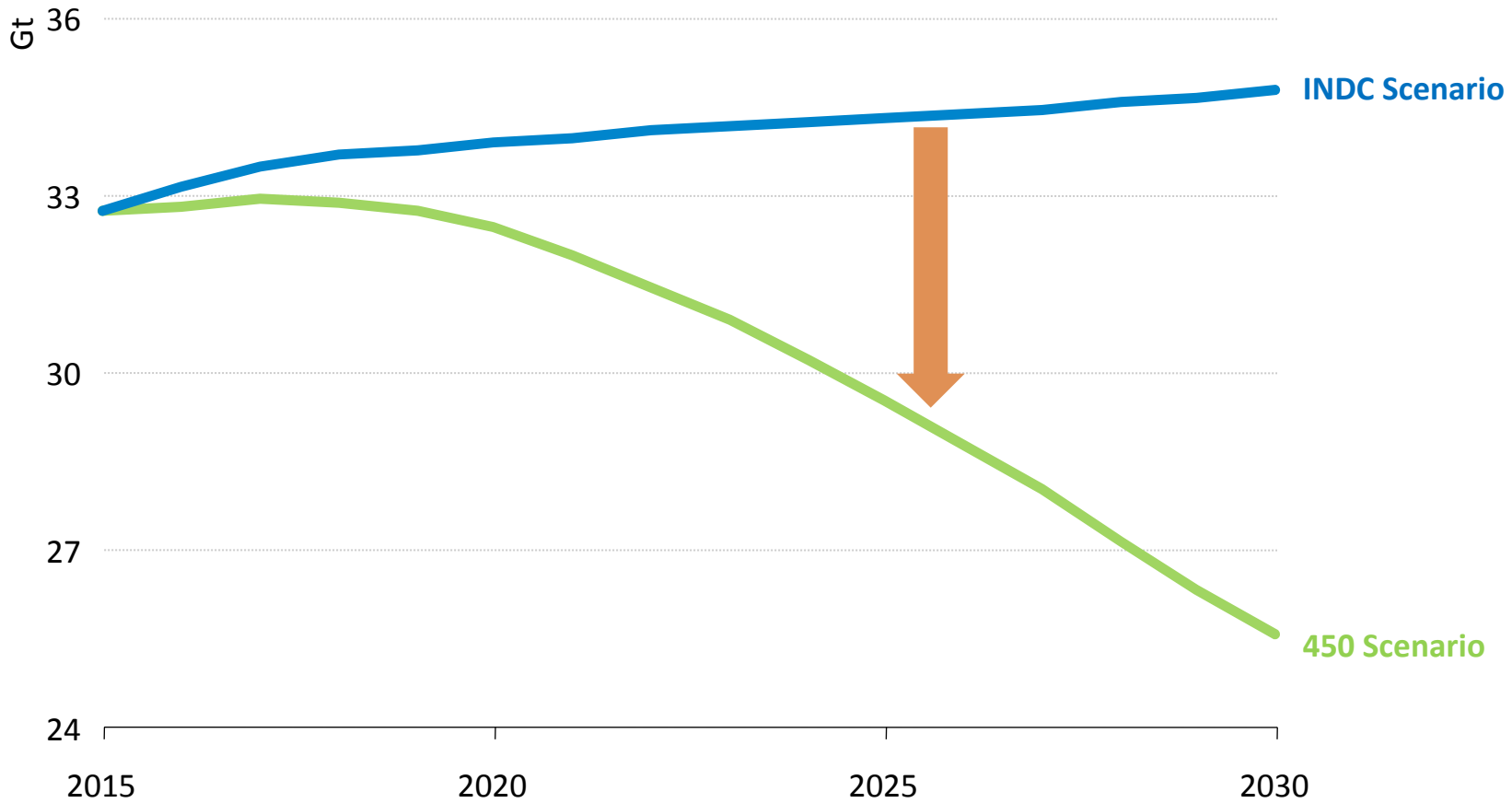


Savings by measure, 2030

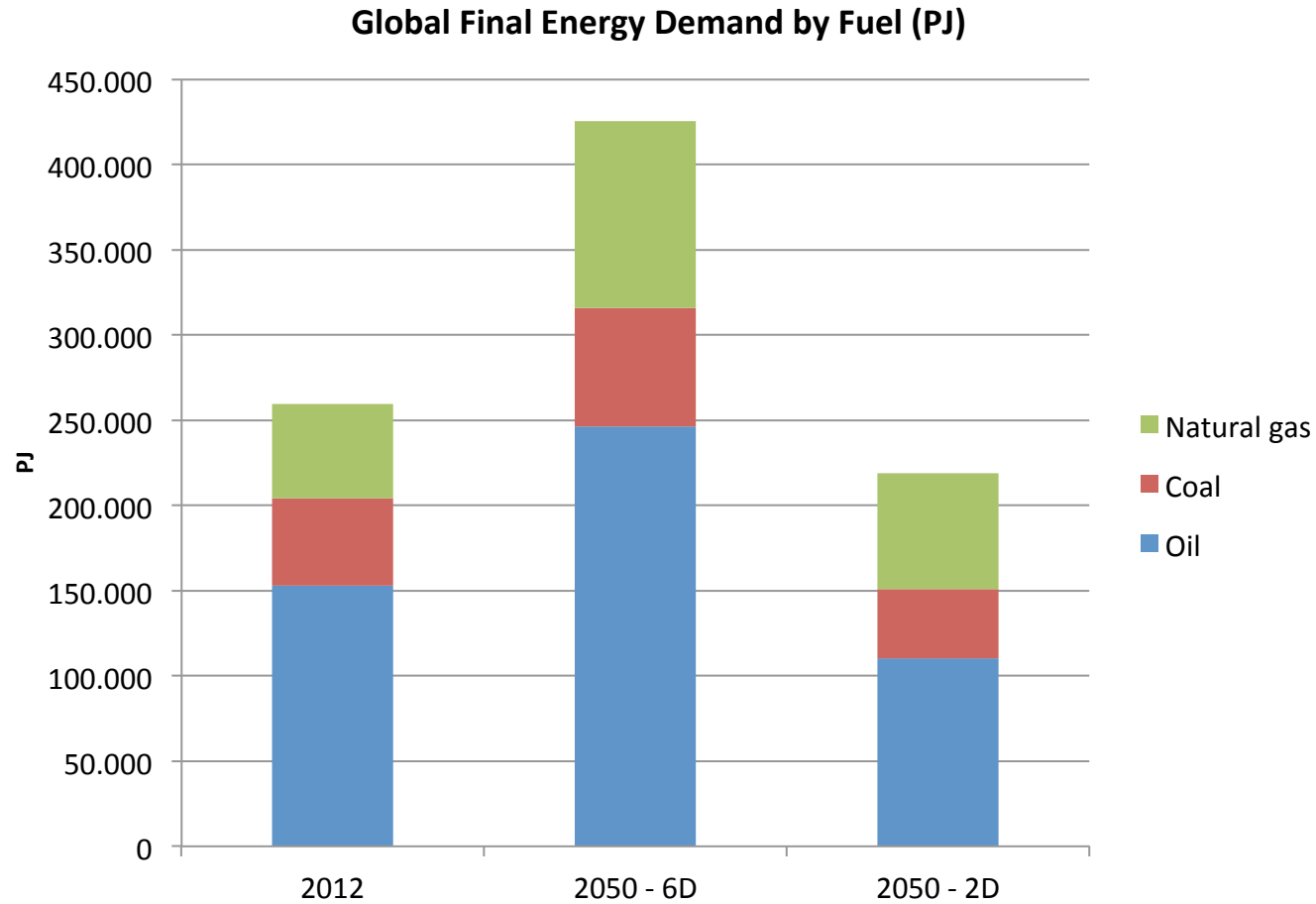


Five measures – shown in a “Bridge Scenario” – achieve a peak in emissions around 2020, using only proven technologies & without harming economic growth

Beyond INDCs: the need for more



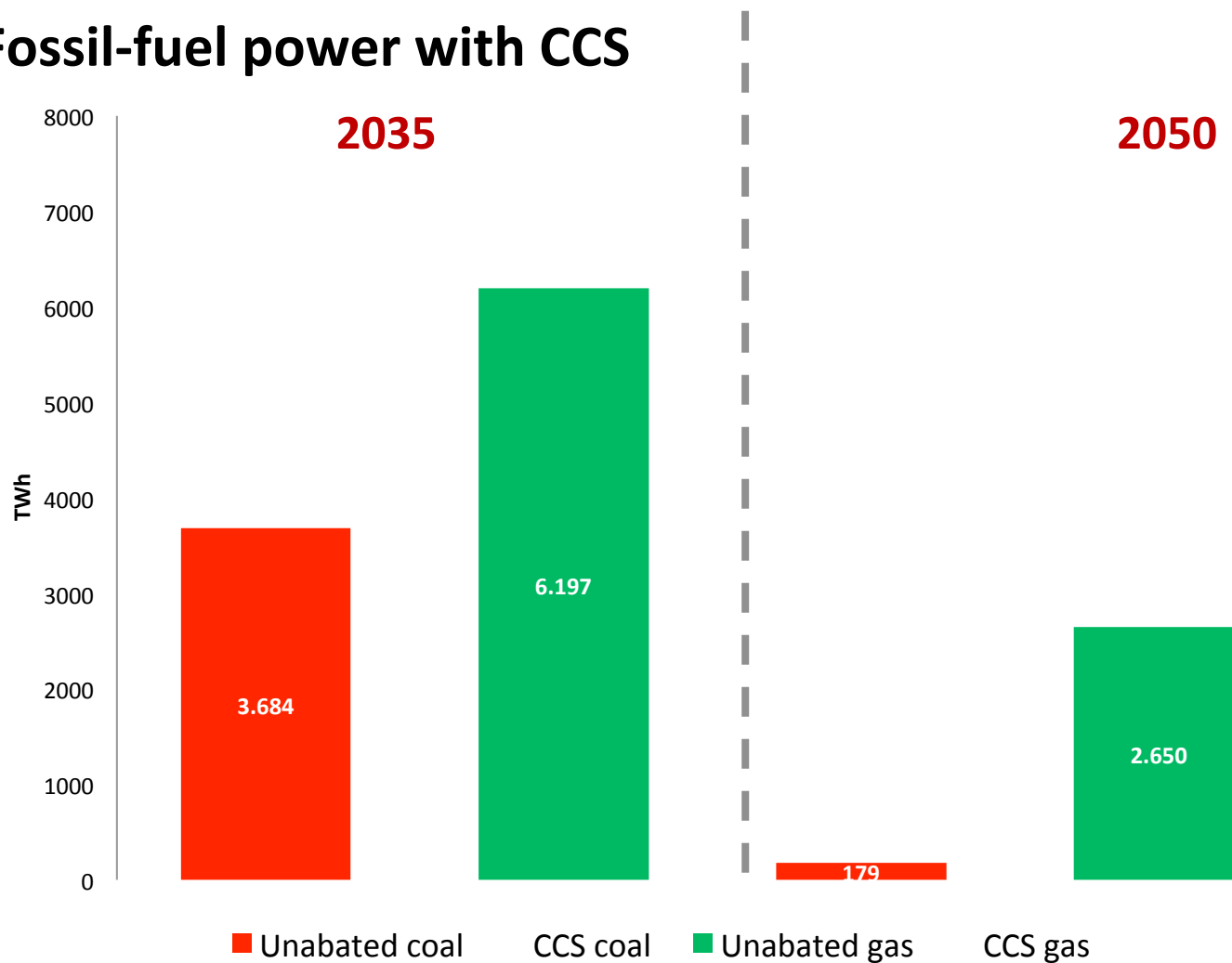
Fossil fuels under different climate scenarios



Continued, albeit lessened, role for fossil fuels

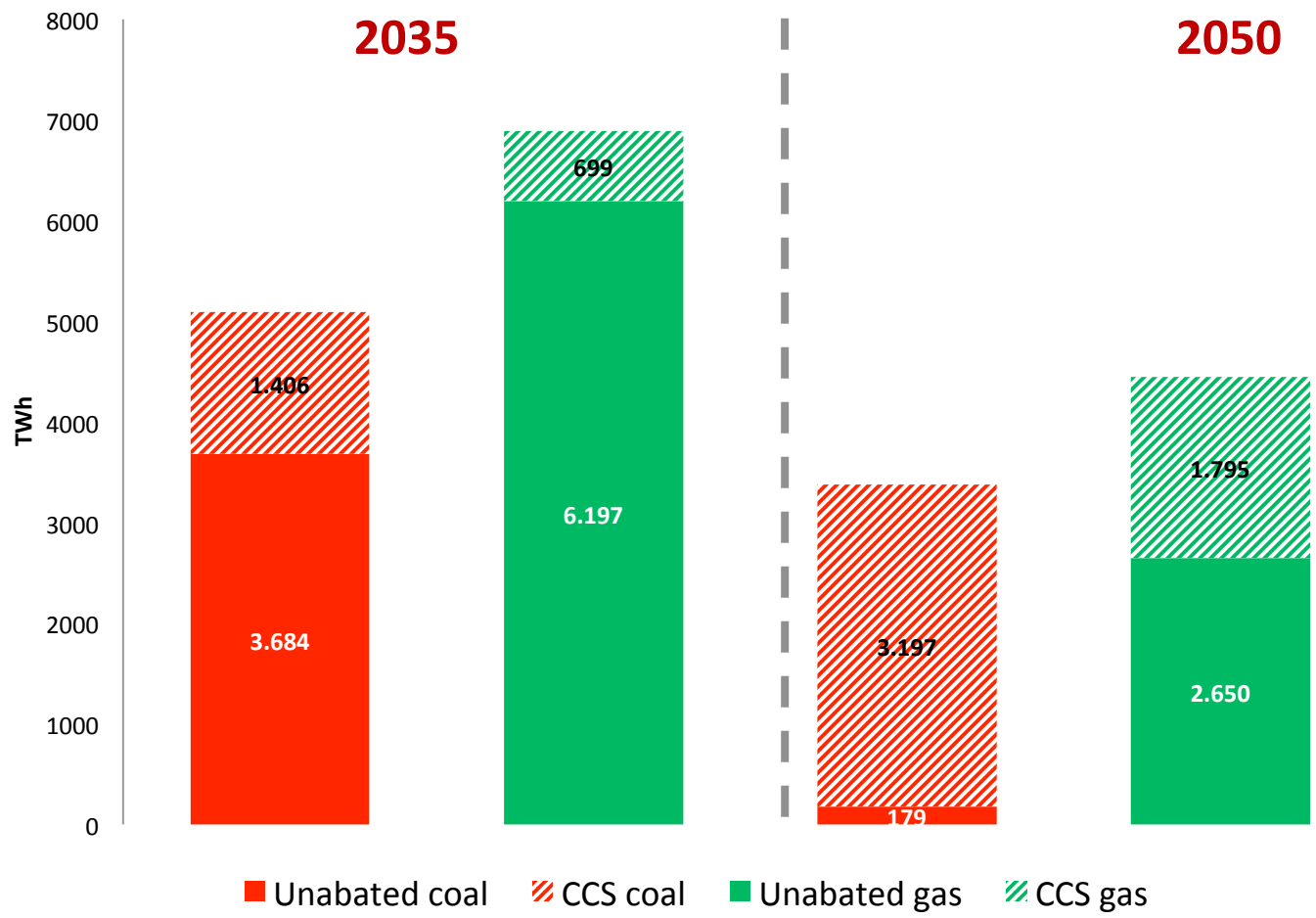
CCS: a key low-carbon tool

Fossil-fuel power with CCS

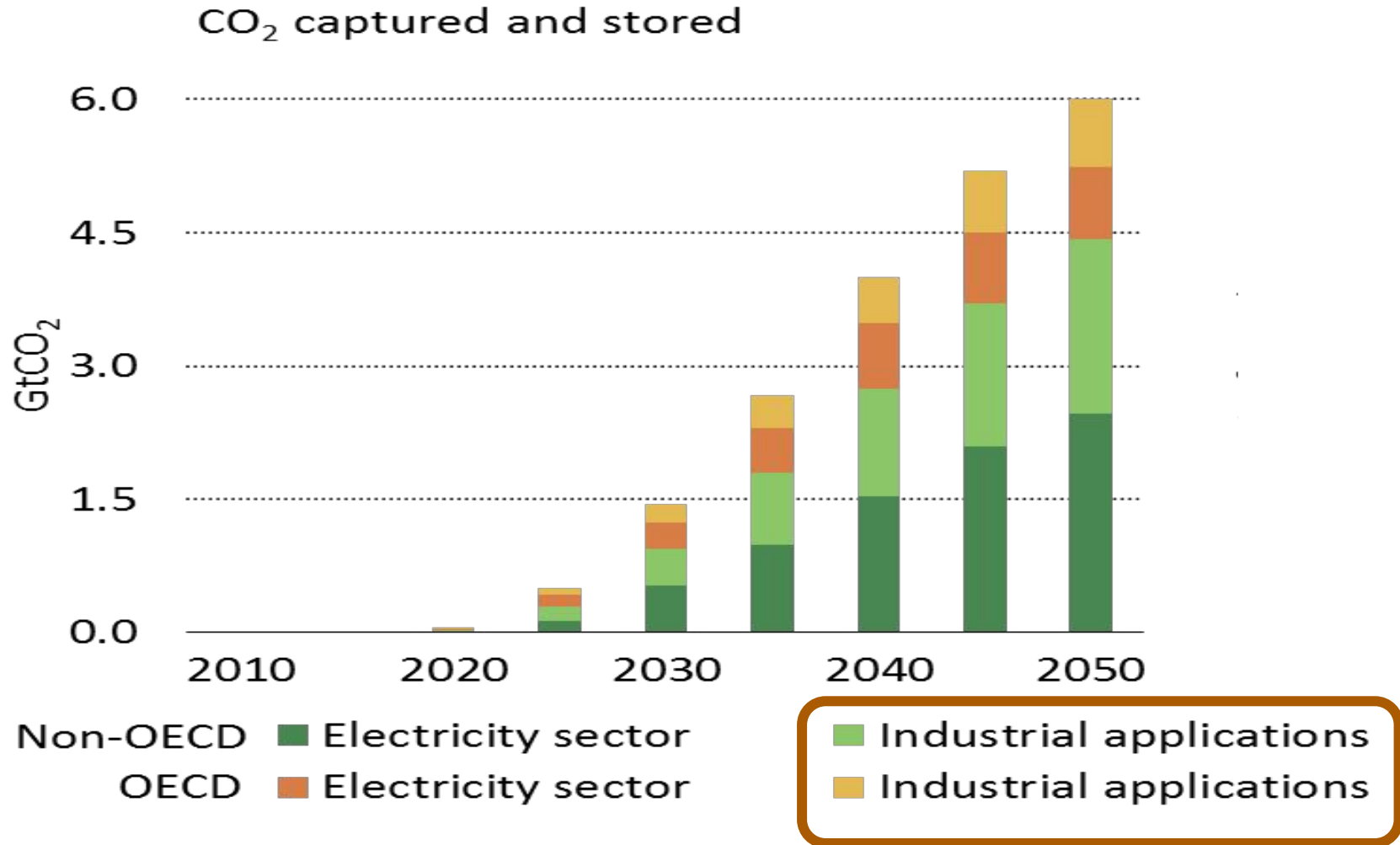


CCS: a key low-carbon tool

Fossil-fuel power with CCS



A monumental deployment challenge: power + industry

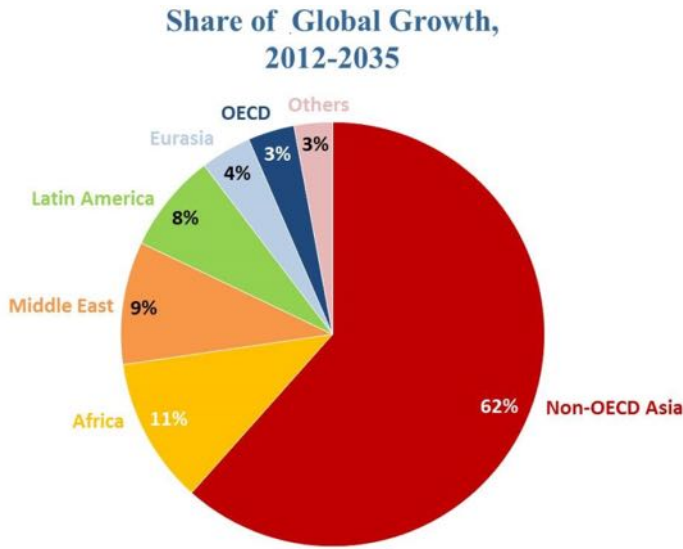
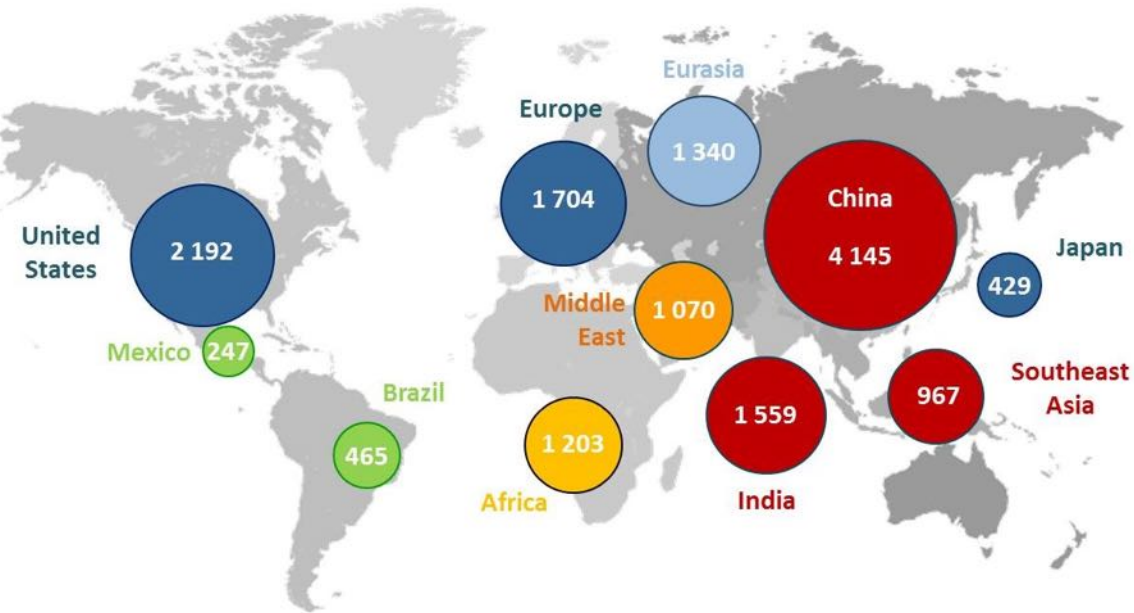


Not just power: Industry represents about 50%

Geography of growth in Global Energy Demand

Over 95% of the projected growth in energy demand between now and 2035 happens outside the OECD (NPS)

Primary Energy Demand, 2035 (Mtoe)



Over 60% of CO₂ captured in 2DS is outside OECD

Source: based on World Energy Outlook 2014
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- Early lead in Europe...
 - Sleipner (1996) and Snøhvit (2008) as global lead projects
 - Political momentum with an early goal of 10-12 large plants (2007)
 - CO₂ Storage Directive (2009)
- ... but development has now stagnated
 - Large demo projects ... a disappearing species?
 - UK withdrawal of future funding for CCS competition
- Need for “new narrative”; room for leadership



1.5



Thank you.

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