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Complementary Measures:
Activating more than pricing and regulations

Workshop on Industry/business use of 'complementary measures' for decarbonisation: Looking beyond pricing and regulation to voluntary and other approaches

22 June 2015
IEA, Paris

Philippe Benoit

Director (Acting), Sustainable Energy Policy and Technology

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THE 2DS REMAINS WITHIN REACH: THE PORTFOLIO OF ENERGY TECHNOLOGIES

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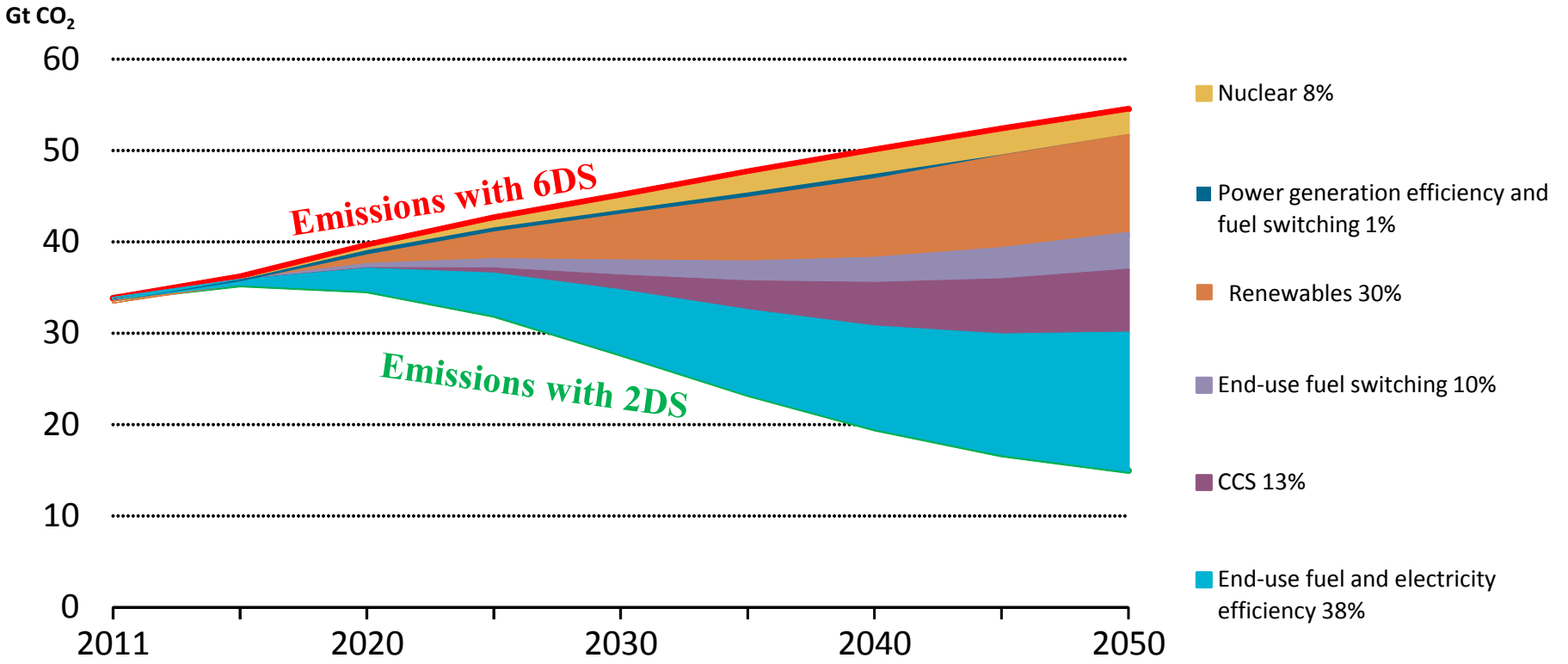
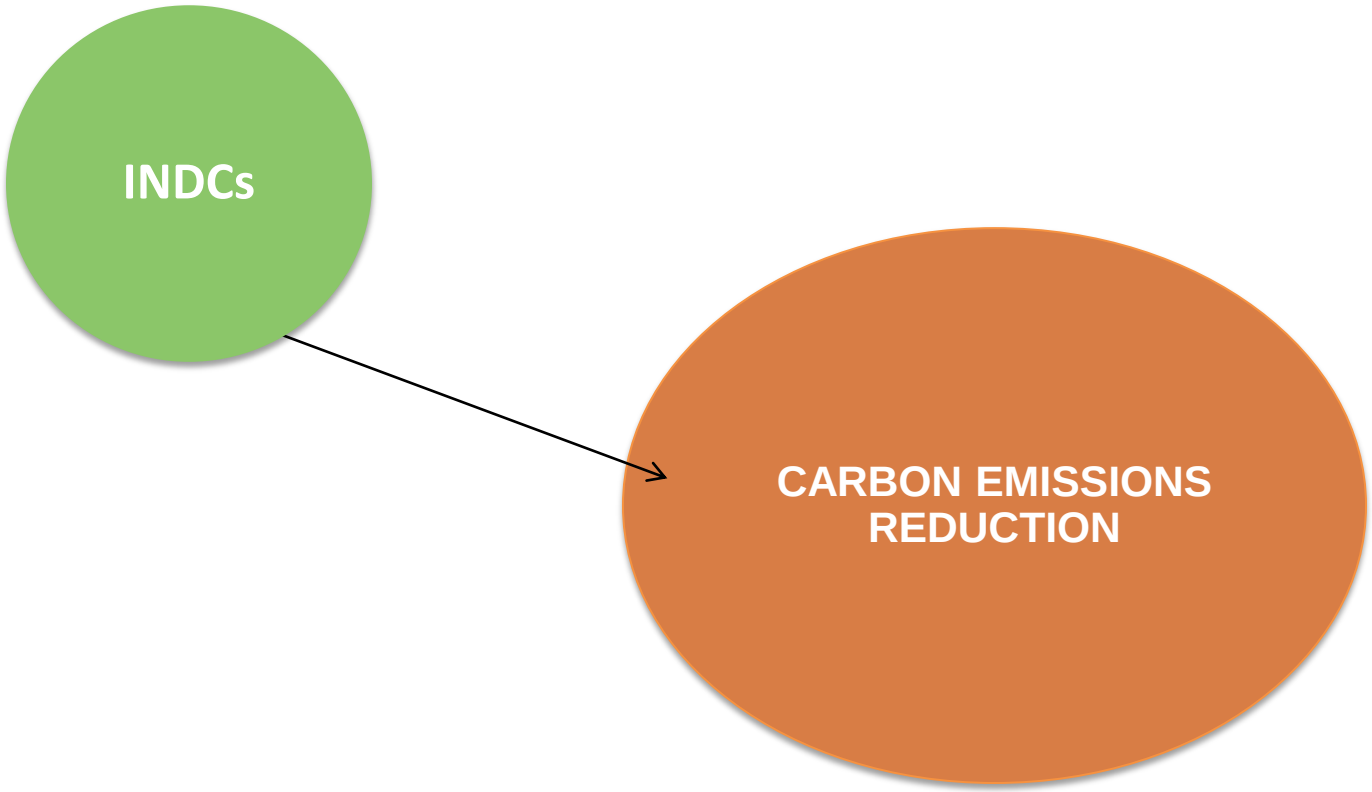
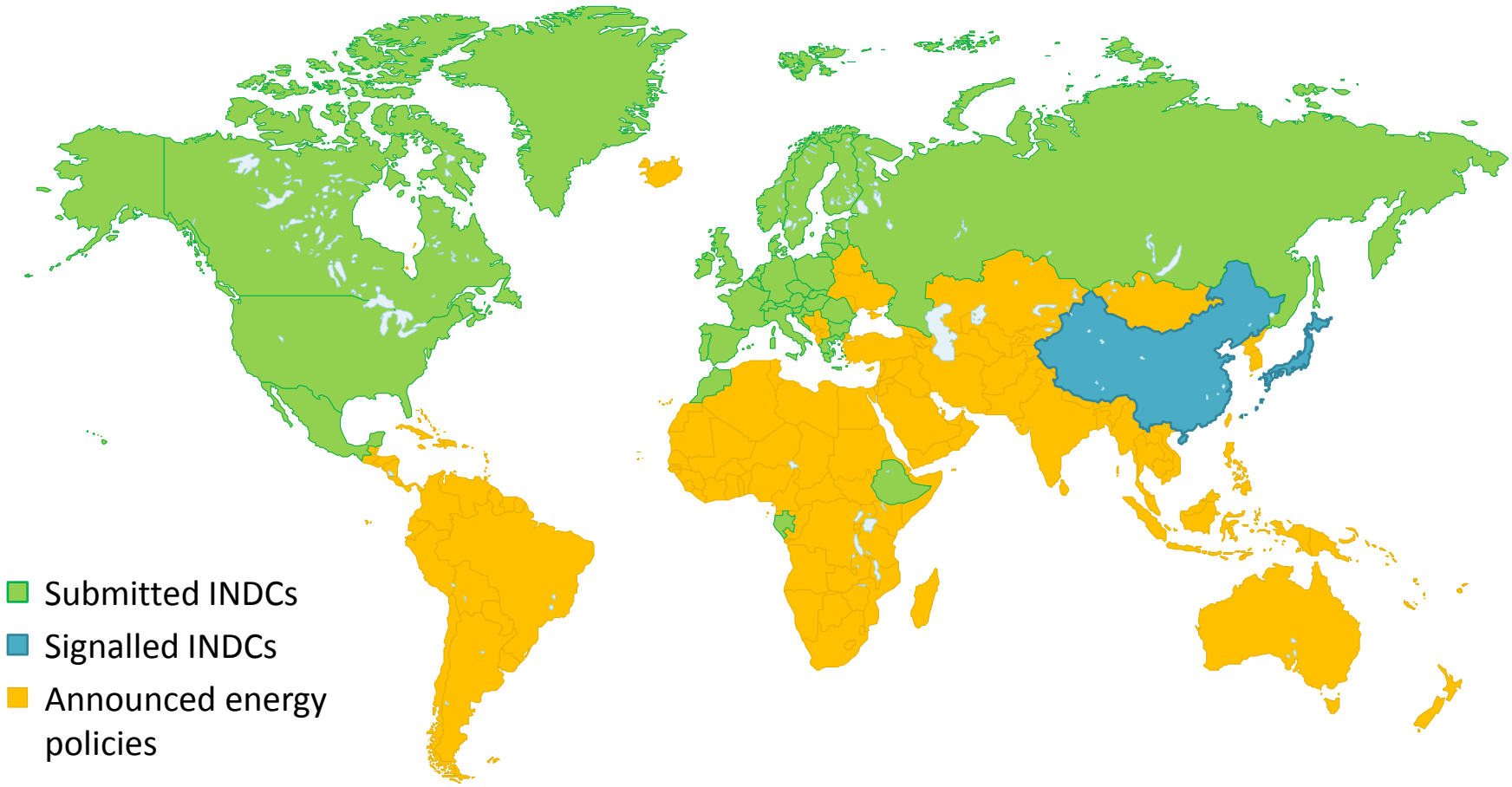


The current context …



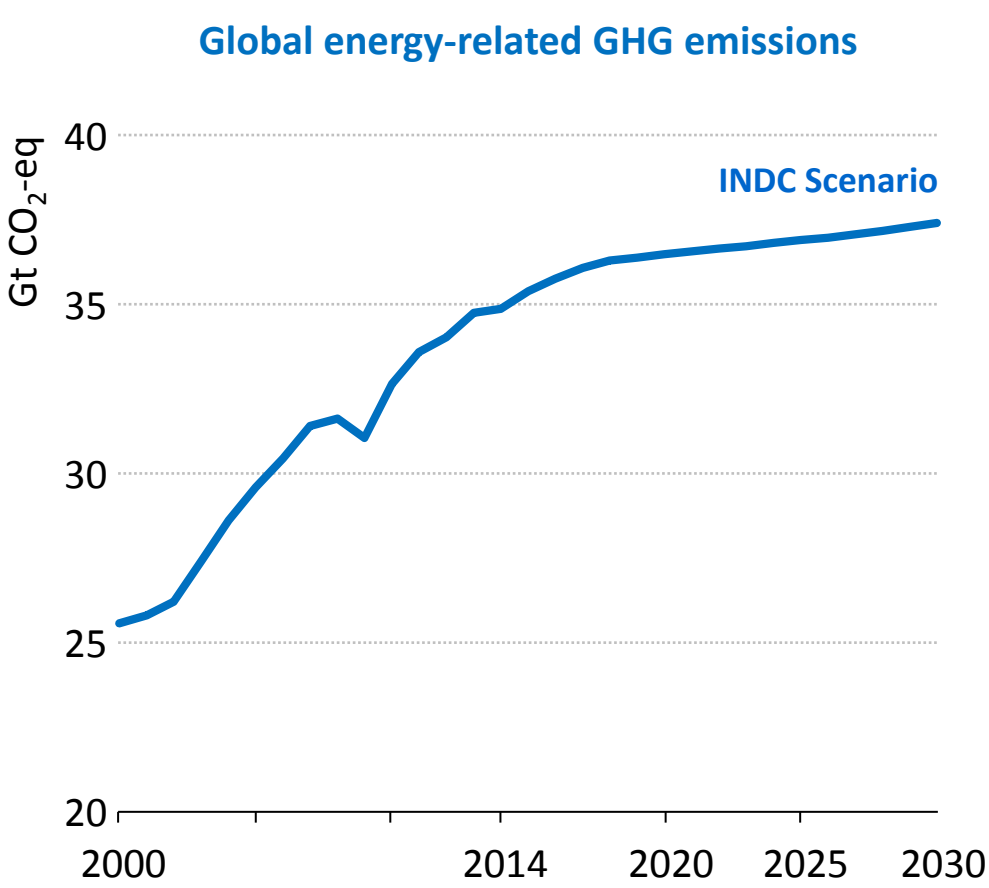
National pledges build towards a global agreement

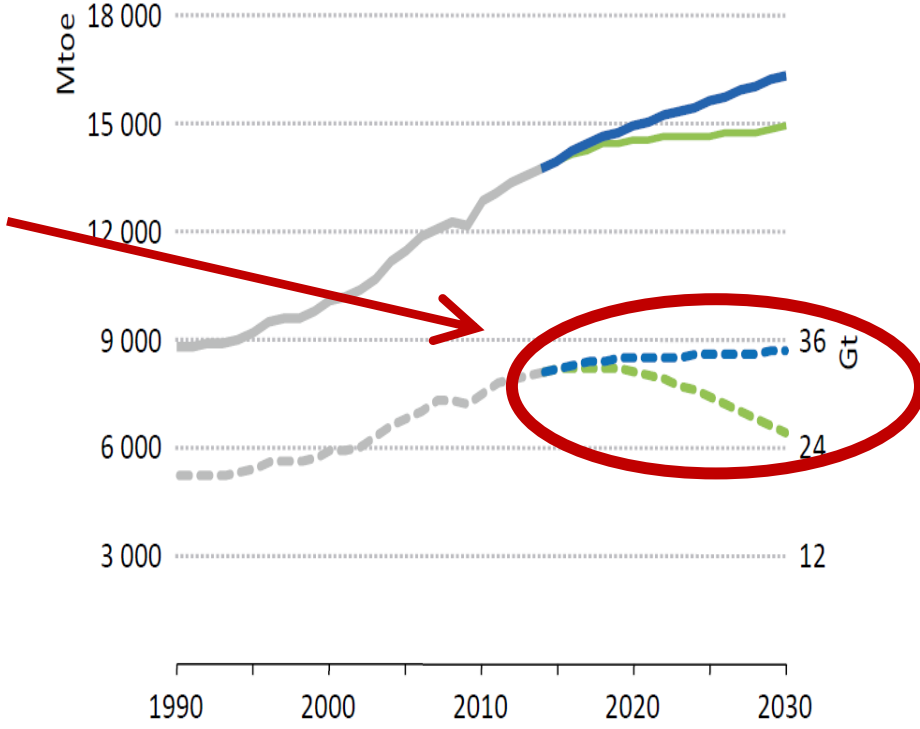
WEO Special Report on Energy & Climate Change



Submitted & signalled INDCs cover two-thirds of energy-related GHG emissions, with implications for future energy & emissions trends

1. INDCs:



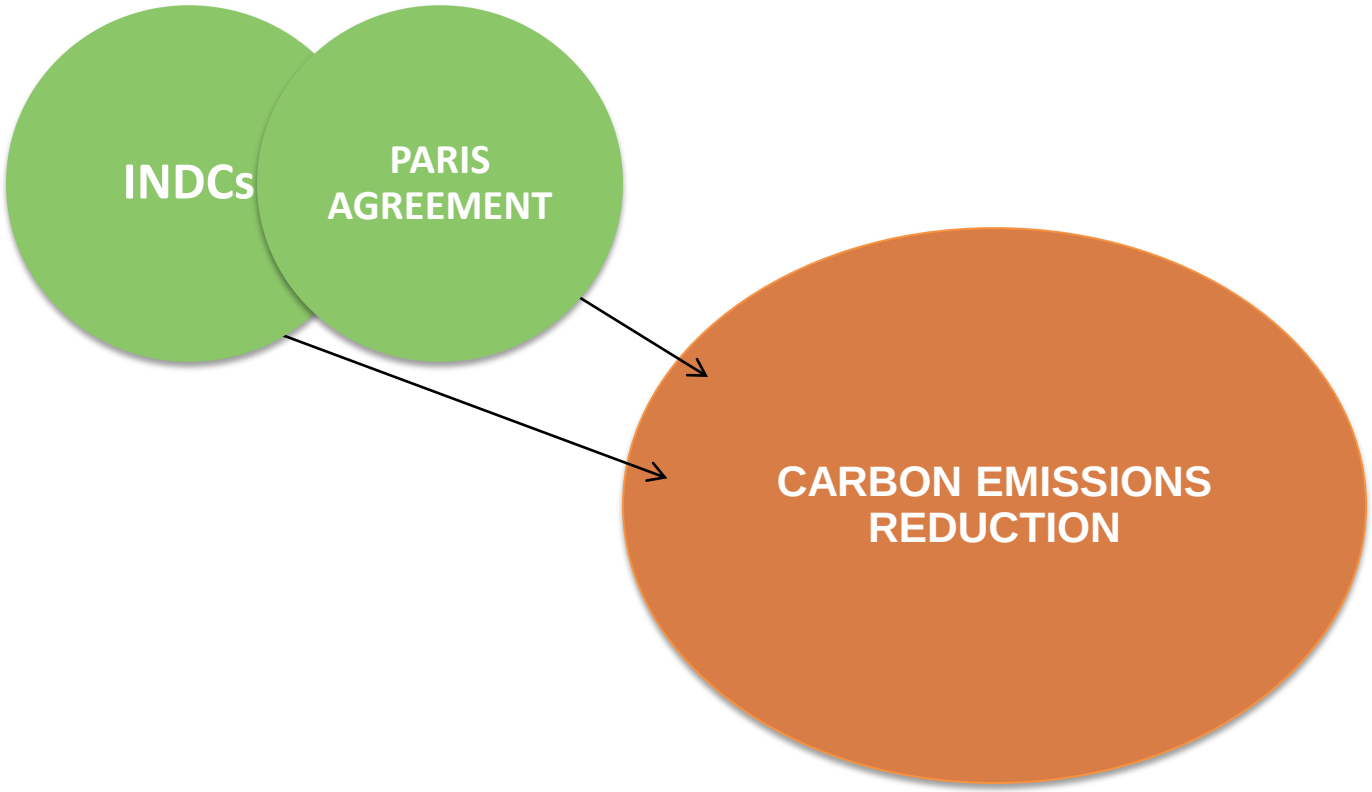


Note: Mtoe = million tonnes of oil equivalent; Gt = gigatonnes.

Primary energy demand:
- INDC Scenario
- 450 Scenario

CO_2 emissions (right axis):
- INDC Scenario
- 450 Scenario

The current context …



Possible key elements of a Paris Agreement

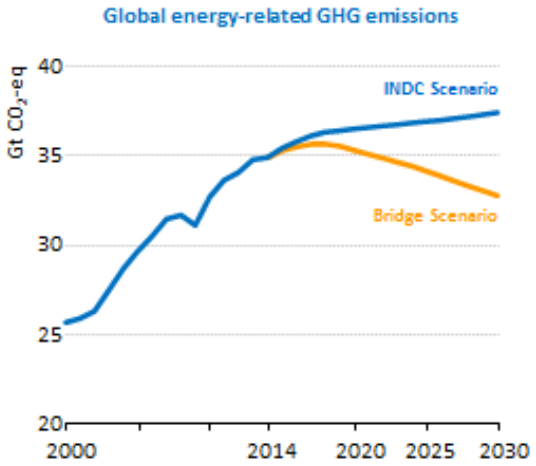
WEO Special Report on Energy & Climate Change

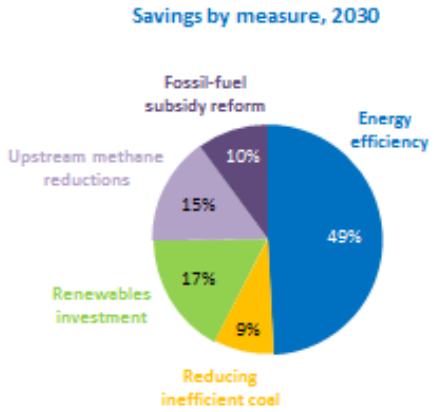
- **The IEA proposal for COP21:**

1. *Peak in emissions – set the conditions which will achieve an early peak in global energy-related emissions*
2. *Five-year revision – review contributions regularly, to test the scope to lift the level of ambition*
3. *Lock in the vision – translate the established climate goal into a collective long-term emissions goal*
4. *Track the transition – establish a process for tracking energy sector achievements*

1. Peak in emissions:
IEA strategy to raise climate ambition

WEO Special Report on Energy & Climate Change





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

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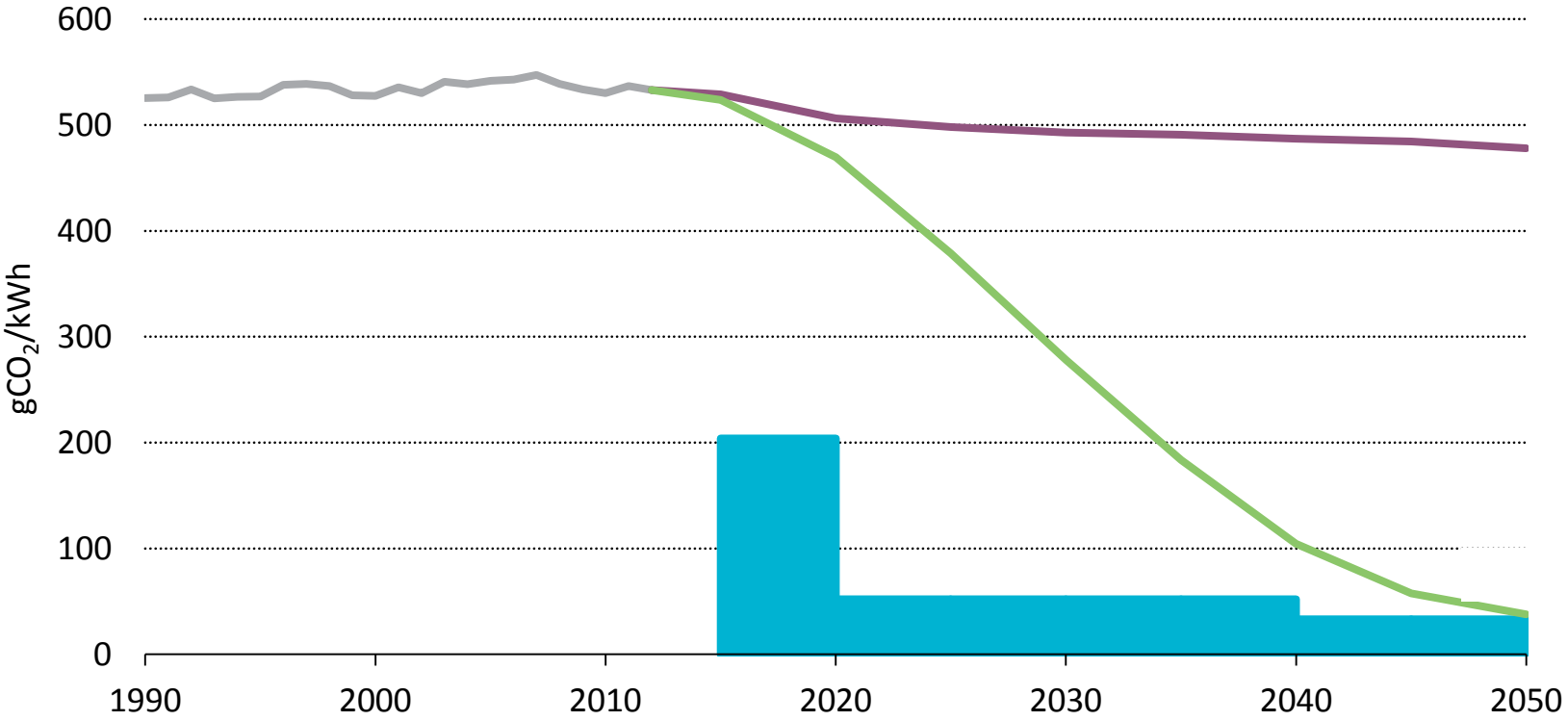
Tracking: choosing the right metric can help stimulate the right actions

www.iea.org

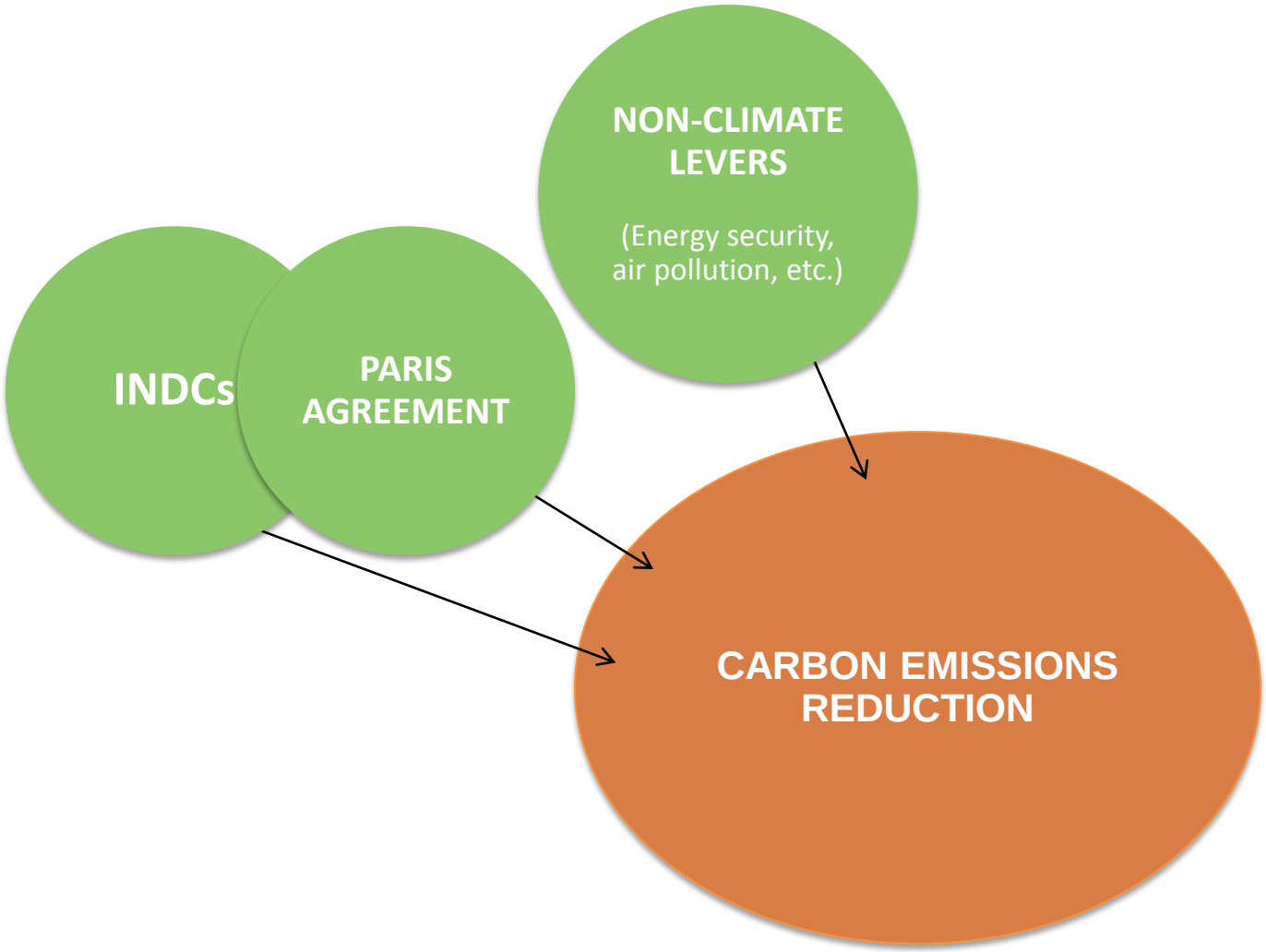
Global fleet average and new-build plants
emissions intensity of power generation in IEA scenarios



Developing richer data and tracking the right metrics can push for better outcomes

Source: ETP 2015

The current context …



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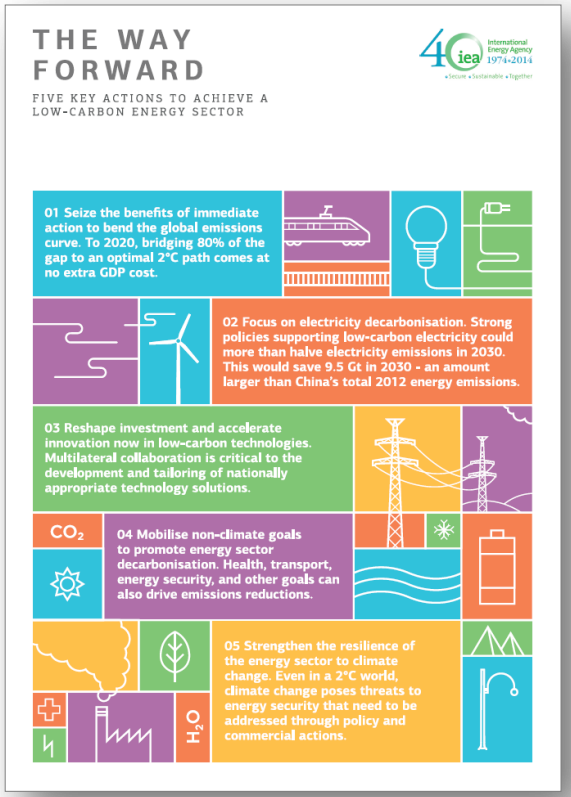
IEA COP-20 messages on Climate Change: 5 strategic thrusts

www.iea.org

1. Seize the benefits of immediate action to bend the global emissions curve
2. Focus on electricity decarbonisation
3. Reshape investment and accelerate innovation now in low-carbon technologies
4. Mobilise non-climate goals to promote energy sector decarbonisation
5. Strengthen the resilience of the energy sector to climate change



Dirty air prompts free public transport in Paris

Public transportation in the capital will be "gratuit" from Friday morning to Sunday night, as officials battle against a spike in "dangerously" poor air quality. Velib' rental bikes and the car-sharing Autolib' scheme are also on the house.

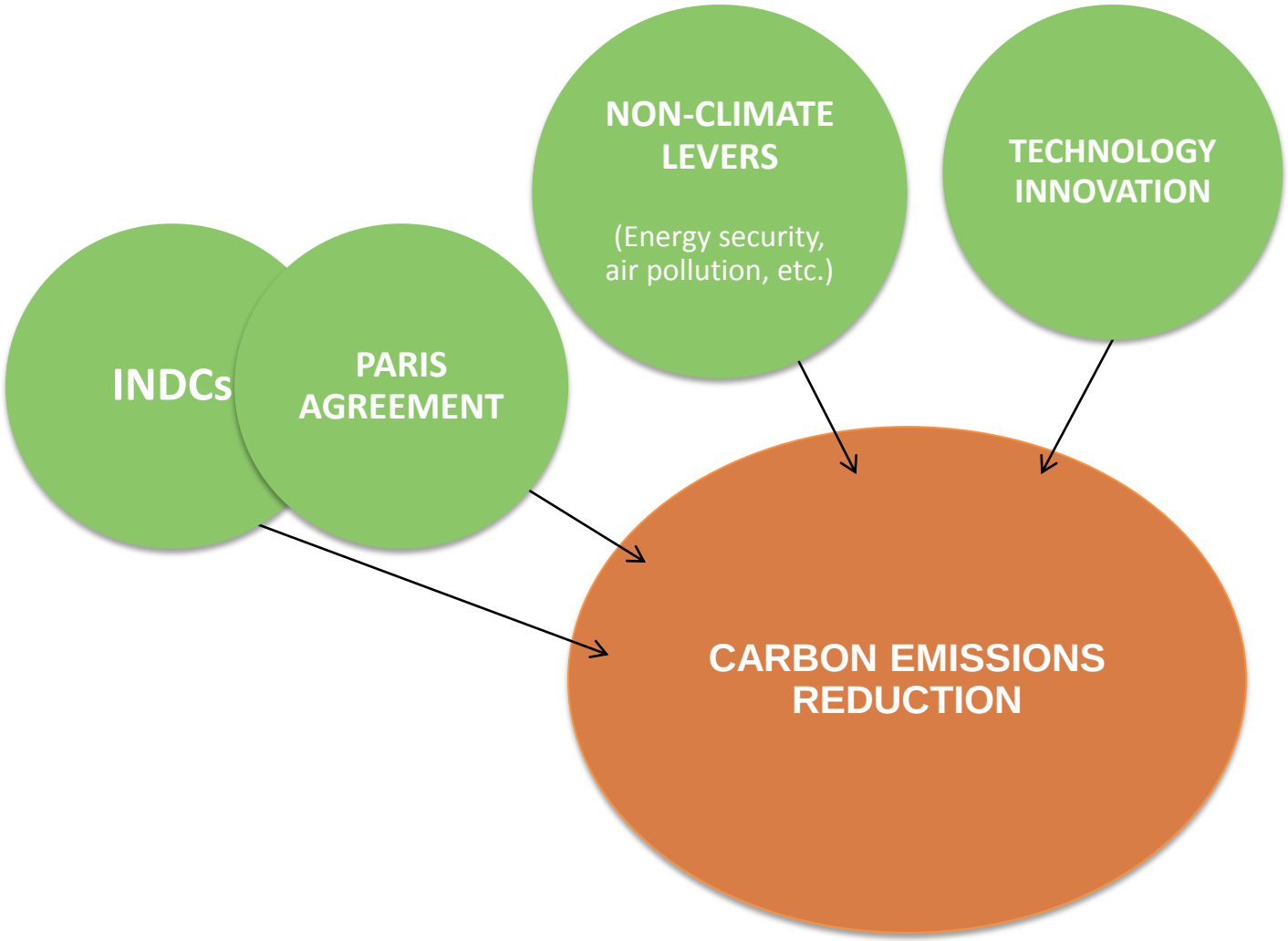
The Local
FRANCE'S NEWS IN ENGLISH

Shifting to more efficient transport to fight air pollution

March 11, 2014

Credit: Patrick Kovarik AFP

The current context …



Energy Technology Perspectives 2015:
Mobilising Innovation to Accelerate Climate Action

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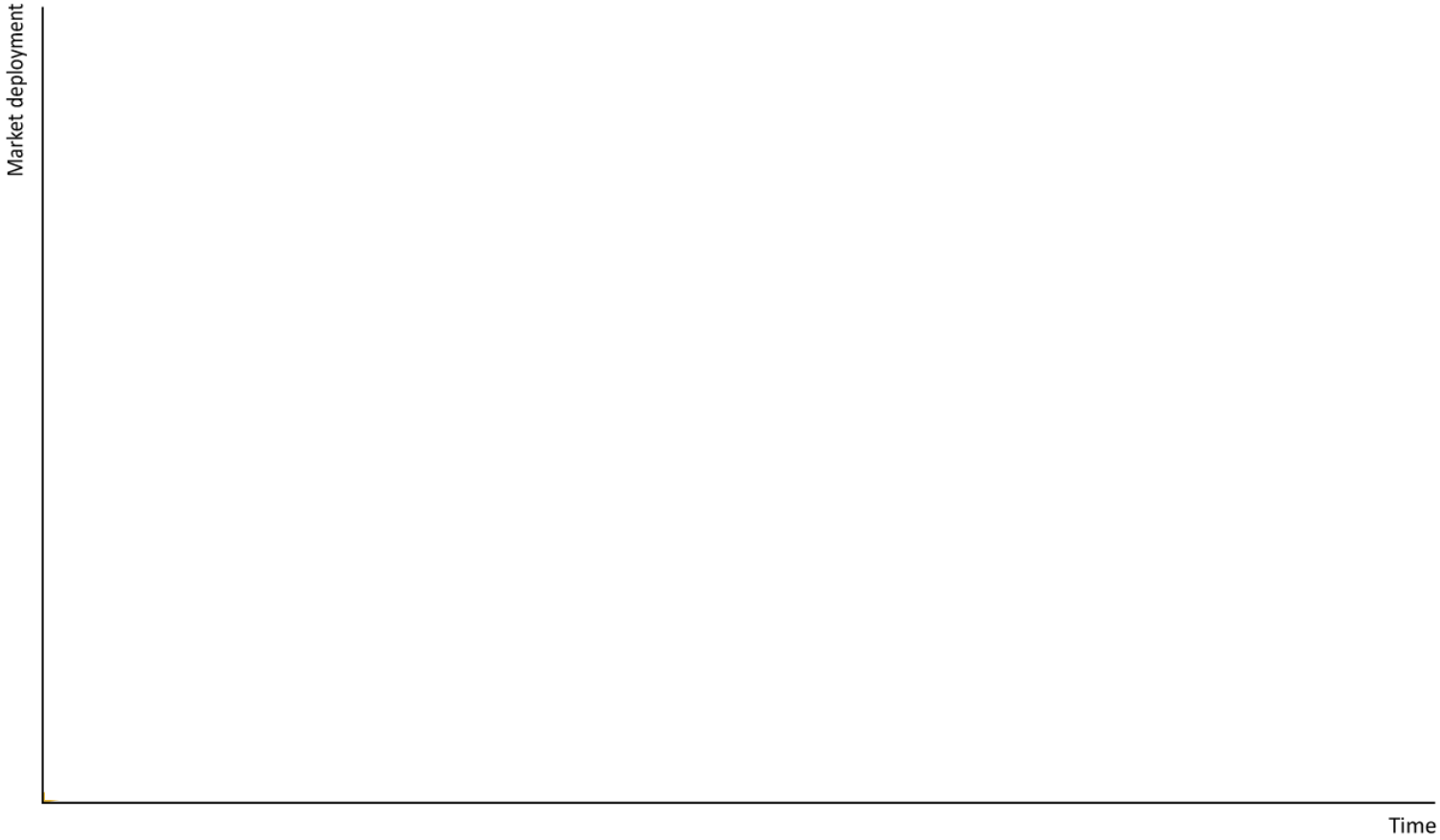
Supporting Energy Innovation: the right policy at the right time



The right support depends on the maturity of the technology and the degree of market uptake

Source: ETP 2015

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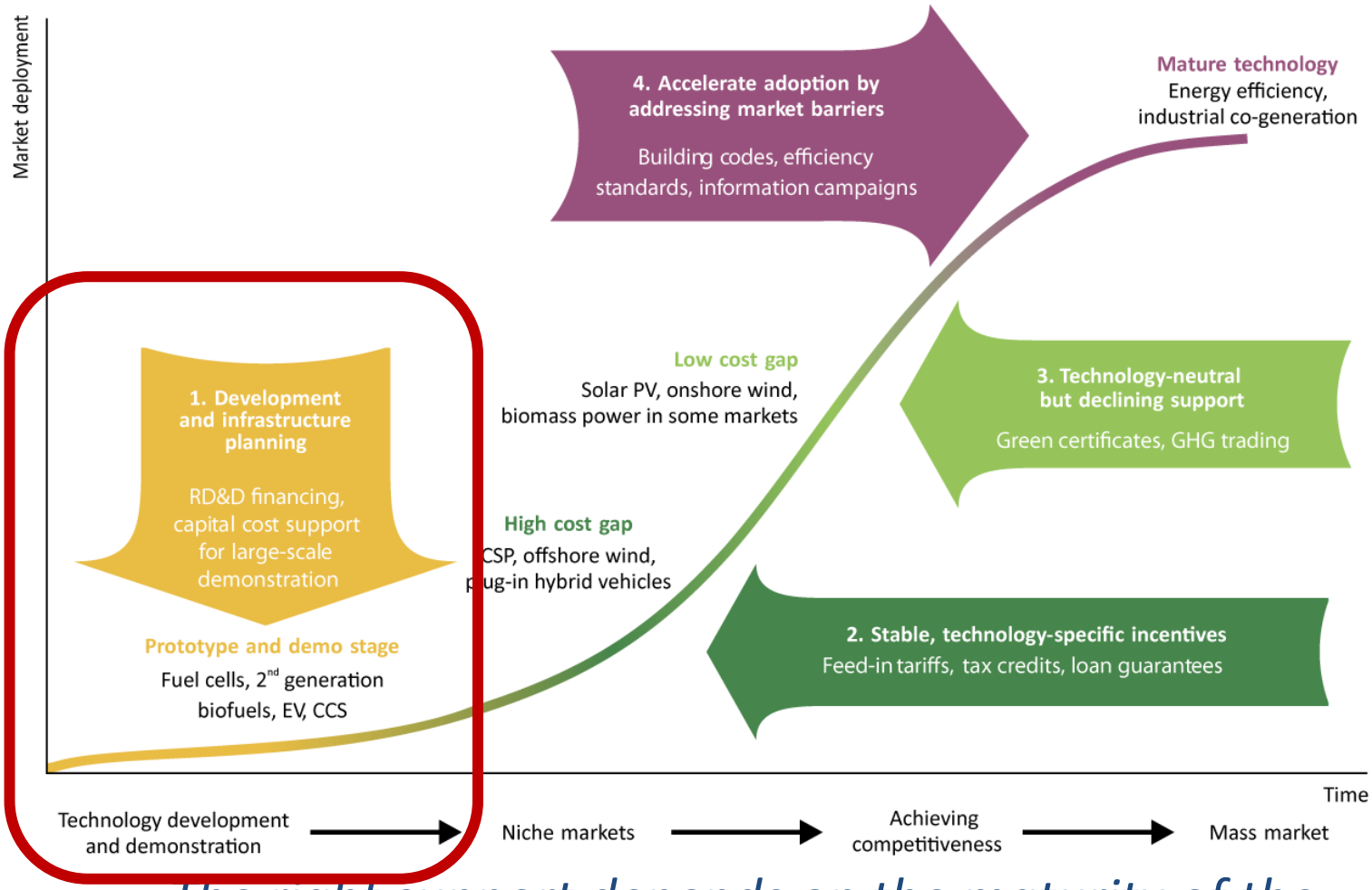
Supporting Energy Innovation: the right policy at the right time



The right support depends on the maturity of the technology and the degree of market uptake

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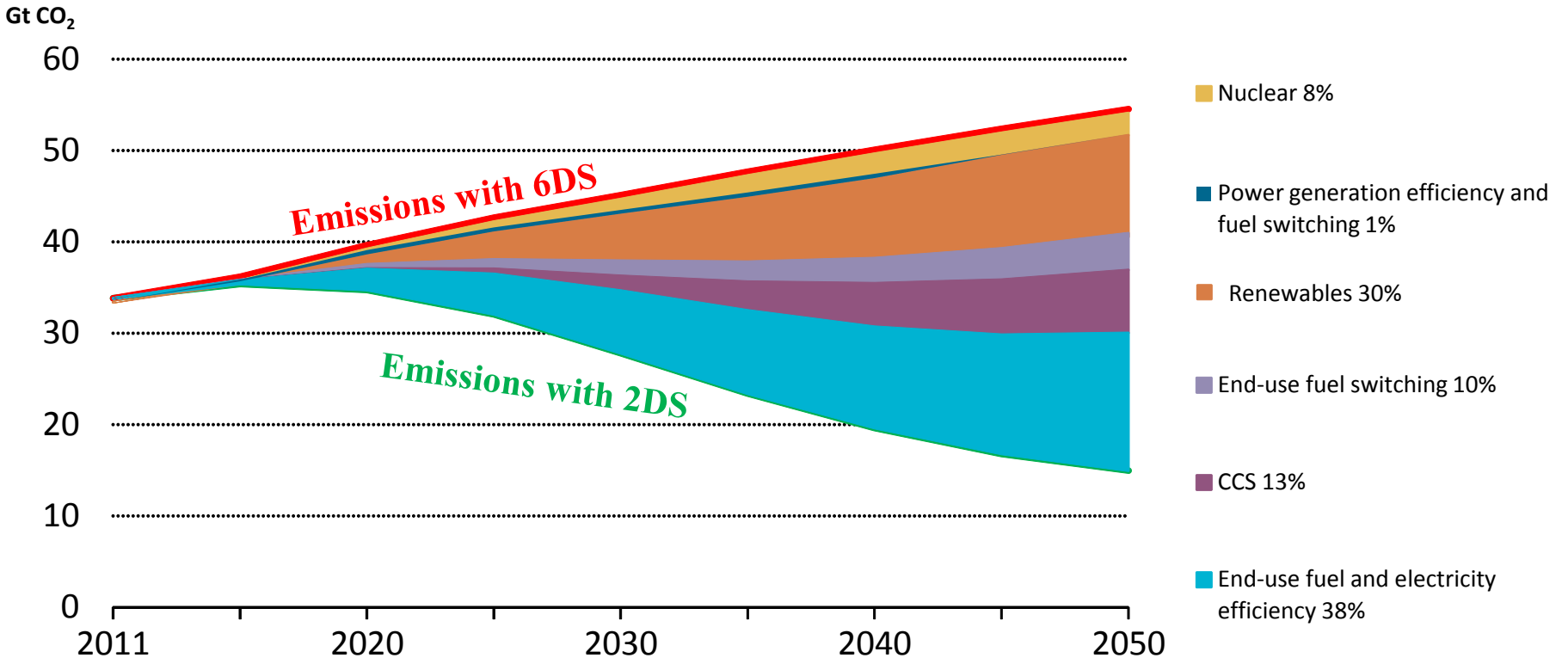

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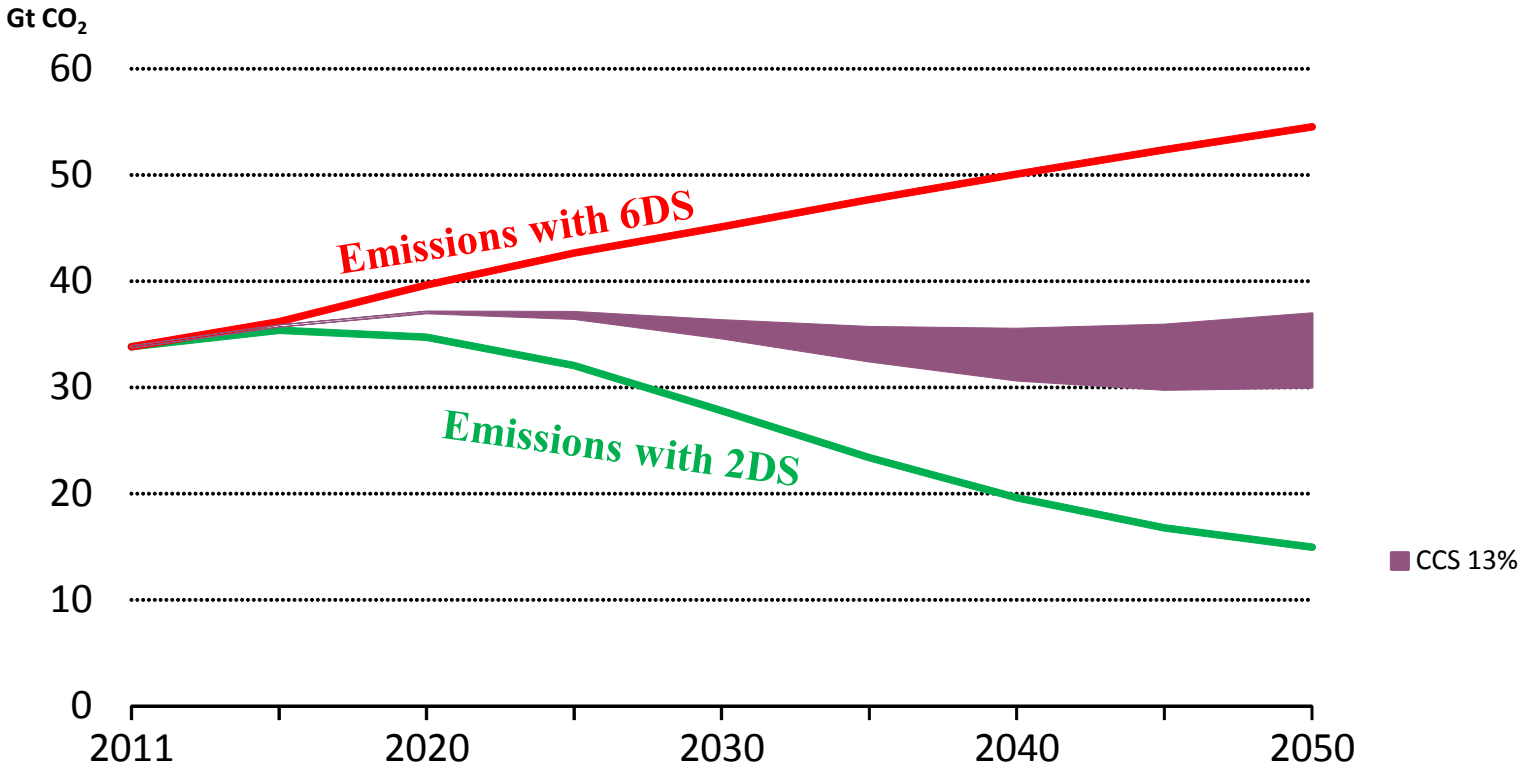

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Early stage support is key to improve future technology competitiveness

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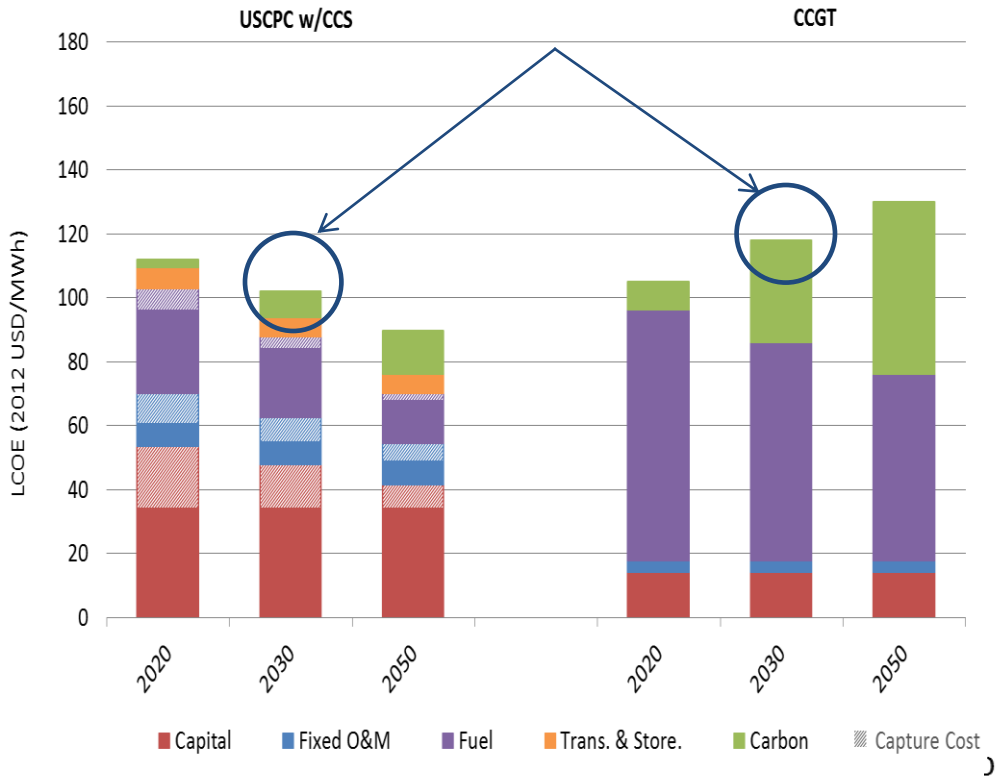
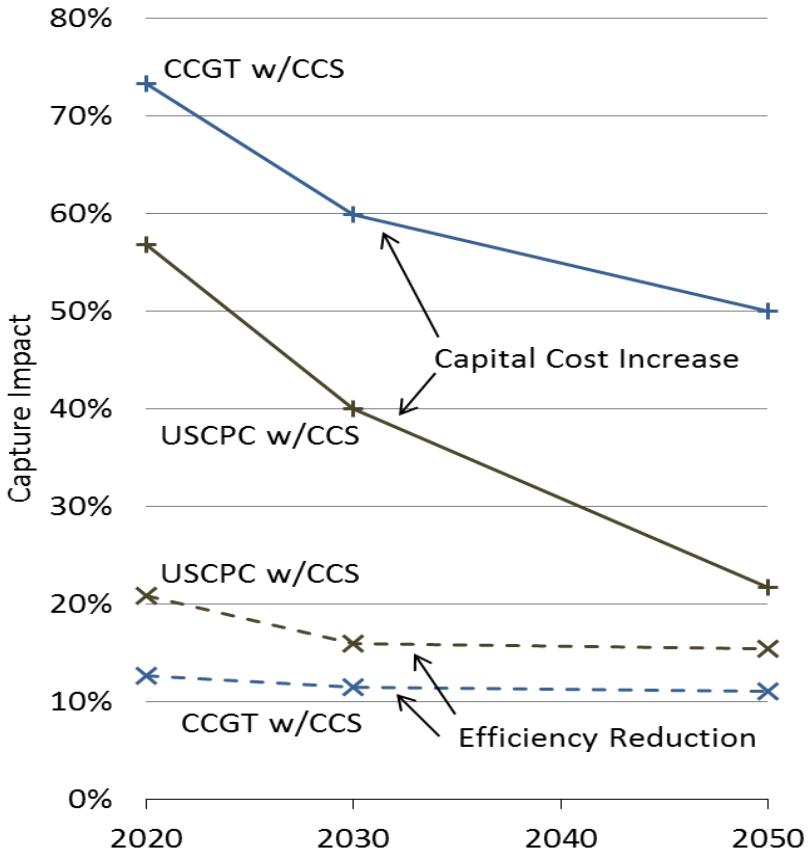
Projected Levelised Cost of Electricity of coal power generation in Asia



Assumptions on Capture Cost and Performance in the 2DS



Aggressive cost reductions are needed in the near term to make these projections a reality

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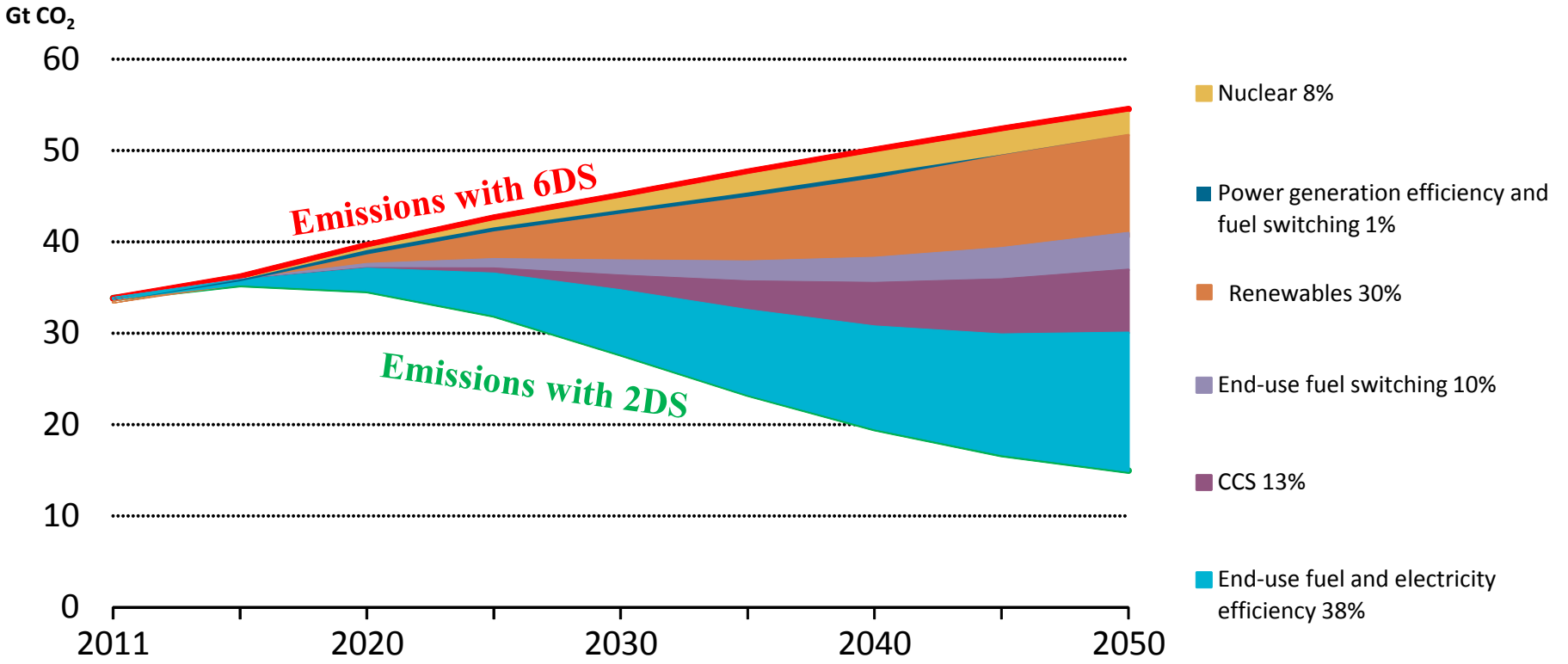

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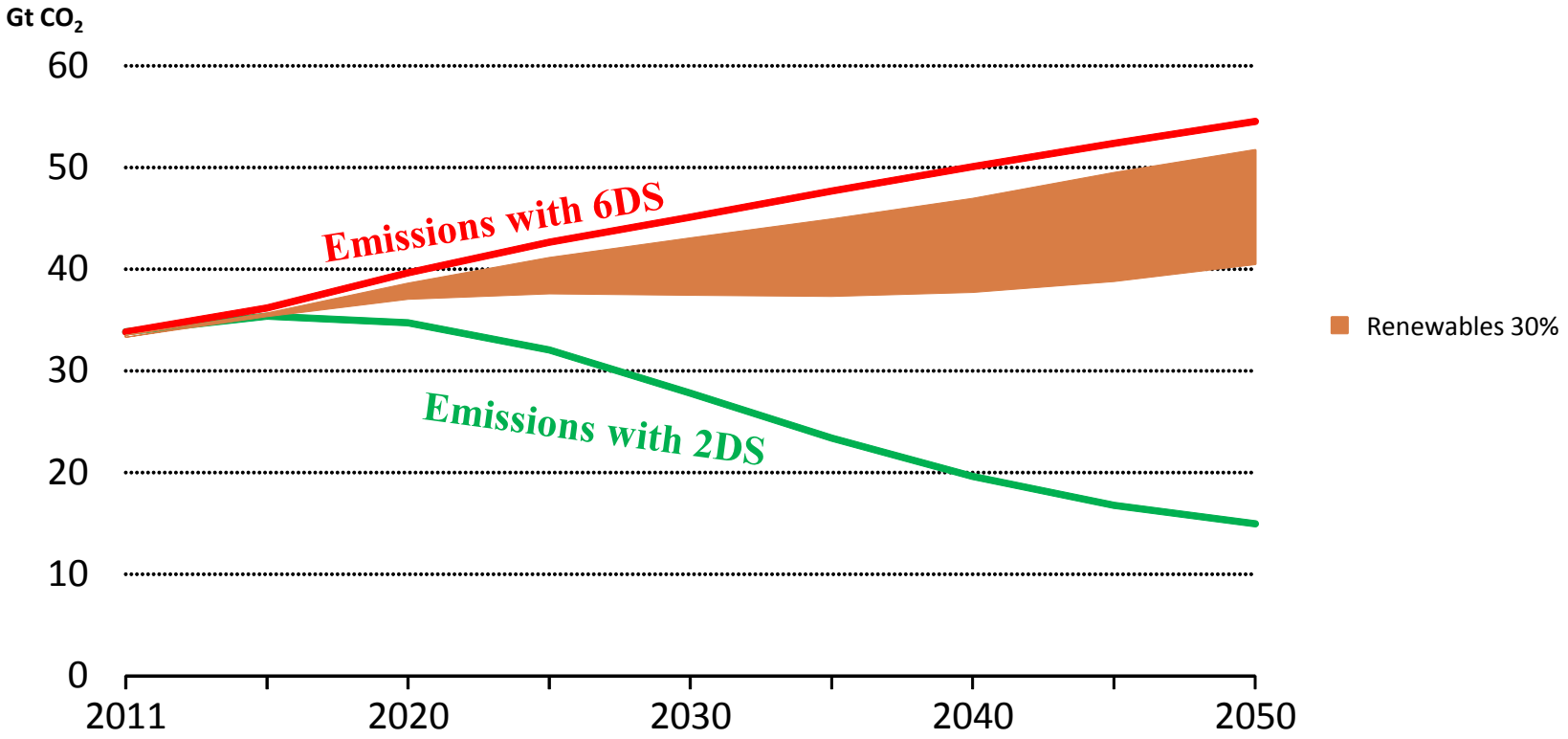

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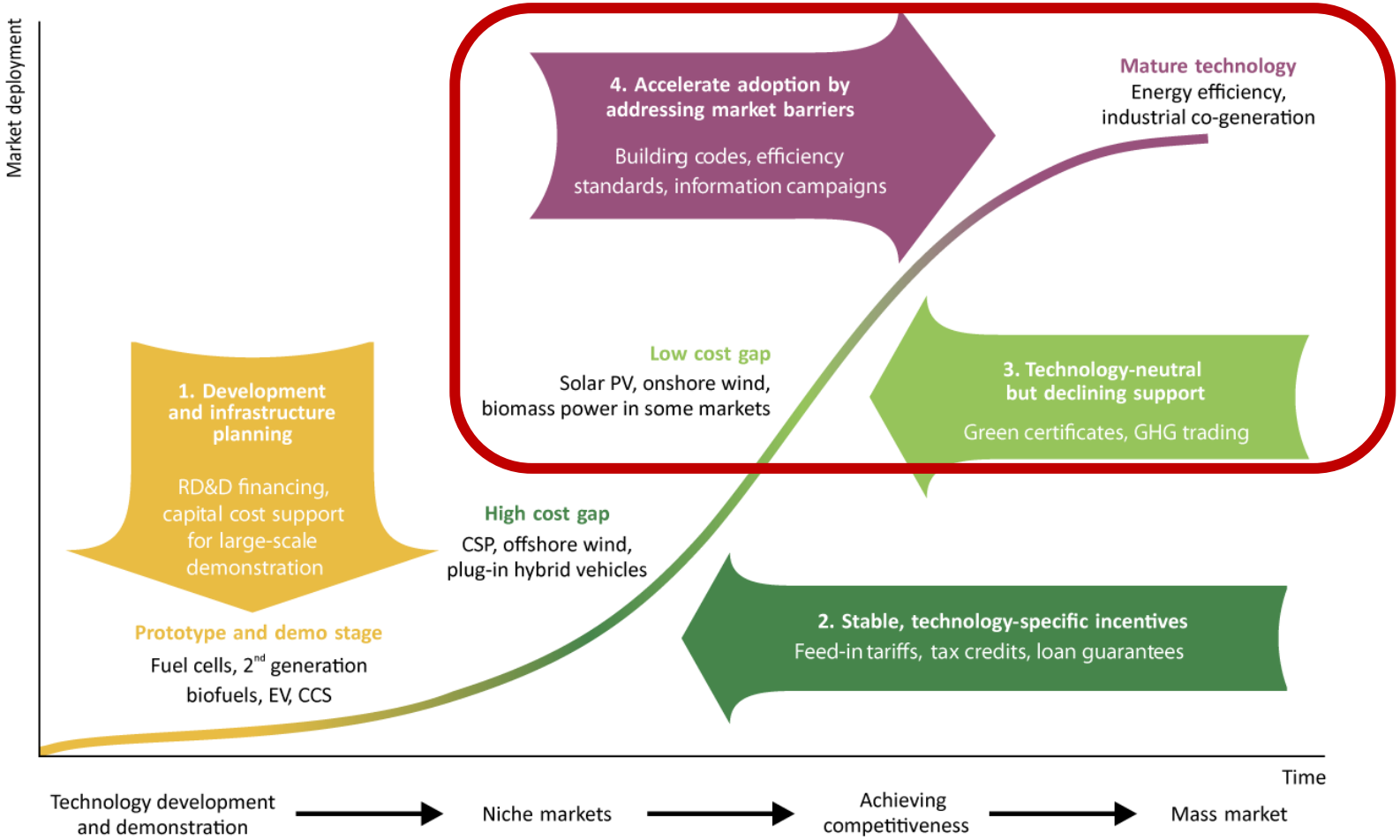
Supporting Energy Innovation: the right policy at the right time



The right support depends on the maturity of the technology and the degree of market uptake

Source: ETP 2015

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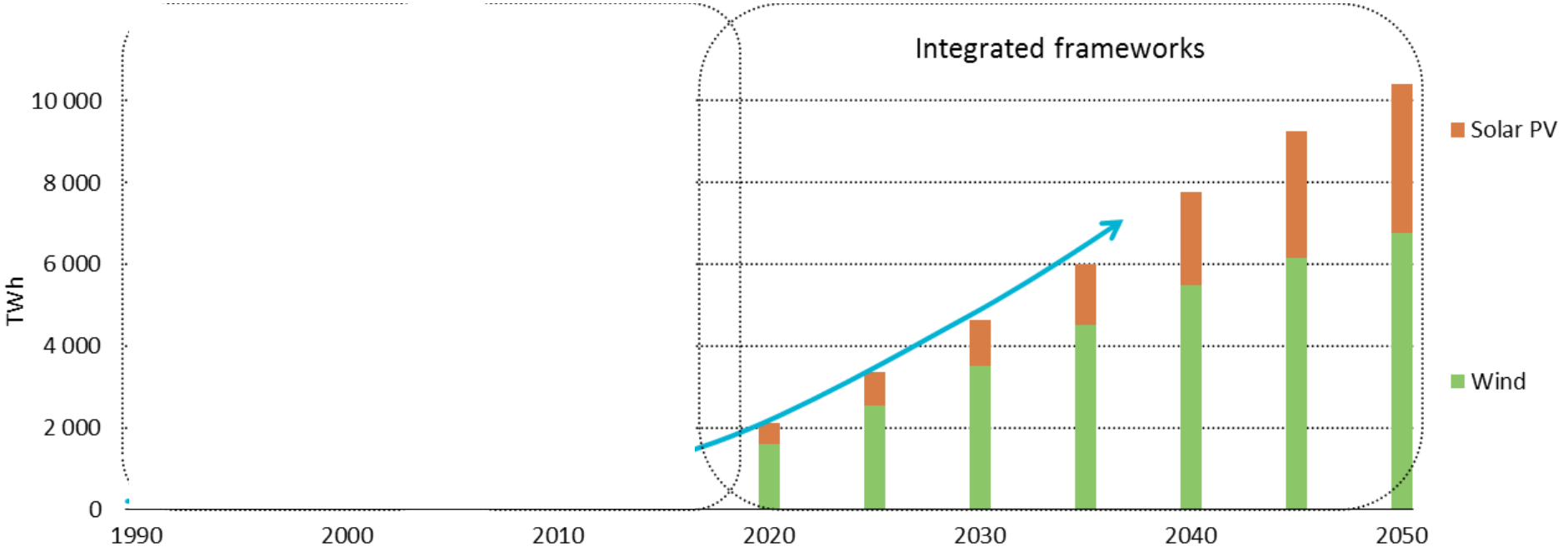
Later stage innovation support must focus on market uptake barriers

Projections of wind and solar PV generation



Wind and solar PV support needs to move from strictly incentives to integrated and well-designed market, policy and regulatory frameworks

Source: ETP 2015

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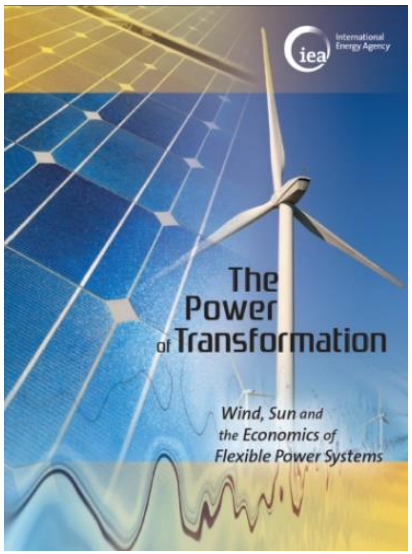
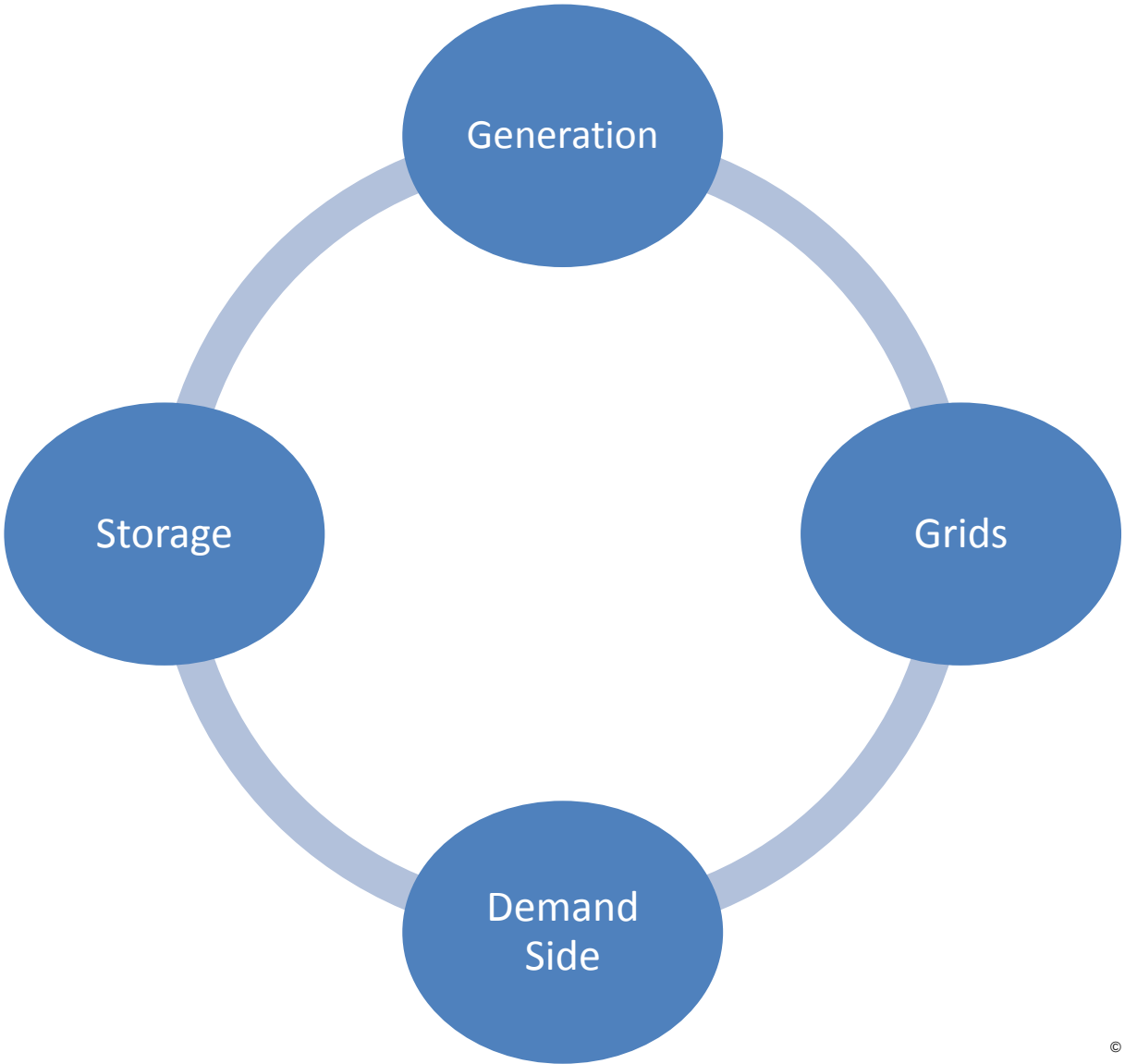
System integration of large share of variable renewables: Key drivers





Not just about Innovation in technology …

… also being innovative in our approaches

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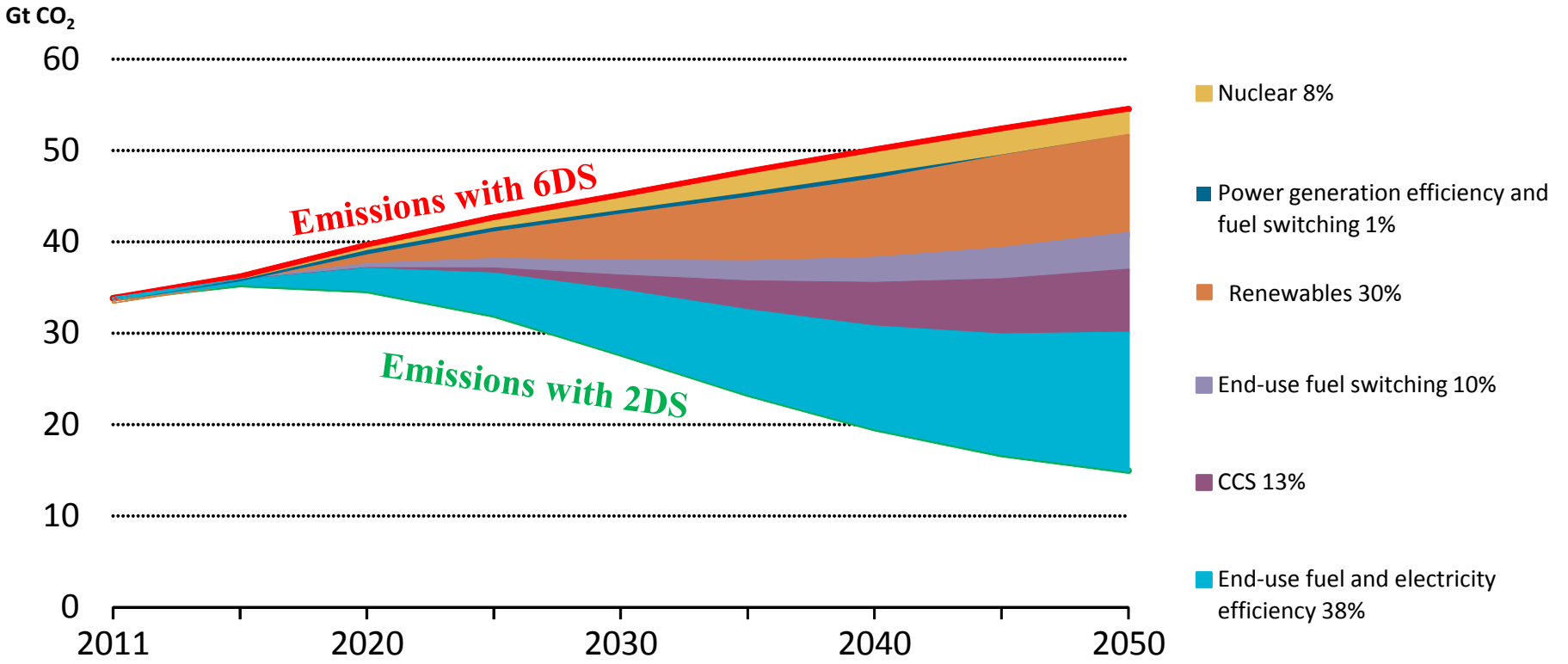

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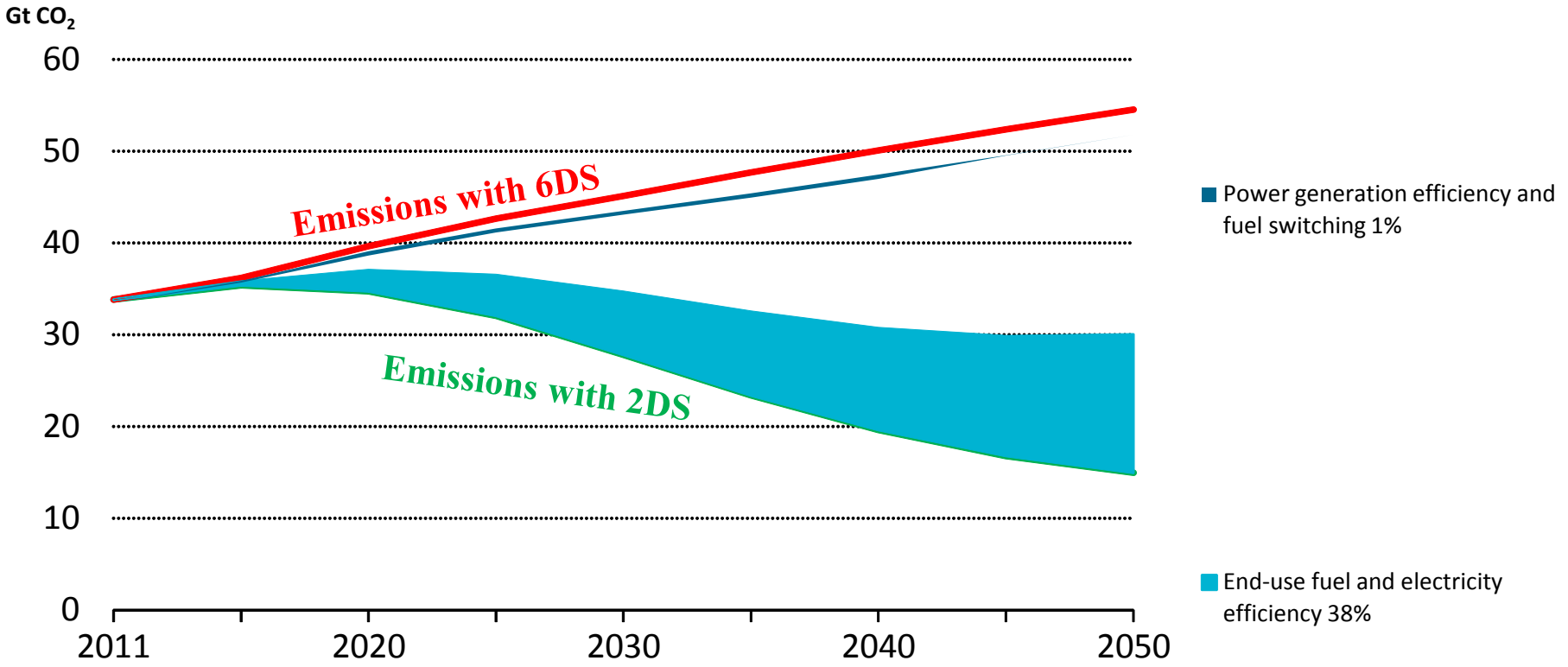

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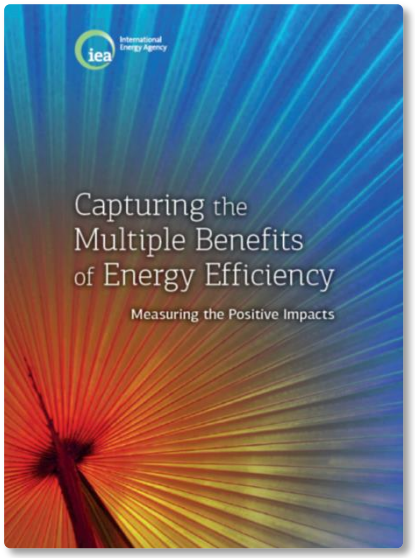
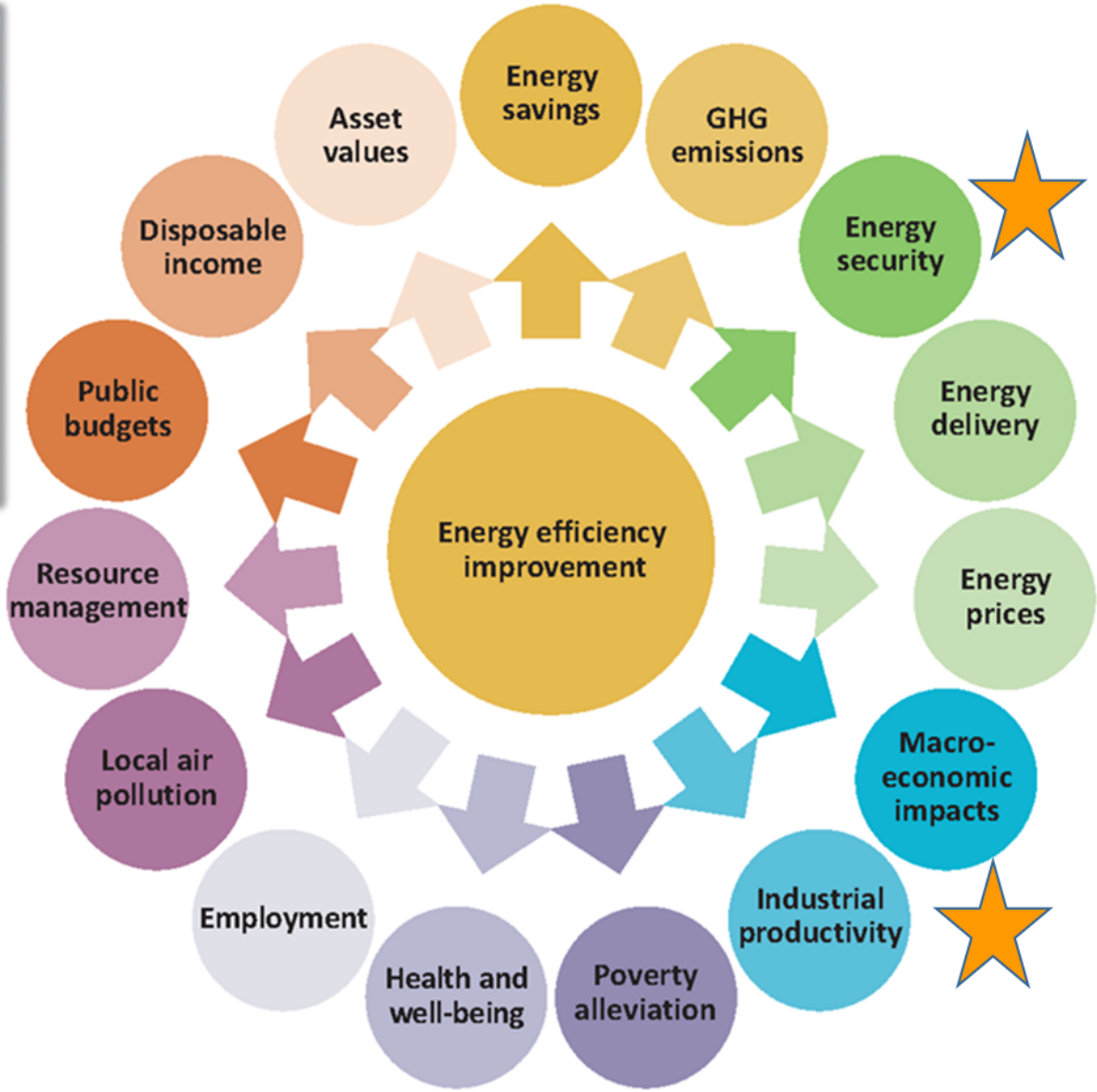
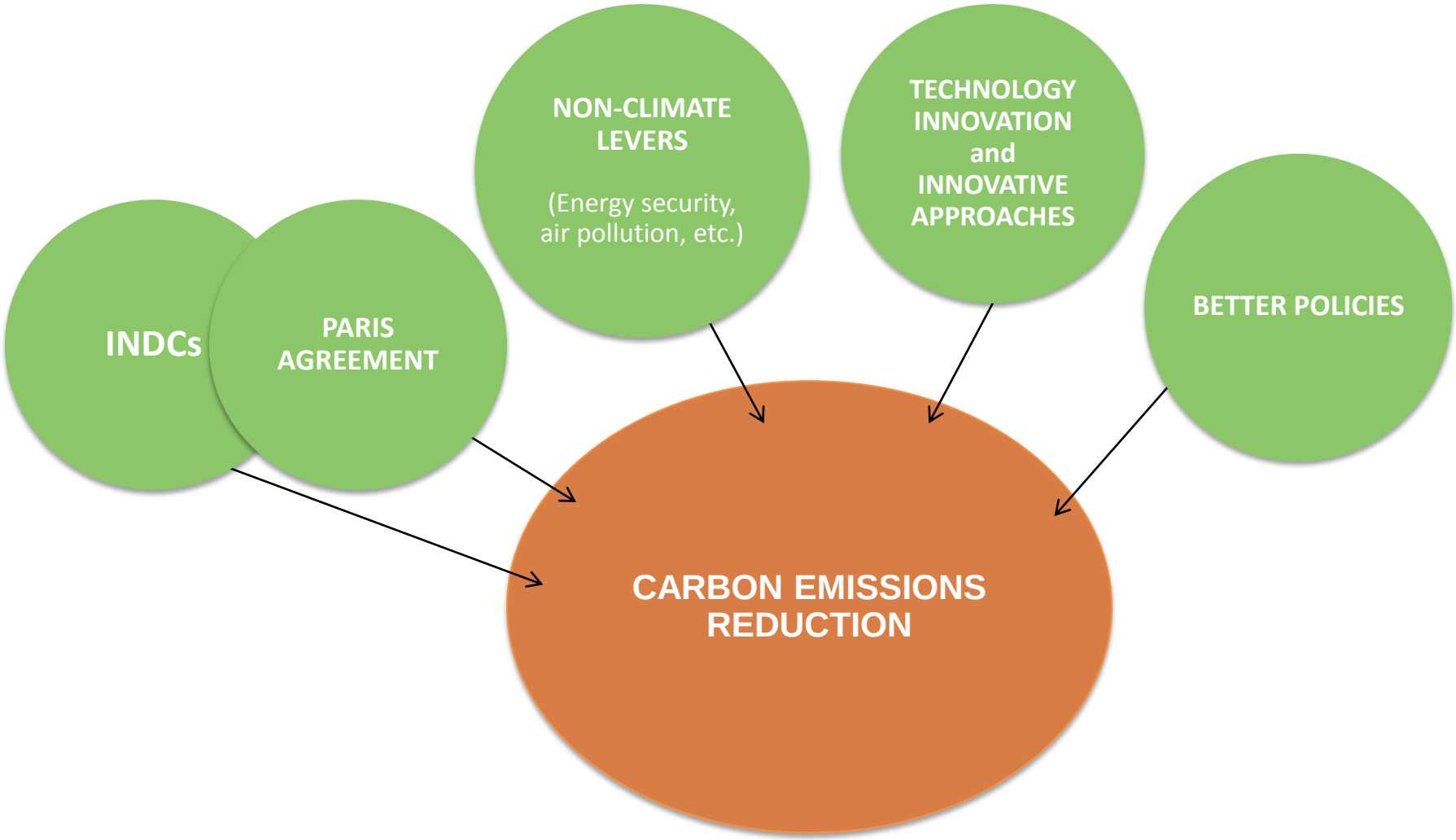
Exploiting the multiple benefits of Energy Efficiency



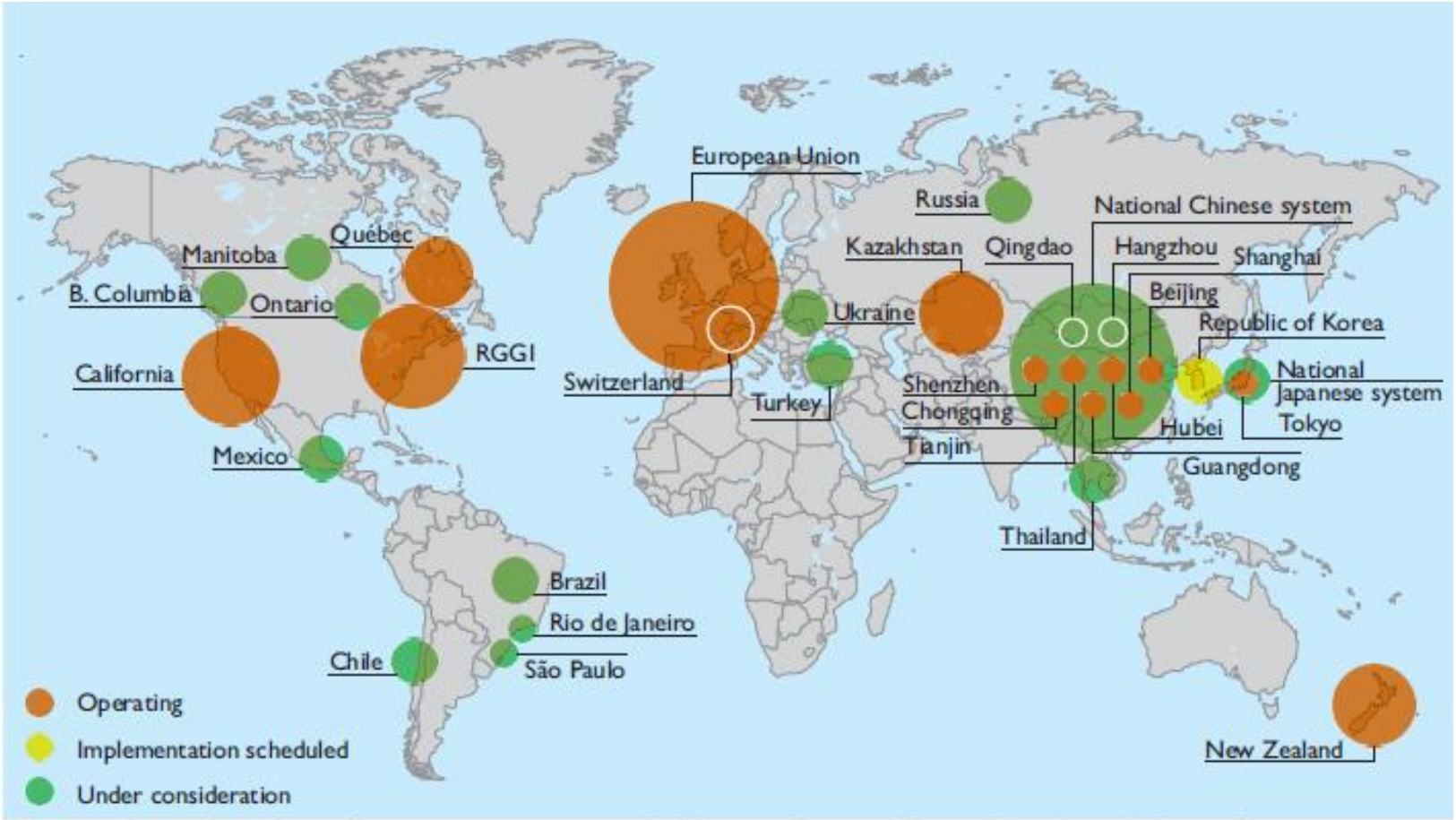


The current context …



Carbon Pricing Mechanisms

Status of ETSs worldwide



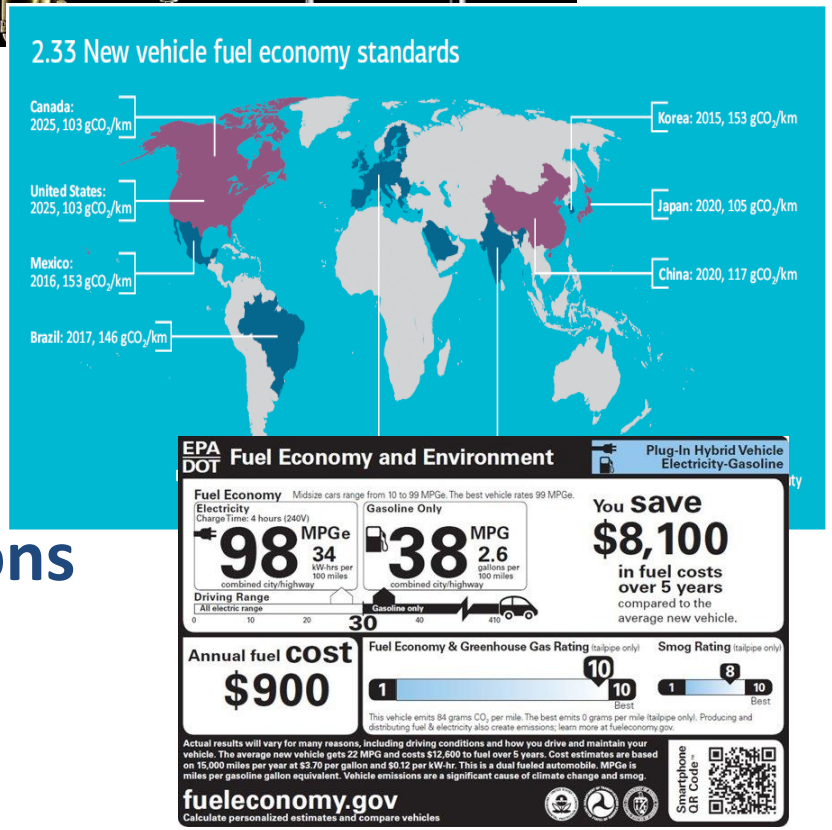
This map is without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries, and to the name of any territory, city or area.

Source: Energy, Climate Change and Environment: 2014 Insights

Regulatory mandates

For example:

- Minimum performance standards (MEPS) for appliances
- Fleet average vehicle fuel economy
- Power generation: lifetime limits; fleet average emissions standards



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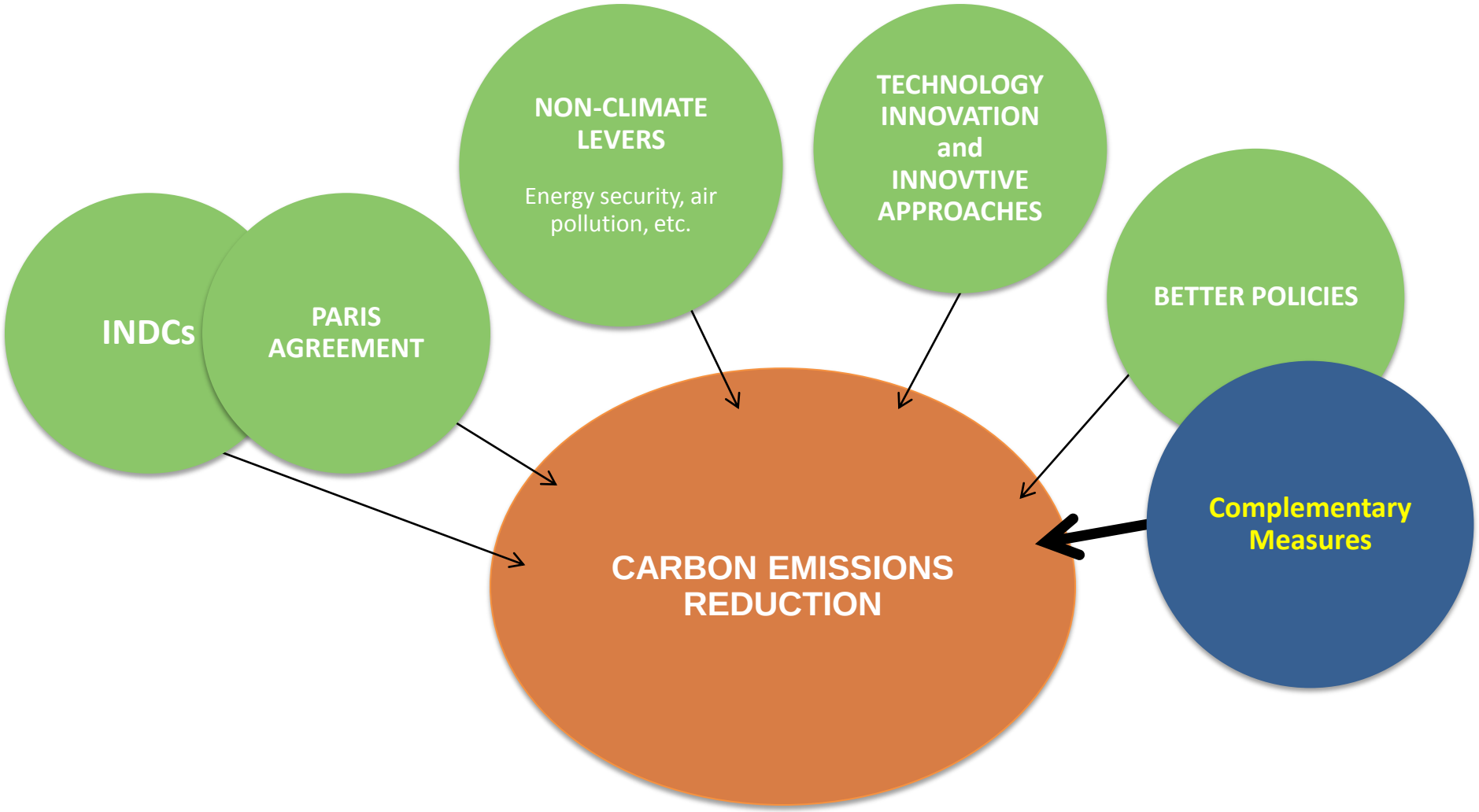

Today's Workshop

1. Overview of the landscape – towards a typology of complementary approaches and a conceptual framework for action

2. Focus on assessment – how well are these programs doing / what criteria do we use for evaluation?

3. Complementary programs from around the world
   - A. Voluntary agreements and government-initiated programs
   - B. Business/NGO collaborations and company-led initiatives

4. Challenges and opportunities in developing and transition economies and SOEs

5. Possible role for complementary actions beyond Paris – suggestions for next steps

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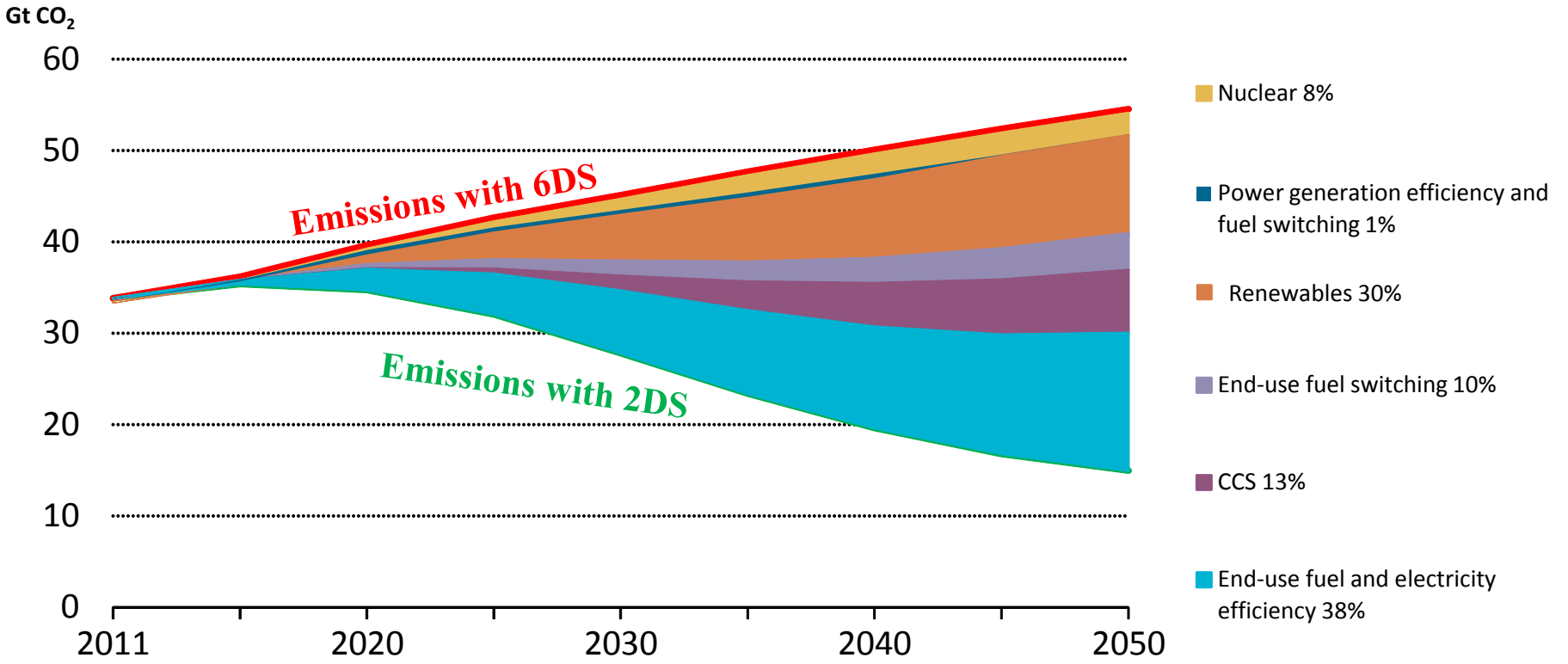

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Thank you

Outline of the day

- Two morning **plenary sessions** (with coffee break)
- **Lunch** will be provided at the IEA bar (12:45 pm)
- Two parallel **breakout sessions** (2 pm):
  - 3A in Room 1 (this room)
  - 3B in Room 2 (near the IEA reception desk on level "-1")
- Reconvene for brief **report-backs** from the breakout groups (3:15 pm)
- Two afternoon **plenary sessions** (after coffee break)
- **Reception** at l'Atome café/bar (6:30 pm)
- **Slides** to be posted on IEA workshop web page