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Energy Technology Perspectives 2015: The Role of Energy Technology Innovation in Accelerating Low-Carbon Transitions

CSTP-TIP Workshop on Future Trends in STI Policy

Paris, 17 December 2015

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ETP publication programme

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ETP 2014	ETP 2015	ETP 2016	ETP 2017
Part 1. Setting the Scene			
Global Outlook, Tracking Clean Energy Progress			
Part 2. Driving the Change (Thematic Focus) *			
Harnessing Electricity's Potential	Mobilising Innovation to Accelerate Climate Action	Sustainable Urban Energy Systems	TBD • Securing sustainable resources • Investing in sustainable infrastructure
Partner Country			
India	China	Mexico	TBD (Indonesia?)

Energy Technology Perspectives 2015: Mobilising Innovation to Accelerate Climate Action

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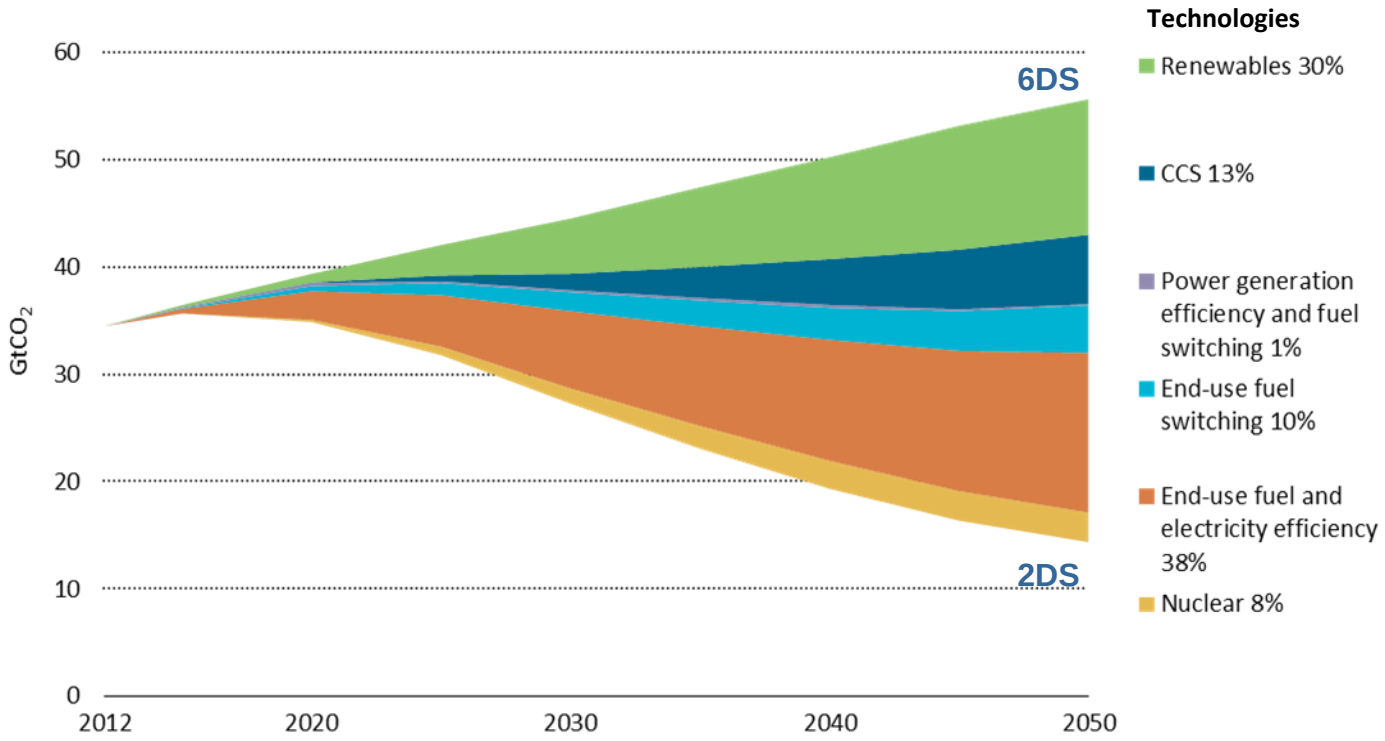
Energy Innovation is crucial in making the 2DS possible

ETP 2015

Contribution of technology area to global cumulative CO2 reductions



Energy innovation has already yielded solutions, but needs support and guidance to deliver on its promises

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Technology innovation has delivered in the past . . .

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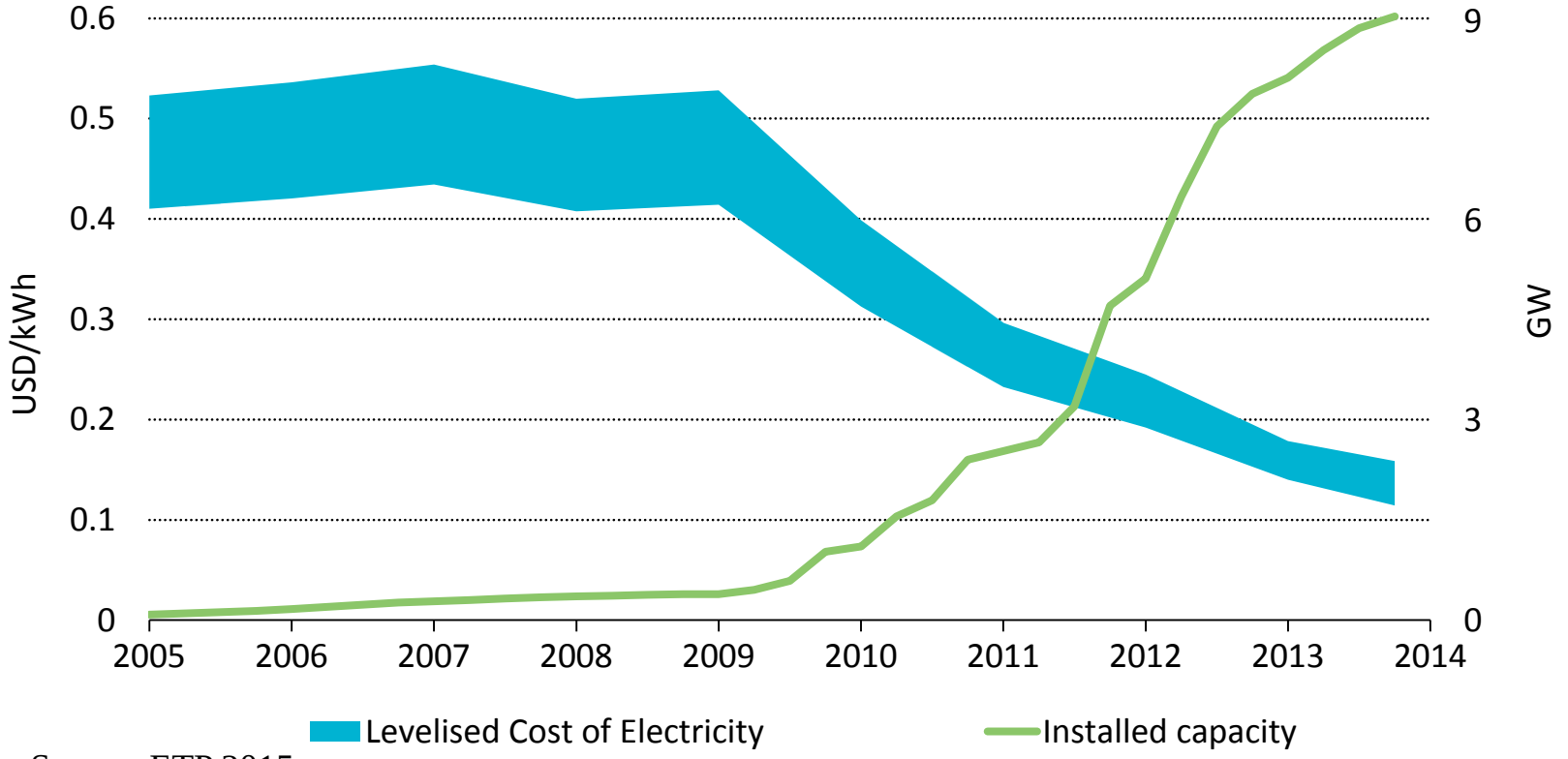
Cost of electricity generated and utility-scale PV capacity installations in Germany



Source: ETP 2015

Thanks to 40 years of innovation efforts, solar PV generation is an increasingly cost competitive option

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Innovation has also helped improve energy efficient technologies

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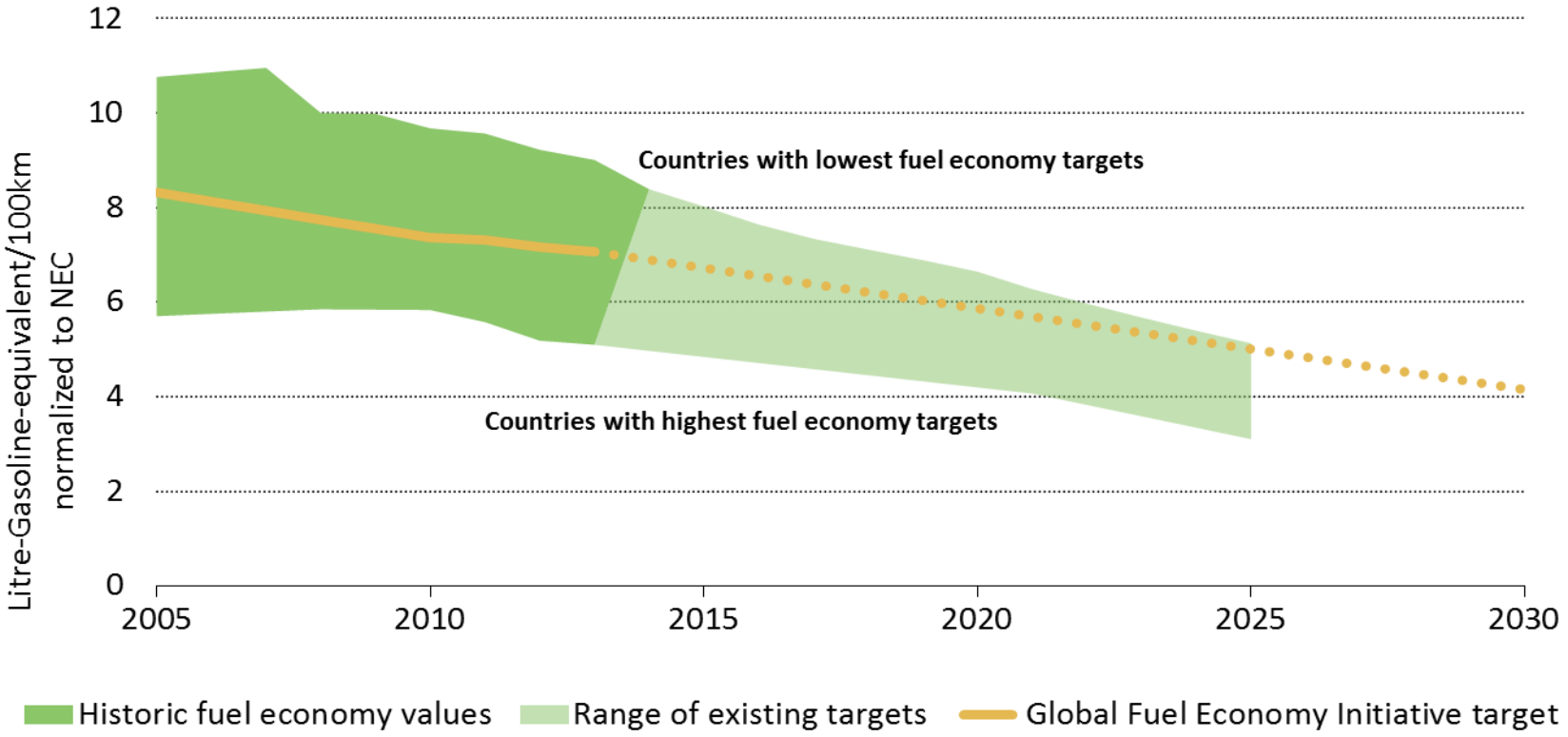
Average new Light-duty vehicle fuel economy evolution by country, 2005 to 2013



Fuel economy is improving as policy increasingly drives the deployment of more efficient vehicle technologies

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Energy RD&D funding now targets the right issues, but is not enough

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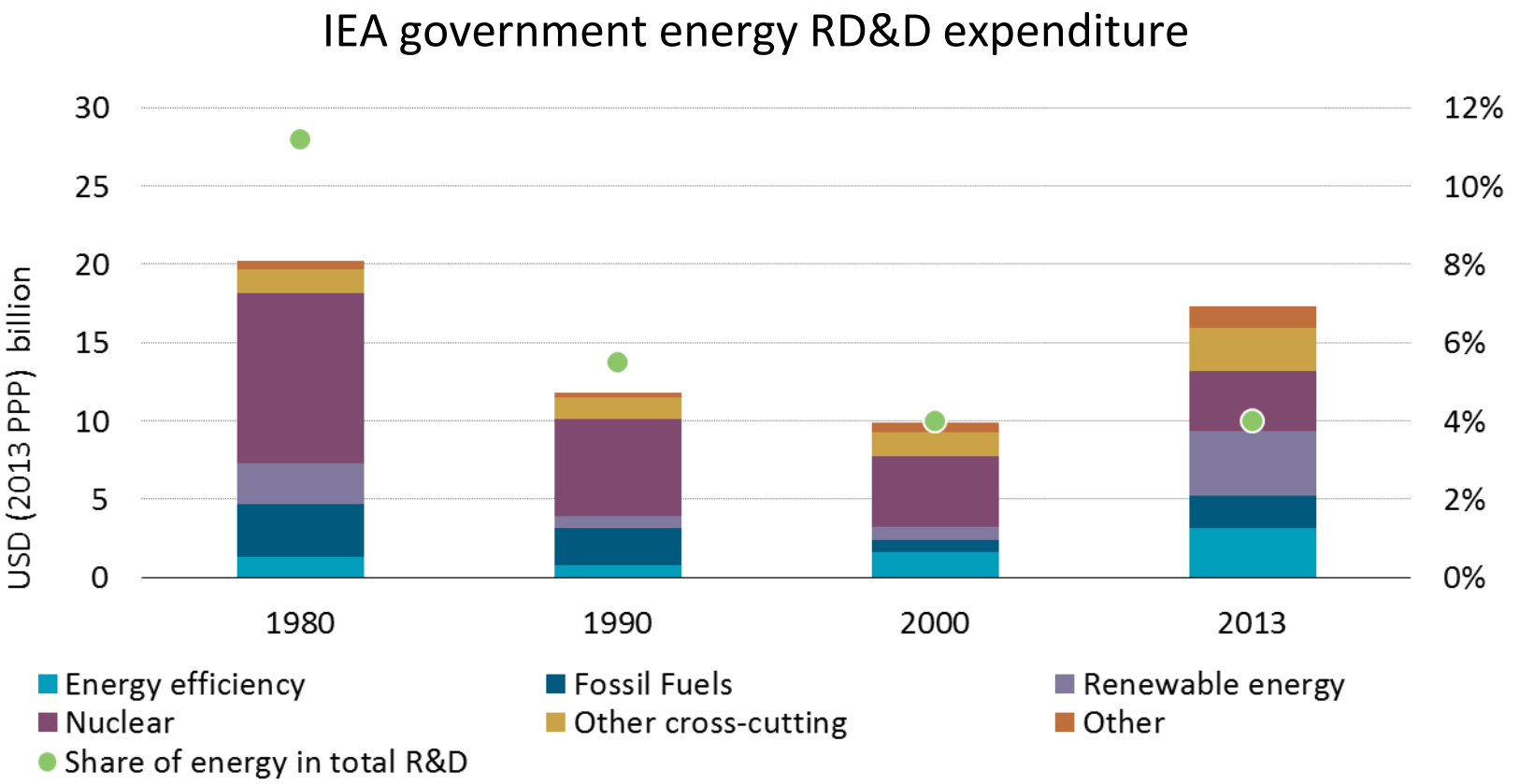

Source: ETP 2015

Energy RD&D spending should reflect the importance of energy technology in meeting climate objectives

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Supporting Energy Innovation: The right policy at the right time

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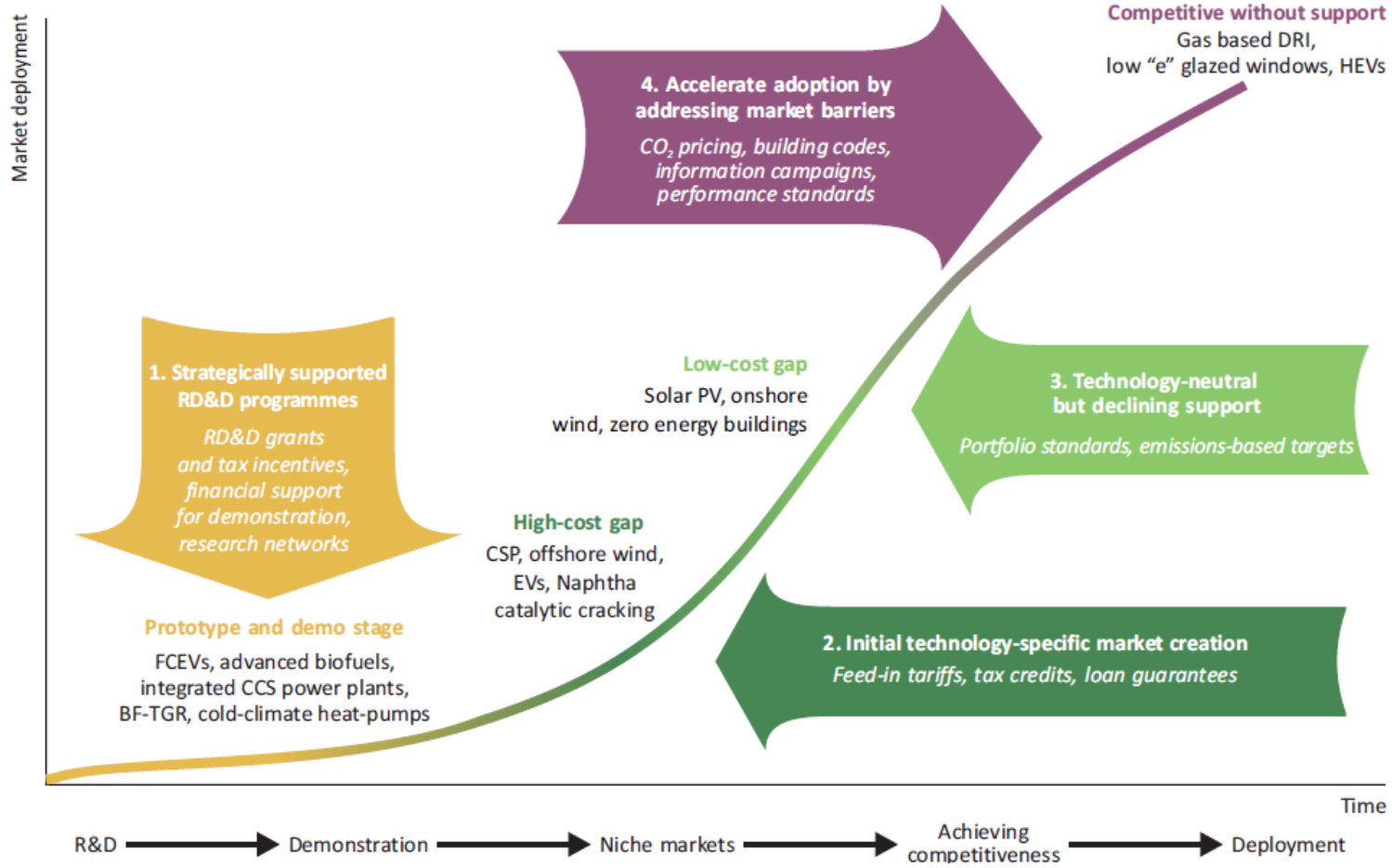

The right support depends on the maturity of the technology and the degree of market uptake

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The "cost gap" needs to be closed, not just reduced

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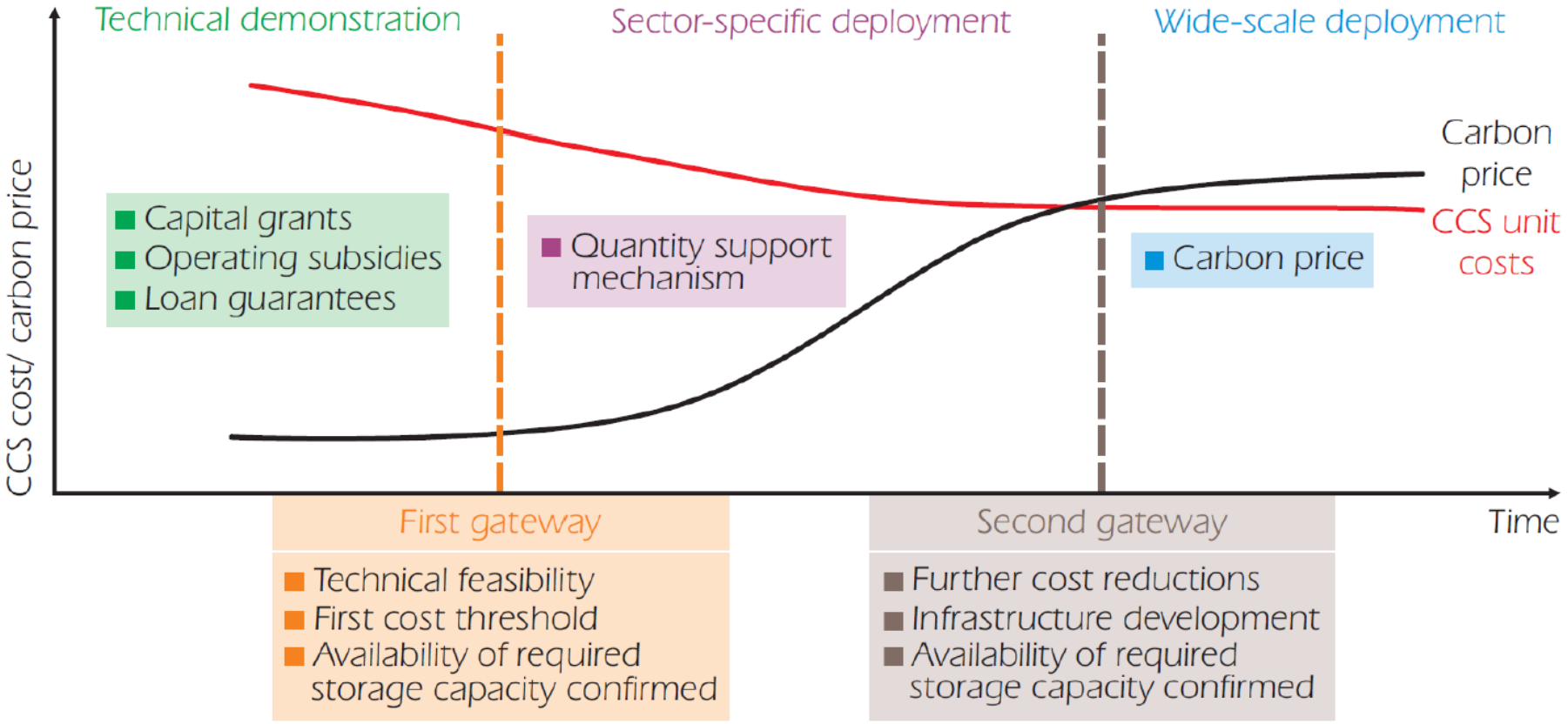

During scale up, competitiveness rises due to cost reductions and increased costs of not using CCS

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Innovation is essential for sustainable growth in the industrial sector

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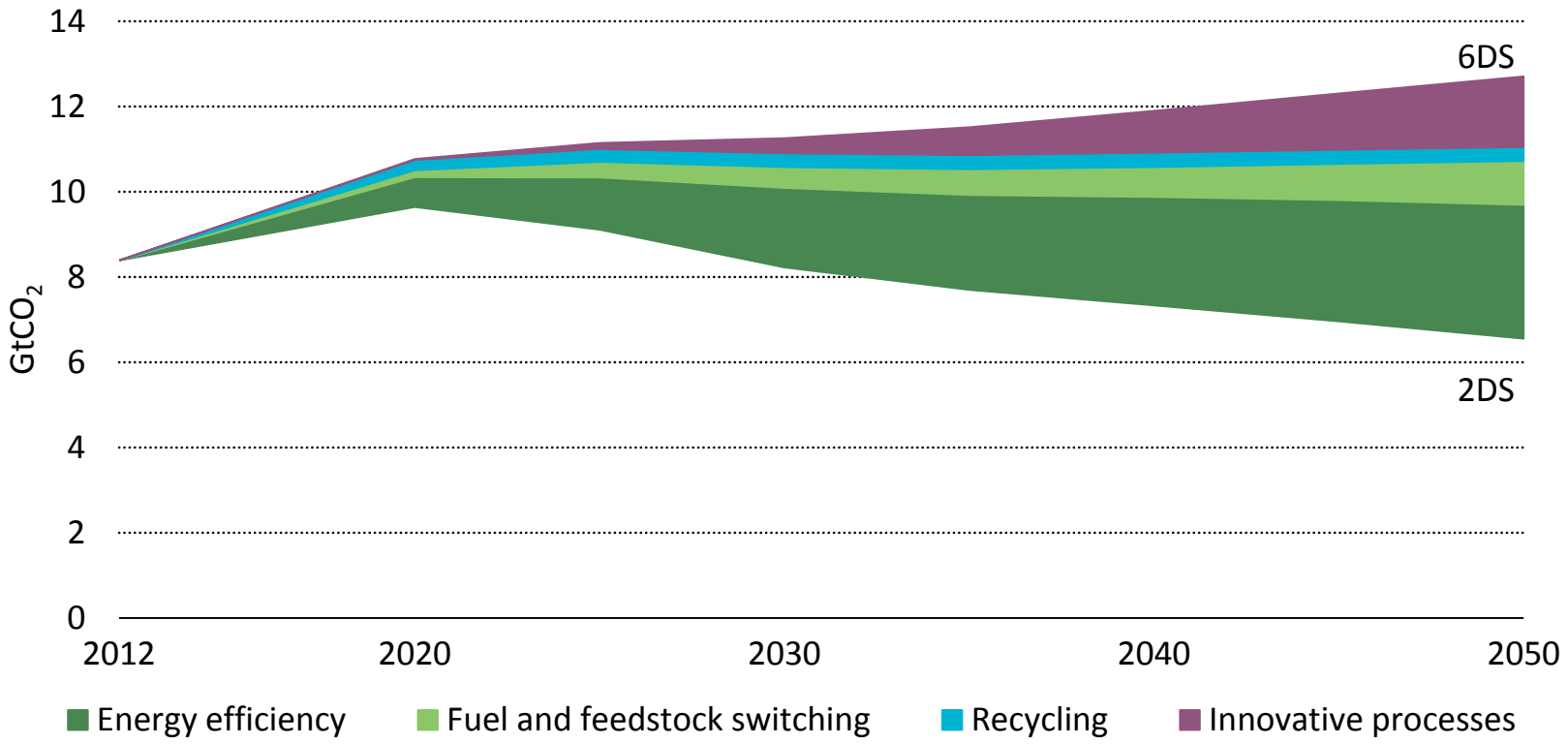
Annual energy-related direct CO2 emissions in the industrial sector in the 2DS



Source: ETP 2015

The deployment of innovative technologies is crucial to making a 2DS scenario possible

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Role of public private partnerships in catalysing innovation in industry

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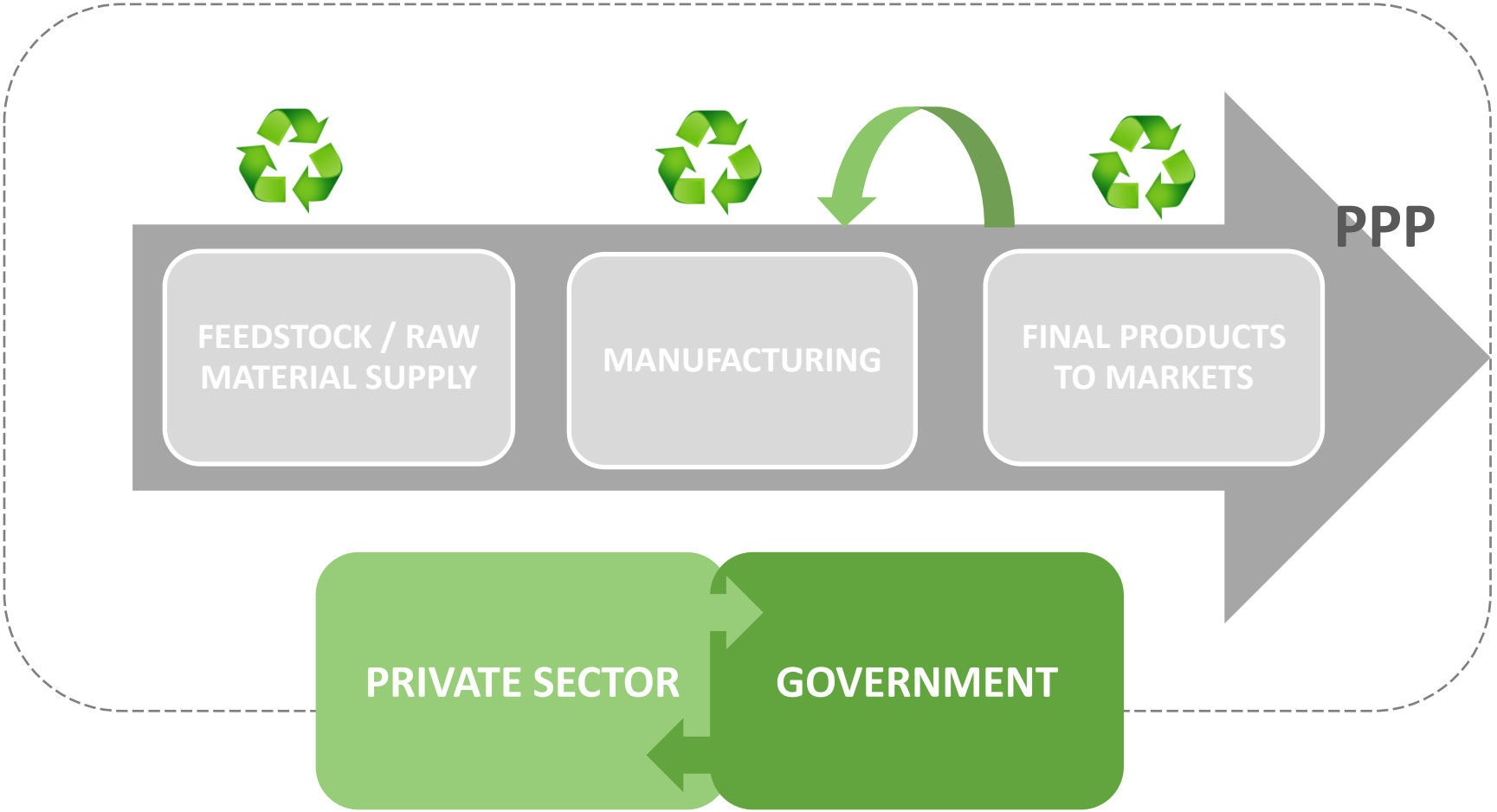

Partnerships can accelerate innovation while increasing the chances that a technology will be adopted

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There is no "one-size fits all" solution that can meet all local requirements

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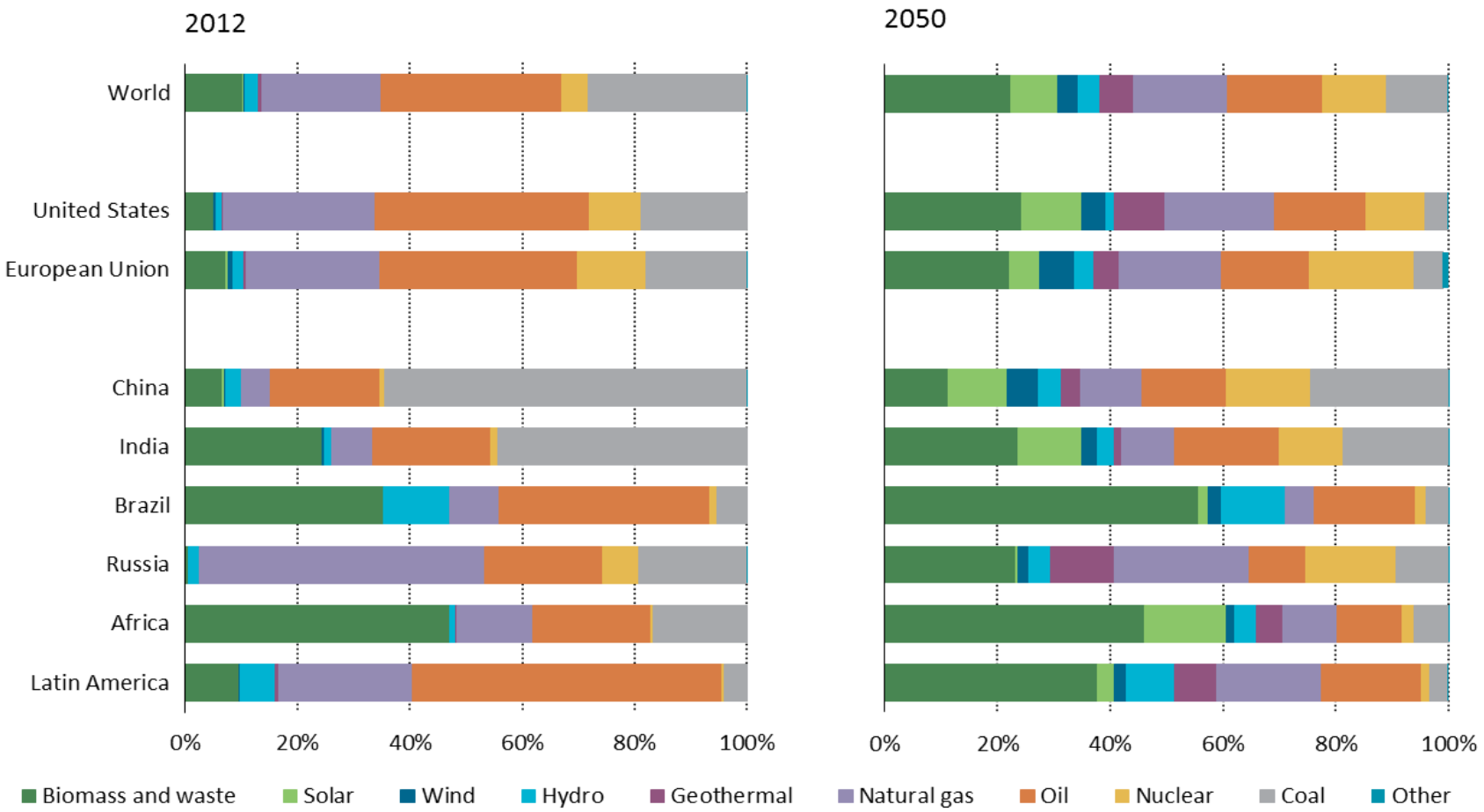
Regional technology shares in primary energy supply



National circumstances and resources will drive different technology portfolios and pathways

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Building innovation capacity is key to successful technology deployment

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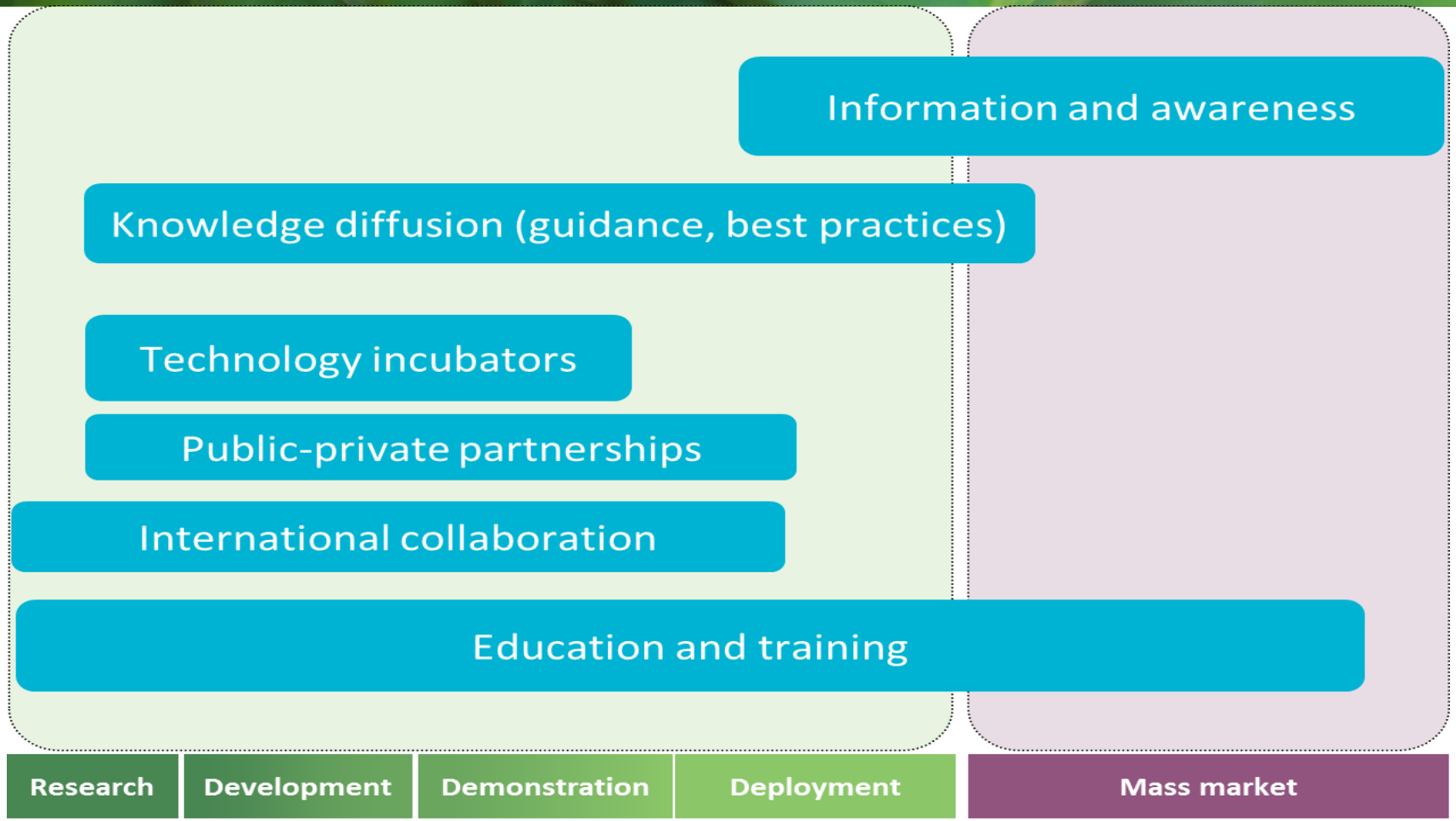

Source: ETP 2015

Cooperation between industrial and emerging economies could be a win-win solution

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Solutions exist to China's daunting energy challenge

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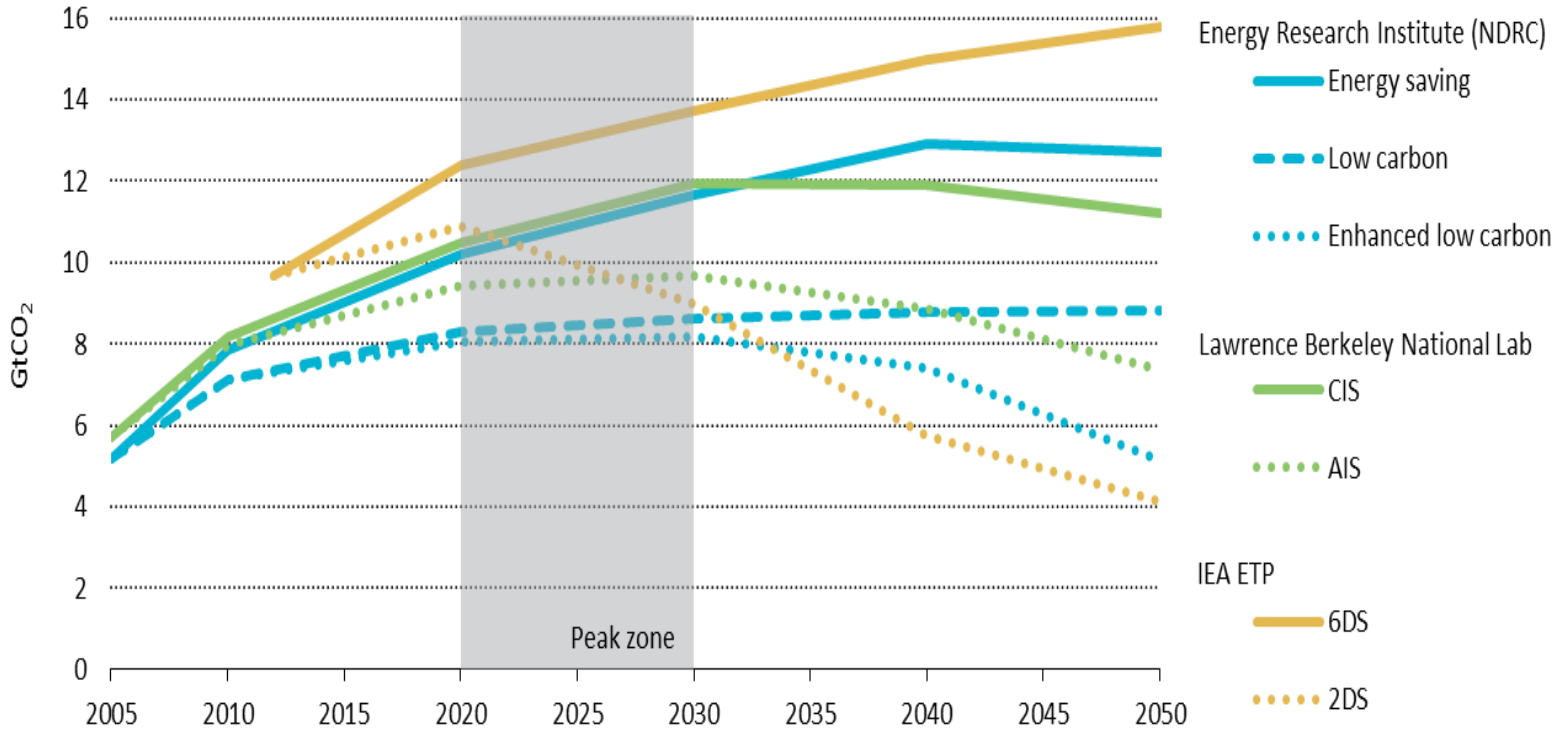
Long-term scenarios of China's 2030 emissions peak



China can make the 2Ds possible with strong policies encouraging energy technology innovation

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Patent and high-tech exports in China

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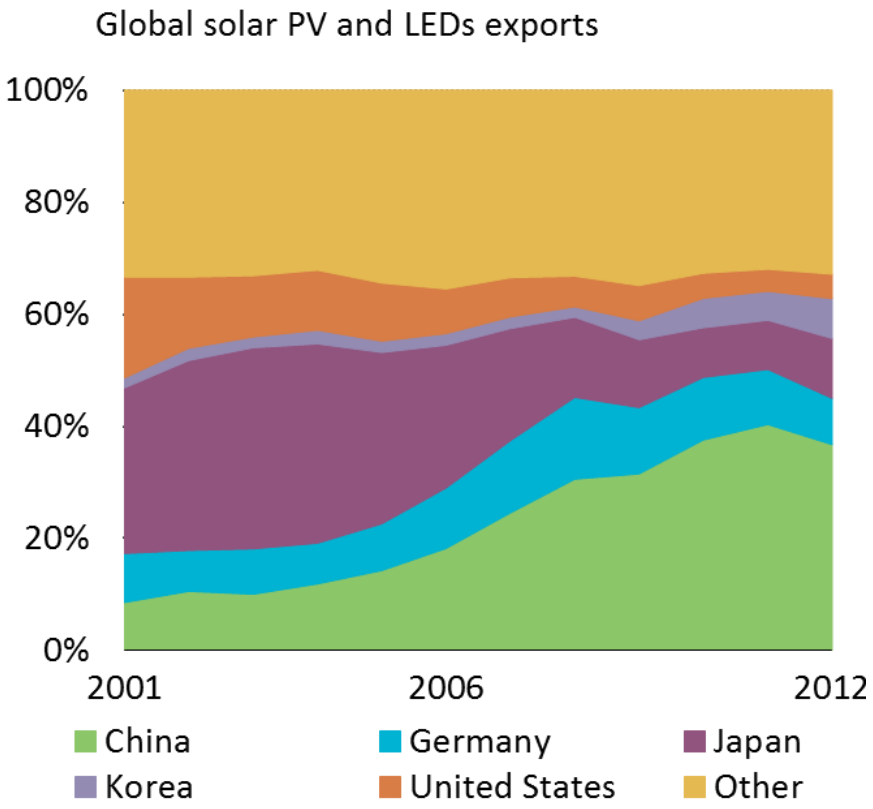

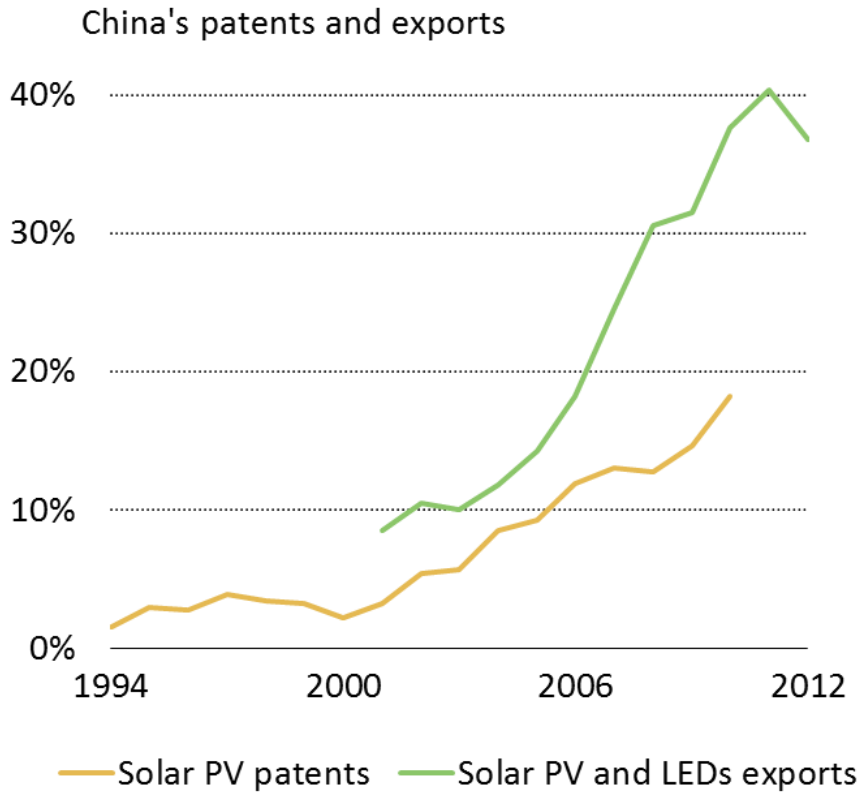

China's global export share by value of solar and LEDs has grown significantly to roughly 40%, with its share of patents doubling between 2005 and 2010.

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Better understanding innovation can increase confidence in its outcomes

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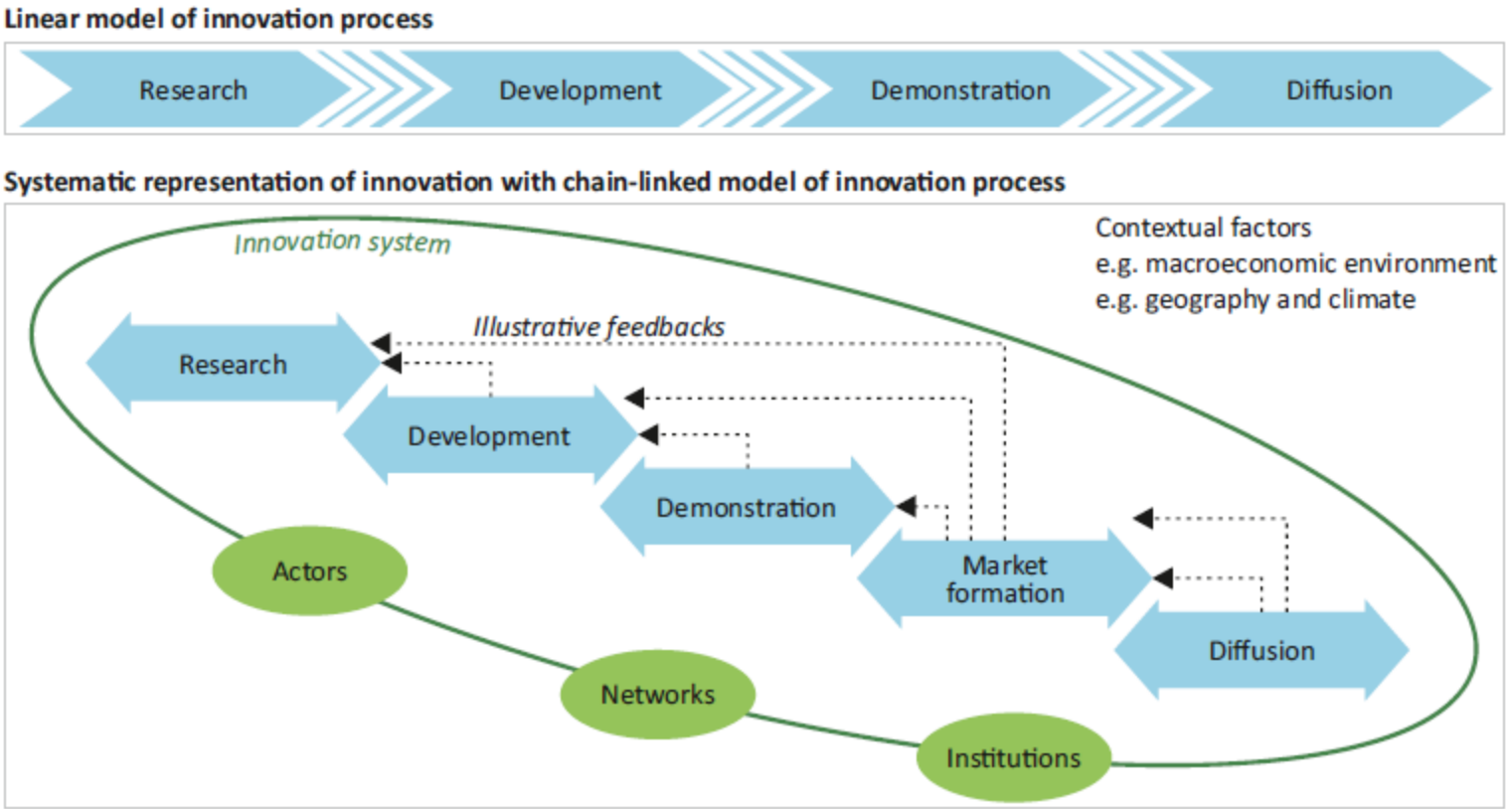

In order to accelerate technological progress in low-carbon technologies, innovation policies should be systemic

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Thank you

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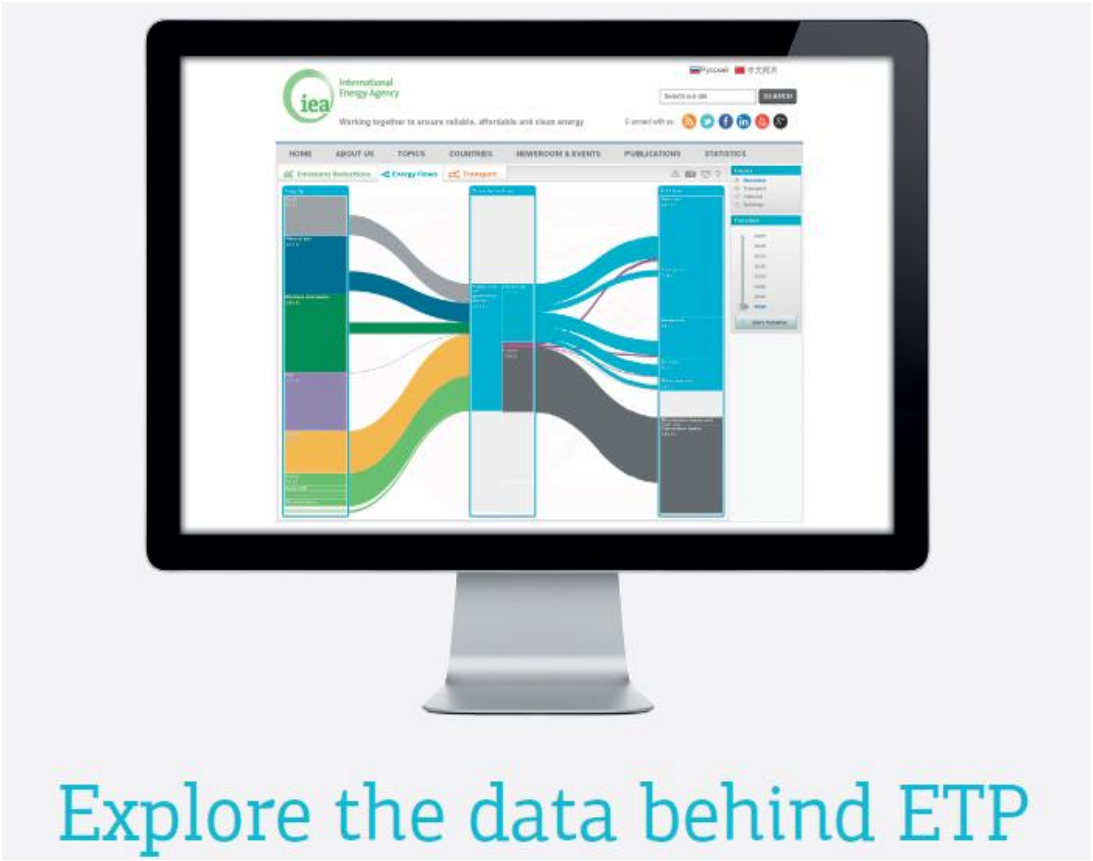

Investment in our future pays off…

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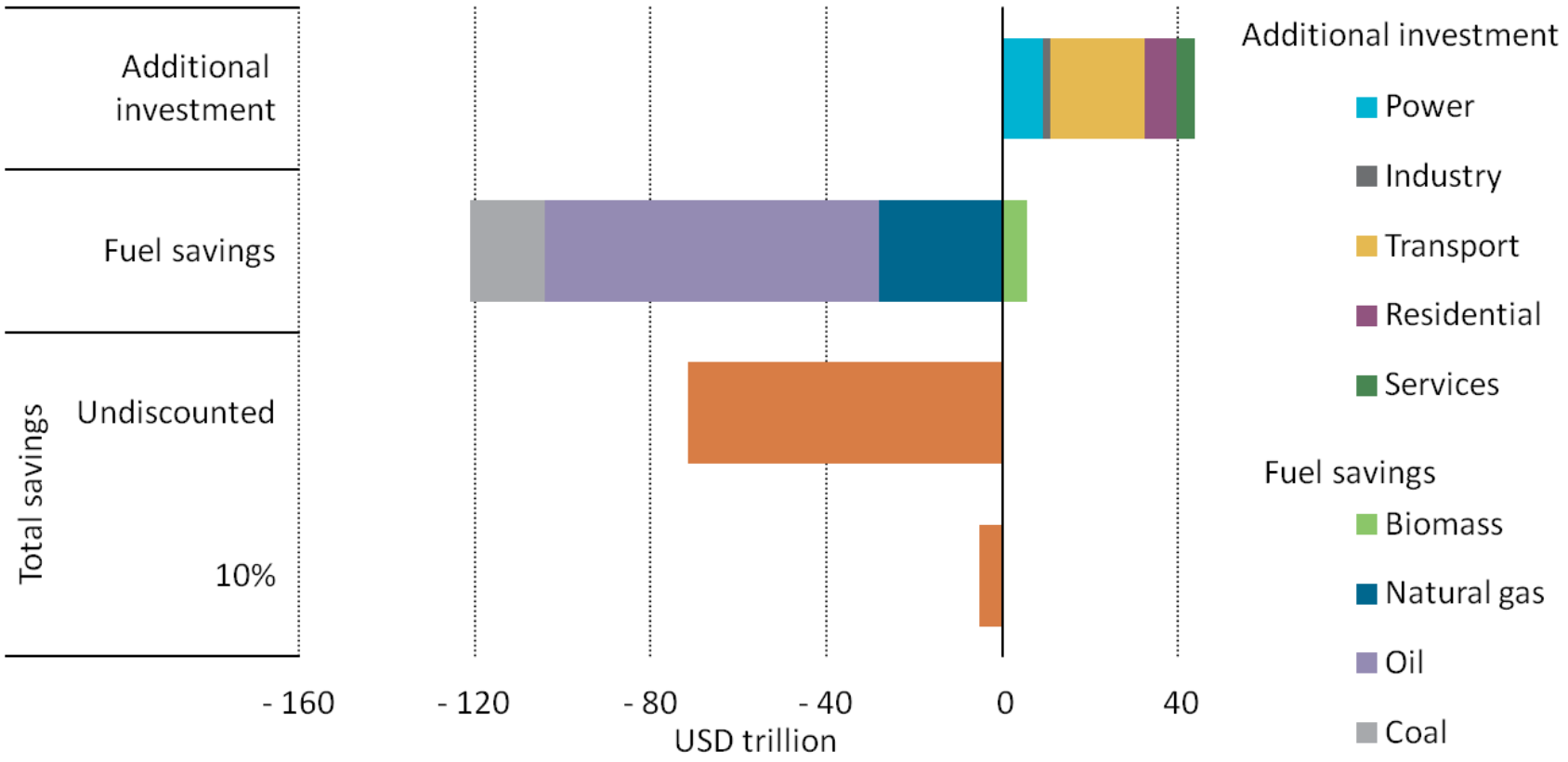

…and it is cost effective to make the transition

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