International Energy Agency

Innovation: a critical part of energy transitions

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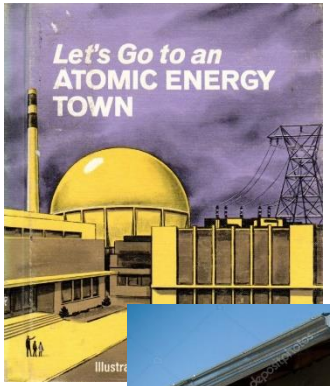
The IEA at COP25

CLIMATE CHANGE IS A GLOBAL CHALLENGE, AND A KEY PRIORITY FOR THE IEA

- To achieve the Paris Agreement goals, energy-related CO_2 emissions need to decline steeply.
- IEA data, analysis and ambitious, real-world solutions provide support and guidance for countries on their energy transition pathways.
- The IEA can help:
  - countries understand the global state-of-play, opportunities and challenges in the energy space
  - frame efforts in the context of sustainable energy pathways
  - guide and support countries to develop and implement policies for a sustainable energy pathway

Learn more about IEA work and COP25 events: iea.org/cop25

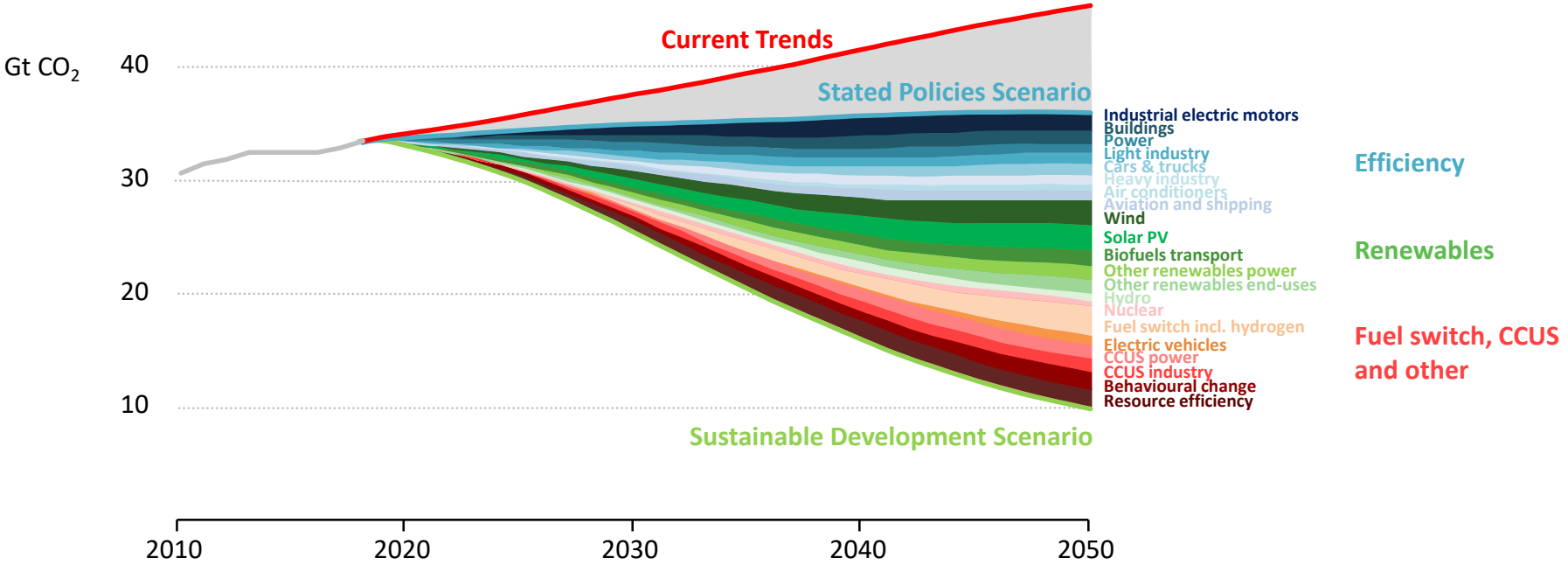
The history of energy is a history of innovation



The energy system can be characterised – without too much exaggeration - as long periods of disruption punctuated by moments of stability

New technologies are critical to clean energy

Energy-related CO_2 emissions and reductions in the Sustainable Development Scenario by source

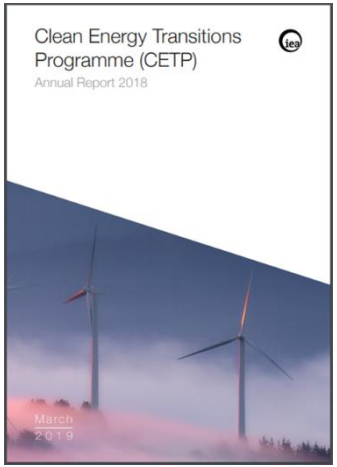


A host of policies and technologies will be needed across every sector to keep climate targets within reach, and further technology innovation will be essential to aid the pursuit of a 1.5°C stabilisation

Introduction to the Clean Energy Transitions Programme

- Launched in November 2017, the CETP provides cutting-edge support to accelerate global clean energy transitions
- Priority countries:

- **4 modalities**:
  - high-level engagement and collaboration,
  - joint learning and knowledge exchanges,
  - enhancing policy making and implementation,
  - strengthening multi-lateral dialogue
- Activities across **6 work streams**: data & statistics, energy efficiency, electricity, policy advice & modelling, sectoral work, and innovation
- Supported by **14** IEA members and/or other organisations



iea.org/cetp

IEA is active in multiple areas of technology innovation

Technology Collaboration Programme by IEA

MISSION INNOVATION

Our work Our members News Events Resources About MI

OUR COLLABORATORS

Find out more about Mission Innovation's collaborators.

IEA IRENA International Renewable Energy Agency WORLD BANK GROUP WORLD ECONOMIC FORUM

International collaboration and partnerships

https://www.iea.org/reports/energy-technology-innovation-partnerships

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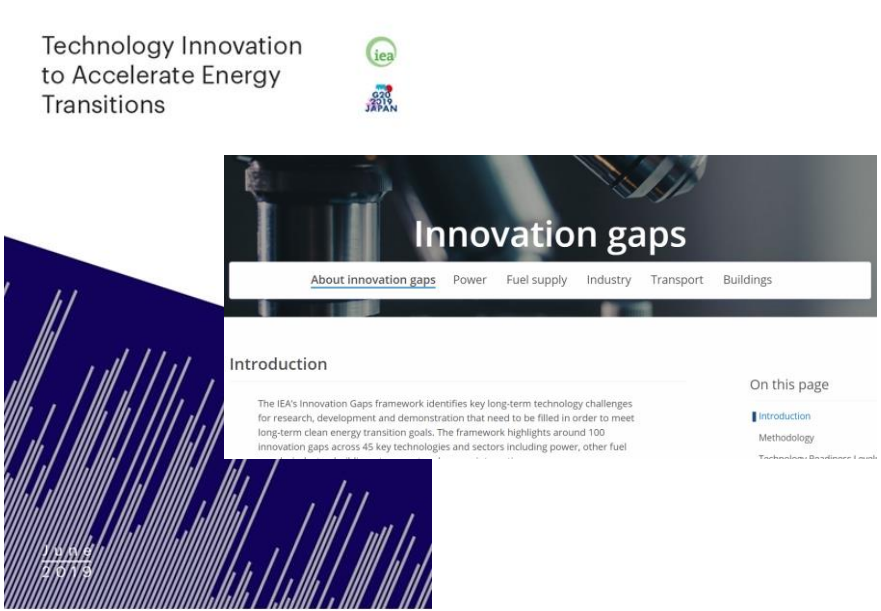
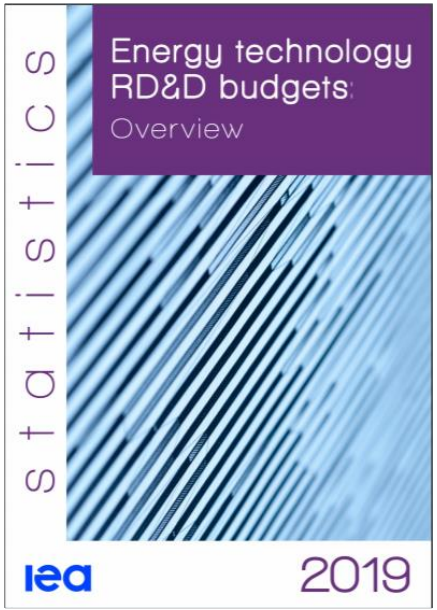
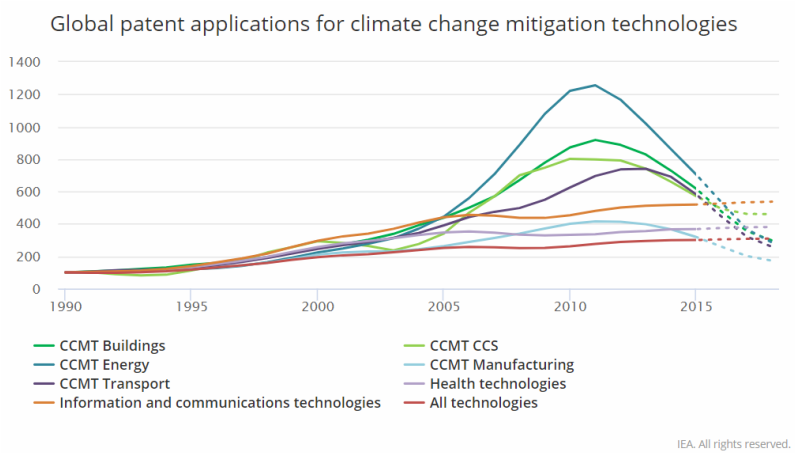


https://www.iea.org/reports/clean-energy-transitions-accelerating-innovation-beyond-2020

Support to energy innovation policy development around the world

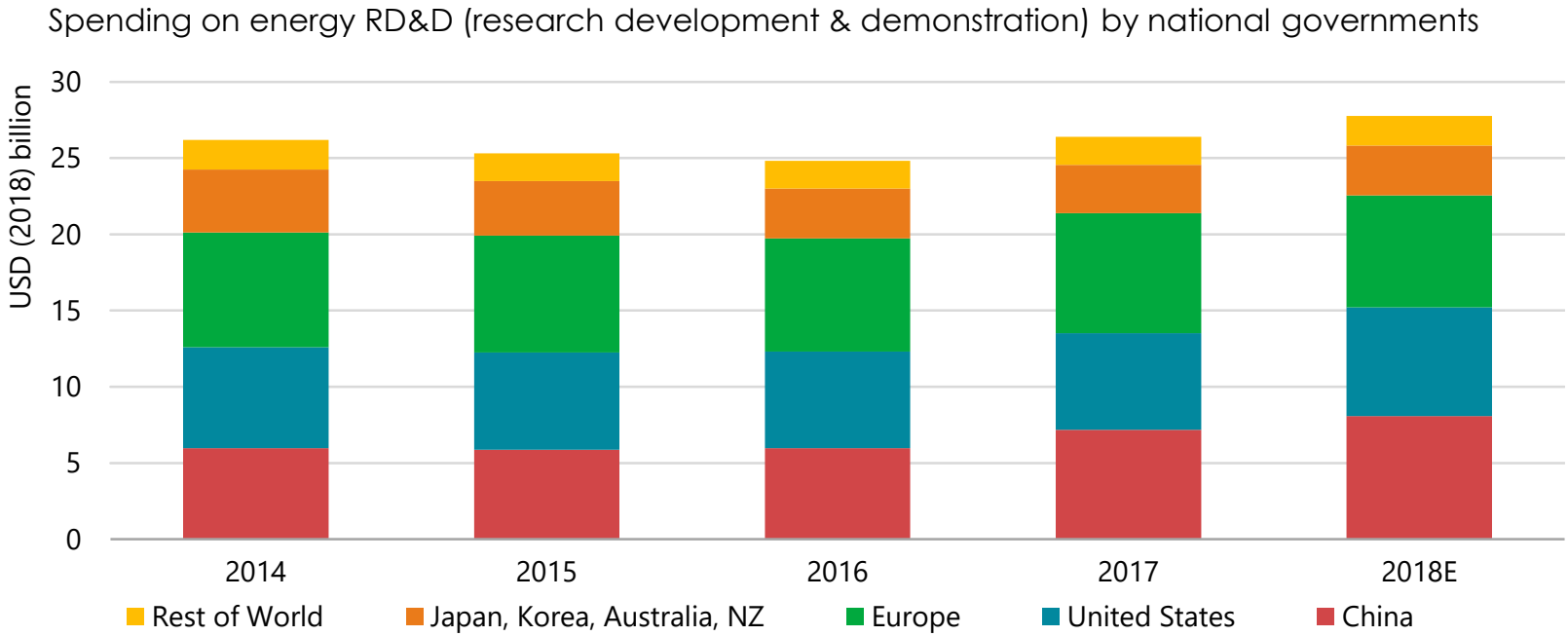
IEA is active in multiple areas of technology innovation





Tracking innovation inputs, and outputs

Public energy RD&D spending is not expanding enough



While public energy RD&D spending rose modestly in 2018, led by the United States and China, most countries are not spending more of their economic output on energy research.

Final thoughts

- New and improved clean energy technologies are needed. They will emerge from a combination of R&D support, market incentives and collaboration
- **Energy innovation is a distinct and vital policy domain**, alongside policy areas like energy efficiency, renewable integration, industrial decarbonisation and mobility.
- Like other major emerging markets, Brazil will play a major role in global energy in coming decades
- **Energy Big Push recognises the opportunity for Brazil to take a coordinated approach** to energy innovation – given its expertise in biofuels, smart grids, hydro etc. - and **develop best practices**
- IEA supports these efforts through the Clean Energy Transitions Programme

Shaping a secure and sustainable energy future for all

www.iea.org/topics/innovation