The Role of Technology and Collaboration in Meeting Global Energy Challenges

COP-19 Side Event: Achieving ambition: Pre-2020 policies and technologies for the energy sector
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Tracking Clean Energy Progress

- Renewable power
- Nuclear power
- Gas-fired power
- Coal-fired power
- Carbon capture and storage
- Industry
- Electric and hybrid-electric vehicles
- Biofuels
- Fuel economy
- Buildings
- Smart grids
A sustainable energy system is a smarter, more unified and integrated energy system.
ETP 2014: The age of electrification

- Increased electrification is occurring in all scenarios – the fastest growing energy vector in the energy system
- Need to deepen our understanding of key issues – opportunities and risks
  1. Decarbonising energy supply: **Is solar the answer?**
  2. **The enabling role of natural gas:** Flexibility vs. Base load
     - Incl. CCS ability to expand the role of natural gas?
  3. **Electrified transport** - how quickly and how far can we go?
  4. Systems integration – **is energy storage a game changer?**
  5. **Financing** low carbon electricity generation and capacity
  6. Partner country focus: **high efficiency power generation in India**
Energy RD&D has slipped in priority in IEA member countries.
Government support policies need to be appropriately tailored to the stage(s) of technological development.
ETP 2015: How can Innovation increase Climate Change mitigation ambitions

- Innovation and RD&D can have a fundamental role in enabling deep carbon emission reduction.

- Innovation encompasses a wide range of options:
  - Developing new technologies and approaches
  - Using available technologies in novel ways

- Difference between short term and long term needs
  - Identify what needs to be done when
Relationship between Energy Technology and Energy Policy

Technology R&D supports policy
- Focus development efforts on areas with the highest potential contribution priority policy objectives
- Provide key information on technology impact to enable successful policy development and implementation

Policy supports Technology R&D
- Channel resources to achieve R&D objectives
- Address non-technical barriers to technology deployment

Communication between policy and technical experts is key
- Science can highlight policy opportunities and risks
- Policy direction must prioritise R&D efforts
IEA’s programme of work in energy technology

- Where do we need to go?
- Where are we today?
- How do we get there?
Energy Security
Environmental Protection
Economic Growth
Engagement Worldwide