Energy Technology Perspectives: Enabling a Sustainable Energy Transition

**EBRD side-event:** Material Impact of Low Carbon Pathways, Deep Decarbonisation Technologies and Policy Dialogue

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Sizing the scale of the challenge... ... and its solutions

The carbon intensity of the global economy can be cut by two-thirds through a diversified energy technology mix.
But the challenge increases to get from 2 degrees to “well below” 2 degrees.

Energy- and process-related CO\textsubscript{2} emissions by sector in the 2DS

- Agriculture 2%
- Buildings 8%
- Industry 33%
- Transport 24%
- Other transformation 4%
- Power 29%

Industry and transport account for 75% of the remaining emissions in the 2DS in 2050.
### Tracking Clean Energy Progress

#### Technology Status today against 2DS targets

<table>
<thead>
<tr>
<th>Category</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric vehicles</td>
<td>Solar PV and onshore wind</td>
</tr>
<tr>
<td>Other renewable power</td>
<td>Nuclear</td>
</tr>
<tr>
<td>More efficient coal-fired power</td>
<td>Carbon capture and storage</td>
</tr>
<tr>
<td>Biofuels</td>
<td>Transport</td>
</tr>
<tr>
<td>Industry</td>
<td>Buildings</td>
</tr>
<tr>
<td>Appliances and lighting</td>
<td>Energy storage</td>
</tr>
</tbody>
</table>

- Not on track
- Accelerated improvement needed
- On track

*Clean energy deployment falls short of the 2DS opportunity but recent progress in certain technologies is promising*
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.
Technology Roadmapping: Bringing stakeholders together

- Goal to achieve
- Milestones to be met
- Gaps to be filled
- Actions to overcome gaps and barriers
- What and when things need to be achieved

- 32 global publications, 21 different technology areas
- Re-endorsed at G7 Energy Ministerial Meeting in May 2016 (Kitakyushu)
- New Cycle for Implementation:
  - Near-term actions
  - Regional Relevance
  - Key partnerships (e.g. Finance)
  - Metrics and Tracking
The IEA is the only energy organisation with 40 years experience of international technology collaboration

- Cross-cutting activities
- End use and energy efficiency
- Renewable energy and hydrogen
- Fossil fuels
- Fusion power

Close to 6,000 experts
More than 1,900 topics to date
Nearly 300 public or private organisations
52 countries
39 Technology Collaboration Programmes
4 regional or international organisations
The IEA works around the world to support an accelerated clean energy transition that is enabled by real-world **SOLUTIONS** supported by **ANALYSIS** and built on **DATA**.