IEA Technology Roadmaps: Channeling action for the energy transition

New York, 22 April 2016
ICEF Roadmap Workshop

Simone Landolina, Acting Head International Partnerships and Initiatives
Greater efforts are needed to reach a 2°C pathway

Energy efficiency & renewables account for the bulk of the additional emission reductions required for a 2°C pathway, but all forms of clean energy are needed.
IEA energy technology analysis provides answers

- Where do we need to go?
- Where are we today?
- How do we get there?
IEA Technology Roadmaps: a living library

32 publications, 21 different technology areas
What defines an IEA Technology Roadmap?

• “A roadmap is a strategic plan that describes the steps an organisation needs to take to achieve stated outcomes and goals. It clearly outlines links among tasks and priorities for action in the near, medium and long term. An effective roadmap also includes metrics and milestones to allow regular tracking of progress towards the roadmap’s ultimate goals.”

— Energy Technology Roadmaps: a guide to development and implementation, IEA, 2014
2015 is the first time none of the technologies are in line with climate goals - Despite continued progress in many areas
The success of the first cycle of IEA Technology Roadmaps

- IEA Roadmaps programme has been a success since the launch under the auspices of the G8 in 2008
  - 21 different technologies have been covered (5 updates)
  - Widely valued for generating consensus on future technology potential
  - Considered by UNFCCC to be an example of best practice
  - Growing interest of Partner Countries in collaborating with the IEA and desire to scale-up local roadmapping capabilities

- How2Guides: Manuals for policy and decision makers to develop and implement technology roadmaps tailored to national / regional frameworks (4 titles)
IEA roadmapping process

 Phase 1: Planning and preparation
• Ensure leadership commitment
• Appoint a steering committee
• Develop a statement of purpose and scope
• Conduct a baseline research

 Phase 2: Visioning
• Modeling and scenario analysis
• Determine long-term goals and set targets
• Clarify drivers and consider project types

 Phase 3: Roadmap document
• Identify potential barriers and correlated response actions
• Determine priority technologies that can meet objectives
• Stakeholder consultation

 Phase 4: Implement and monitor
• Launch the roadmap
• Track changes across sectors
• Monitor progress and adjust the roadmap
• Manage expectations

IEA Technology Roadmaps
2016: building a new cycle on existing foundations

Part of a coherent suite of roadmaps
Consensus: workshops & steering groups
Technology Status
More regional relevance
Milestones
Near-term policy priorities
Periodic updates
Long-term vision
Catalyse action (impl’on)
Seek partnerships / collaborations
Solve key energy problems, not single solutions

Relevant metrics and tracking
Closer look at financing and trade-offs

IEA Technology Roadmaps
What is needed to achieve an effective outcome?

• **Endorsement**
  – Roadmaps need real commitment from public and private sector

• **Multilateral Collaboration**
  – IEA initiatives: Technology Collaboration Programmes (TCPs), E4, Energy Business Council, ....
  – ICEF; Clean Energy Ministerial (CEM); Mission Innovation; G7/G20; Low-Carbon Technology Partnerships initiative, ....

• **Resources**
  – A roadmap’s implementation cost depends on availability of existing resources, efficiencies and levels of ambition.
India Cement Roadmap: Regional Vision Implementation

Technology Roadmap partners

In consultation with Industry supporters

Principal supporter
Technology Roadmaps: pathways to support innovation all the way

G7, G20, ICEF
UNFCCC TEC & CTCN, SE4ALL, IRENA.

CEM / LCTPi

BEC / M:I

IEA analysis can support energy technology policy activities at all stages of the innovation chain
IEA Technology Collaboration Programmes

- 6,000 experts
- 1,600 topics to date
- 310 public and private organisations
- 51 countries
- 3 initiatives currently active
- 4 international organisations

IEA Technology Roadmaps
A New Cycle of roadmaps for a stronger bridge to implementation

- Global roadmaps, with more regional context & specificities
- Long-term vision & near-term actions, supported by governments and key organisations
- A closer look at how the roles of different technologies / stakeholders fit together
- Stronger link to Tracking Clean Energy Progress
Prioritising topics

• Five criteria to selecting priority technologies and roadmapping opportunities:
  – Support (are the main firms and governments supportive?)
  – Relevance (will it play a major role and scale up in the 2025 period?)
  – Innovation gap (is there a gap between current actions and needs?)
  – Funding (have potential funders for roadmap implementation been identified?)
  – Resources (does the IEA have the resources and expertise?)
## Potential topics and timelines

### Smart Grids

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<th>Year</th>
<th>Criteria met</th>
<th>Scoping</th>
<th>Stakeholder engagement/research</th>
<th>Modelling/drafting</th>
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### Bioenergy

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### Low-carbon technology for the Brazilian cement industry

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### Nuclear energy (regional/national)

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### Iron and steel

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IEA Technology Roadmaps

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Closing remarks

• Cost-effective action is possible in the energy sector that could lead global emissions to peak soon: new era of collaboration

• Explore IEA – ICEF synergies and possible collaborations on roadmapping work.

• Opportunities for ICEF to provide significant added value on new energy technologies, non-energy climate technologies, regional level

• Roadmaps are “living documents” – the process determines the outcomes!
Thank you

http://www.iea.org/roadmaps/

Explore the data behind ETP

http://www.iea.org/etp/

http://www.iea.org/statistics/