

**TRANSFORMING INNOVATION INTO
REALISTIC MARKET IMPLEMENTATION PROGRAMMES**

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International Energy Agency
9, rue de la Fédération
Paris 75015

Rationale

Getting technologies from the laboratory to the marketplace is a multi-faceted challenge. Many financial, regulatory, structural and competition barriers exist, at all points in the RDD&D¹ process. Policies and programmes aimed at reducing cost and risk, implementing codes and standards, designing public outreach programmes or implementing tax and financial incentives have been successful in overcoming these barriers. This topic is not new, but has gained renewed interest following discussions at high-level meetings.

At Aquila, Italy, G8 leaders emphasised the paramount importance of technology development and diffusion on a global scale in meeting the challenges of climate change and accelerating the economic recovery, while moving towards a low-carbon society. Leaders of the Major Economies Forum on Energy and Climate Change (MEF) stated that the need for and deployment of transformational clean energy technologies at lowest possible cost is urgent. At the IEA Ministerial meeting October 2009, Ministers committed to undertake more efforts to accelerate public investments in RD&D with a view to doubling cost-effective RD&D investment in low-carbon technologies by 2015 to accelerate the spread of low-carbon energy technologies.

Funding research of new and enhanced energy technologies is evidently vital. Equally important will be the policies and programmes to facilitate deployment of those technologies, whether in IEA Member countries or non-Member countries.

Scope

As a follow-up to earlier work carried out by the EGRD on mapping global RDD&D efforts and identifying strategies to accelerate RDD&D in countries worldwide, this workshop will examine best practices in policies, programmes and measures for technology deployment at three stages of the RDD&D chain, from basic science to full market implementation:

- Creating business from ideas
- Early stage market entry
- Full-scale implementation: shaping market behaviour

For each of the case studies presented, questions to be addressed by experts include:

- What type of policies, programmes or measures were undertaken or implemented?
- What were the barriers or challenges (financial, regulatory, implementation, compliance)?
- How were difficulties overcome?
- What were the results or conclusions?
- What type of evaluation was carried out (if any)?
- Are there mechanisms that are more appropriate for particular sectors or for particular technologies?
- Are there lessons to be learned from programmes that were not successful?

In addition to EGRD national experts, we are seeking input from universities, the private sector, NGOs, and non-energy sectors that could provide perspective to the group such as health, biotech, or nanotech.

¹ *Research, development, demonstration and deployment.*

1. Creating Business from Ideas

This session will focus on innovations in universities, research institutes and laboratories and the processes for identifying and translating these ideas into products that can be commercialised and marketed. Business hubs, centres of excellence, collaborative forums and special programmes are some examples of bringing the research to business and financial stakeholders. In other cases governments have reformed intellectual property laws to encourage risk-taking, entrepreneurship and partnering with business.

Questions for discussion:

- *What are the recent innovations emanating from universities and the R&D community?*
- *What techniques, modalities and methods work best to move innovative concepts to the markets?*
- *How do research institutions identify and attract financial partners and business associates?*
- *Do innovators have time set aside to develop the spin-off products?*
- *What are the specific challenges associated with intellectual property and how can they be addressed?*
- *Are there lessons to be learned from universities and the R&D community that can be applied to other stages of deployment?*

Suggestions for best practice in this area include:

- France** – Instituts Carnots forums where researchers meet business and financial experts
- Netherlands** – Eindhoven University framework for uptake of research results
- Germany** – Fraunhofer Institutes models for technology uptake
- European Space Agency** – solutions for intellectual property
- United States** – DOE innovative technology transfer and other initiatives

2. Early Stage Market Entry

The focus of this session will be the early stage market entry, e.g. when a product exists and is available in the market, but its application is narrow and limited, perhaps, by a number of barriers to wider market adoption.

Questions for discussion:

- *Are there examples of technologies in niche markets that were able to reach full market potential?*
- *What were barriers that were overcome to reach those markets?*
- *Which financial or regulatory incentives successfully facilitated early stage deployment?*
- *What financial assistance or investment was necessary for the deployment programme?*
- *What was the market penetration before and after implementation of a successful policy or programme?*

Suggestions for best practice in this area include:

- Austria** – Energy efficiency in buildings
- Netherlands** – Inter-ministerial programme for energy transition
- Japan** – Stationary fuel cell programme
- Hybrid and Electric Vehicles IA** – Market Deployment Lessons Learned
- World Future Council** – Feed-in Tariff Handbook for Policy Design

3. Full-Scale Implementation: Shaping Market Behaviour

Realisation of full-scale implementation is the focus of this session. The keys for market entry include conditioning, shaping behavioural norms, and informing and influencing consumer choices.

Questions for discussion:

- *Are there examples of policies that were successful despite the lack of demand?*
- *Which programmes have successfully influenced consumer behaviour?*
- *Are there lessons to be learned from programmes that were unsuccessful?*
- *Are there examples of policies or programmes that shaped the needs of the markets or consumer behaviour?*

Suggestions for best practice in this area include:

- Italy** – Smart meters
- Japan** – TopRunner
- Korea** – Energy Efficiency Label and Standard Program
- United Kingdom** – Carbon Disclosure Project
- United States** – EnergyStar