Promoting Technological Innovation to Address Climate Change

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OCDE
DES POLITIQUES MEILLEURES POUR UNE VIE MEILLEURE

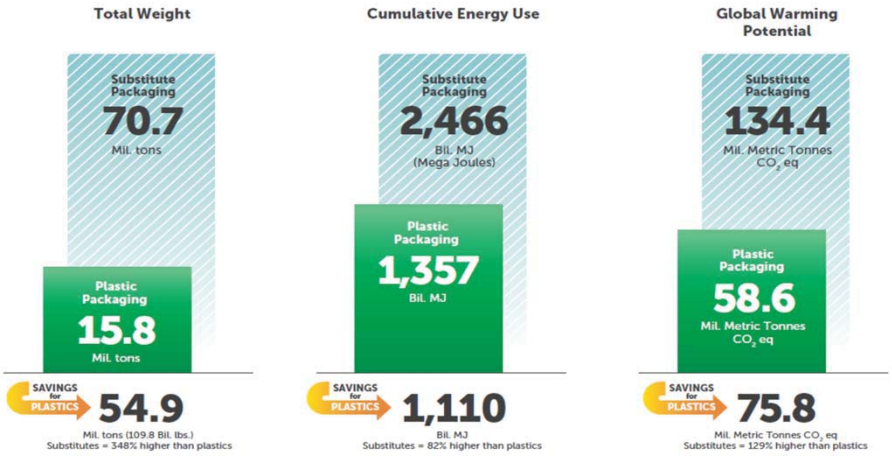
OECD Today

- 34 Member countries span the globe, from North and South America to Europe and Asia-Pacific.
- The world's most advanced countries but also emerging countries like Mexico, Chile and Turkey.

OECD
BETTER POLICIES FOR BETTER LIVES

- Restore confidence in markets and the institutions that make them function.
- Re-establish healthy public finances as a basis for future sustainable economic growth.
- Foster and support new sources of growth through innovation, environmentally friendly '**green growth**' strategies and the development of emerging economies.
- Ensure that people of all ages can develop the skills to work productively and satisfyingly in the jobs of tomorrow.

Common Plastics Packaging Helps Reduce Package Weight, Energy Use and GHG Emissions in U.S.



Source: "Impact of Plastics Packaging on Life Cycle Energy Consumption & Greenhouse Gas Emissions in the United States and Canada," Franklin Associates 2014. Study based on 2010 data. This study measures energy use and GHG emissions and is not an ISO 14044 life cycle assessment.

Mission Innovation at COP21

“MI will help accelerate the global clean energy revolution…”

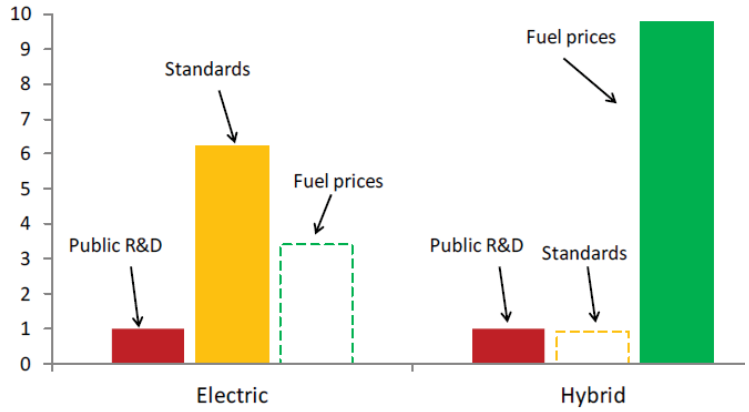
Vectors for differentiation of public innovation support

Sectoral	• Private enterprises • Private or private-public research institutes • Public universities
Technological (broad)	• Dirty technologies (e.g. coal, oil) • Clean technologies (e.g. renewable energy, energy efficiency in buildings, etc.)
Technological (narrow)	• Photovoltaics • Hydro • Biofuels • Nanotechs • IT • Etc.
Firm structure	• Multinationals • Large national companies • SMEs • Start Ups

The OECD Innovation Strategy outlines three key strategies to transition to a systems-based approach

- framework policies must be adapted to support the entry and growth of young, innovative firms;
- reverse the decline in public funding of basic research and remove barriers to private R&D investment in green technology;
- governments to create “lead markets” for greener transport, sustainable buildings, energy...

Relative Effect of Technology Standards, Fuel Prices and Public R&D on Innovation in Electric and Hybrid Vehicles

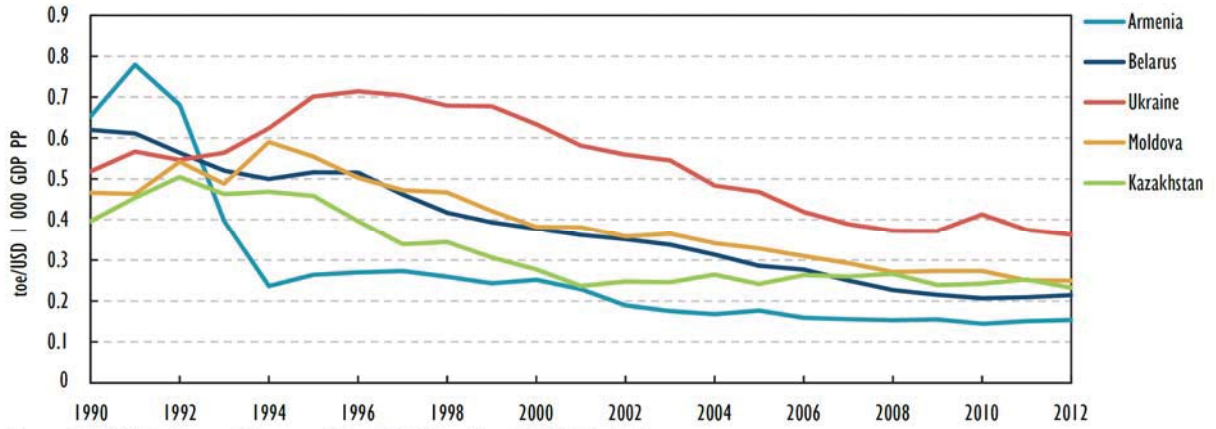


Source: OECD (2011) *Invention and Transfer of Environmental Technologies*. Note: For ease of interpretation. Elasticities have been normalised such that effect of R&D=1. Unfilled bars indicate no statistical significance.

Key Messages

- **Put a price on GHG emissions**, for example through taxes or tradable permits, in order to provide incentives across all stages of the innovation cycle.
- Provide **predictable and long-term policy signals** in order to give potential innovators and adopters of climate-friendly technologies the confidence to undertake the necessary investments.
- Use **flexible policy measures** to give potential innovators incentives to identify the best way to meet climate objectives, and to avoid locking-in technologies that may become inefficient in future.
- Provide an **appropriate mix and sequencing of complementary policy measures** in order to overcome barriers to development and diffusion of breakthrough technologies.
- Balance the **benefits of technology-neutral policies with the need to direct technological change toward climate-saving trajectories**, by diversifying the portfolio of technologies for which support is provided and identifying general purpose technologies with environmental benefits.
- Since the sources of innovation are widely-dispersed, **support research and development in a broad portfolio of complementary fields**, and not just energy, „climate-friendly" or 'environmental' R&D.
- Ensure that **international policy efforts maximise the potential for sharing of knowledge and technologies of mutual benefit**, for example through international research-sharing agreements.
- Support **international technology-oriented agreements** as an important complement to other international efforts (e.g. emissions-based agreements).

Energy intensity in selected countries of Eastern Europe and Central Asia 1990-2012



Source: IEA (2014), *Energy Balances of Non-OECD Countries*, OECD/IEA, Paris.