



**The role of IP and other enabling factors
for innovation and uptake of climate
relevant technologies**

**WIPO Green technology database and
services**

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Background

Due to market failure and uncertainties, the spread of green technologies is less than optimal

- Dual externality
- Market and policy uncertainties

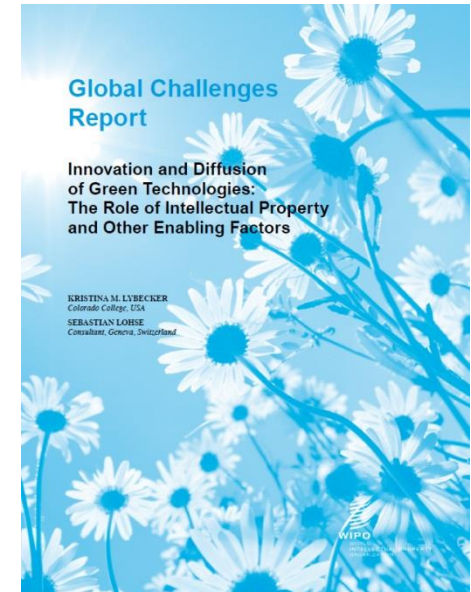
When looking at technology to address climate change, we distinguish between:

- Development of a wide variety of new technologies
- Their diffusion (to both developed and developing countries)

Development of environmentally sound Technologies (ESTs)

Policies that foster low-carbon innovation:

- More stringent environmental policies, national or international (e.g. emission standards)
- Effective protection and enforcement of IP rights
- Increased R&D and public support to private R&D
- Better access to finance for SMEs



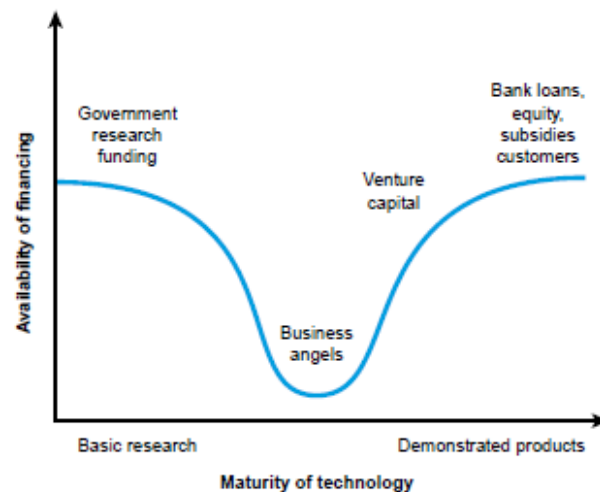
Financing

Public funding of environmental R&D is especially important in three areas affected by market or policy failures:

- Basic R&D
- Pre-commercial R&D
- R&D by SMEs

Figure 5:

THE “VALLEY OF DEATH” BETWEEN RESEARCH AND THE MARKET



IP rights in renewable technologies

The role of patent for renewable technologies differs from that in other sectors:

- Higher degree of substitutability and competition
- Sufficient room in the market for competing technologies

It reduces the influence specific patents can have on technological progress and prices

Technology Diffusion – enabling factors

- Intellectual property rights
- Trade and market aspects
- Science, R&D and adaptation capacity
- Policy considerations
- Public and private sector interactions

Intellectual property rights

- Patents for inventions, trademarks, industrial designs and geographical indications
- Trade secrets (business information not generally known that confers competitive advantage to the owner)
- IPR stimulate diffusion by providing secure channels for sharing know-how
- Can help innovative businesses signal the value of their inventions to the market (to potential partners and investors)

Intellectual property rights

- As LDCs do not import ESTs despite low barriers to trade, FDI, or strict IPR, those factors are unlikely to trigger technology transfer
- Focus on building technological capacity

Science, Research and Development and Adaptation capacity

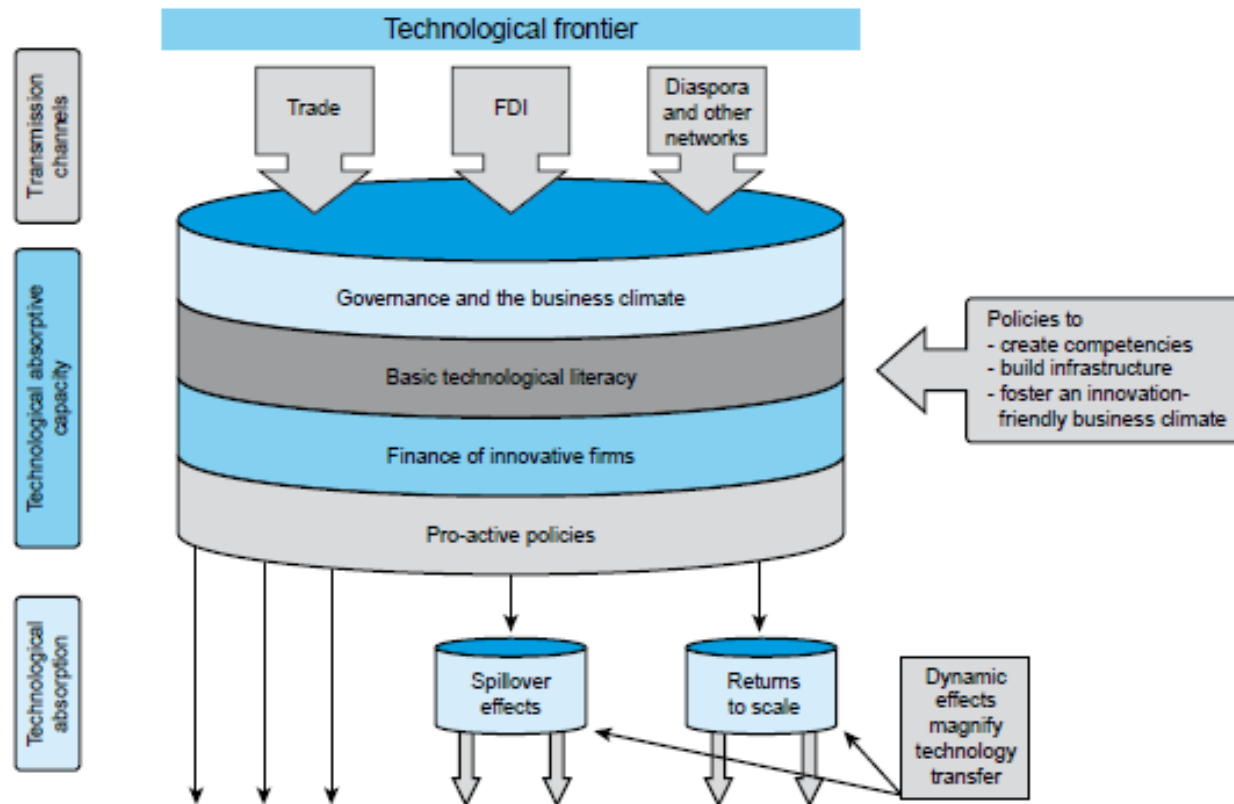
An economy must possess an appropriate level of **absorptive capacity**

- Ability to do basic and/or applied research
- Understand, implement and adapt technologies arriving from other countries
- Depends on macroeconomic and governance environment, education systems
- Can enhance the potential for domestic innovation

Importance of adaptation to country-specific and regional characteristics

Figure 3:

DOMESTIC ABSORPTIVE CAPACITY CONDITIONS AND EXTERNAL FLOWS



Source: World Bank 2008

Policy tools

Ambitious policy tools constitute probably the **most significant factor** in promoting environmental innovation

Variety of supply – and demand-side approach:

- environmental and technical regulation, carbon pricing, subsidies, mandates, funding grants, public-private partnerships...

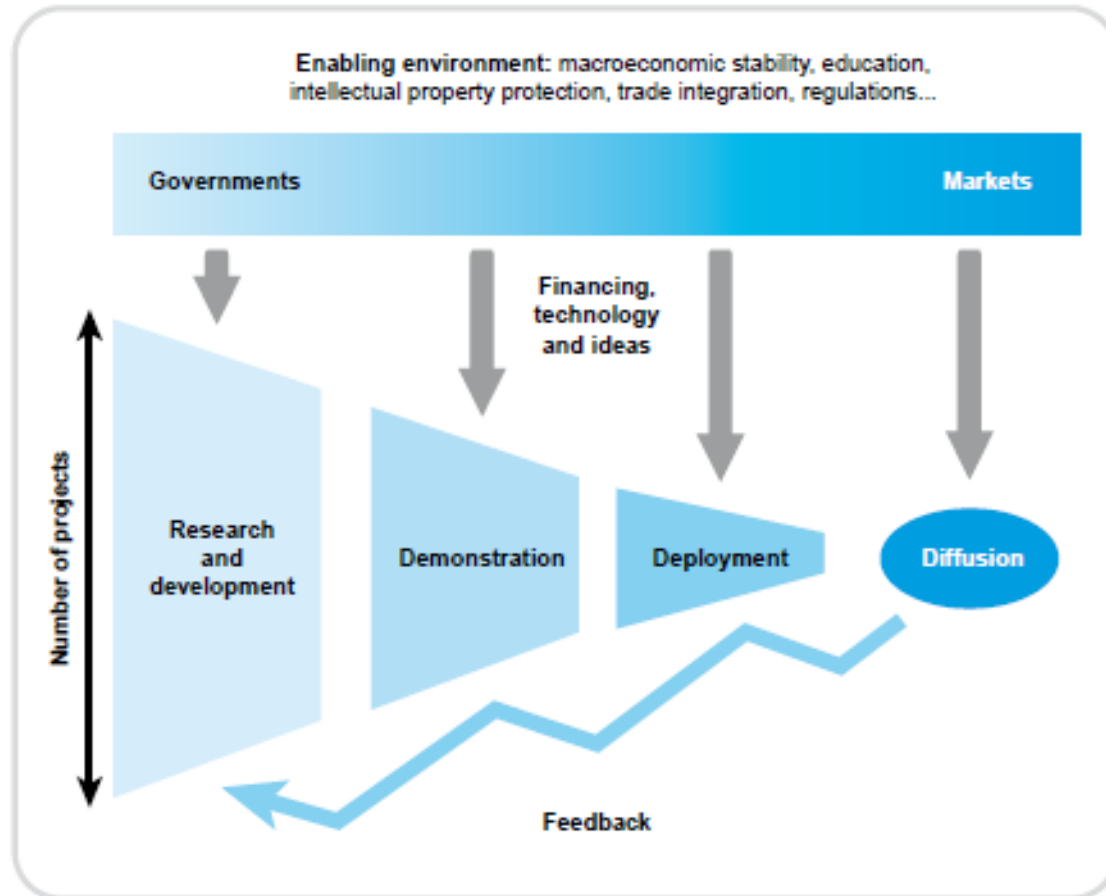
Transparency is of fundamental importance

- Identify costs and benefits of the policies
- Attracting relevant support from relevant interest groups

Need for policy-makers to combine different instruments, taking into account the country and industry specific conditions

Figure 6:

POLICY AFFECTS EVERY LINK OF THE INNOVATION CHAIN



Source: World Bank 2010a (adapted from IEA 2008)

Public and Private Sector Interaction

Different interaction between market players and other stakeholders significantly facilitate green technology transfer to developing countries

- Companies cooperative agreements: joint-ventures, joint R&D, technology exchange agreements, direct minority investment and sourcing relationship
- Non-commercial and/or pre-competitive collaborative agreements: Research coordination agreements, cost-sharing agreements, Eco-Patent Commons, WIPO GREEN

Challenges

- Addressing climate change while achieving socially inclusive and environmentally benign economic growth.
- Enabling more efficient adaptation and deployment of green solutions.
- Helping public and private sectors stimulate innovation and technology diffusion.
- Transparency and know-how
 - Which technologies are available? Who owns them?
 - Which technologies are needed?
 - How to establish and structure partnerships?
 - How to access financing solutions?

What is WIPO GREEN

- WIPO GREEN is an interactive marketplace that connects green technology providers and those seeking innovative solutions to combat environmental challenges.

Two principal components

WIPO GREEN Database

- Freely accessible, offers a broad listing of:
 - Products, services and intellectual property
 - Needs for products, processes, know how transfer, collaboration and finance

WIPO GREEN Network

- Connects green technology providers and seekers, catalyzes mutually beneficial commercial transactions and offers other resources and services

Benefits

- Find solutions to your needs
- Enter into a dialogue with different technology providers
- Promote products and technologies
- Identify green technology needs in different regions
- Partner with others to develop, adapt and/or commercialize technologies
- Access WIPO and third party resources and services to accelerate transactions
- Enter new markets
- Connect with large and small companies, IGOs and NGOs, universities, innovators and governmental agencies from around the world

Benefits

- More transparent marketplace
- Level playing field
- Reduce transaction costs
- Build on comparative advantages of multi-stakeholder approaches
- Constructively contribute to the global policy discourse

The WIPO GREEN Database

- Freely accessible, offers a broad listing of:
 - **Products**, services and intellectual property (IP) assets (including inventions, technologies, know-how) for sale and/or license, as well as opportunities for collaboration
 - **Needs for products**, processes, know-how transfer, collaborations and finance

- The technologies and needs cover:
 - Administrative, Design or Regulatory Aspects
 - Agriculture / Forestry
 - Alternative Energy Production
 - Energy Conservation
 - Transportation
 - Waste Management

The WIPO GREEN Database

Search for green technology and intellectual property assets. If you are a provider search for needs.

Needs

Technologies

Search Green Technologies

All technical fields



Administrative, regulatory or design aspects

Carbon/emissions trading, static structure design, and data processing systems



Agriculture and forestry

Pesticide alternatives and alternative irrigation techniques



Alternative energy production

Solar, hydro, geothermal and wind energy, bio-fuels, gasification of biomass



Energy conservation

Low energy lighting, measurement of electricity consumption, storage of electrical or thermal energy



Transportation

Vehicles, rail vehicles, marine vessel propulsion



Waste management

Waste disposal and treatment, pollution control, reuse of waste materials

The WIPO GREEN Network

- Connects providers and seekers and catalyzes mutually beneficial commercial transactions, by
 - Services offered by WIPO and third parties such as arbitration and mediation
 - IP management resources
 - Links to funding opportunities
 - Learning and training opportunities, upcoming events
 - Roster of service providers
 - Case studies illustrating tech transfer and collaborations

Partners and Users

Partners	<ul style="list-style-type: none">■ Public and private institutions■ Support WIPO GREEN and/or provide advice (e.g. facilitate transactions directly or indirectly; contribute expertise; integrate WIPO GREEN in specific activities; act as regional or national focal points, etc.).
Users	<ul style="list-style-type: none">■ SEEKERS upload needs for products, processes, know-how transfer, collaborations and finance■ PROVIDERS upload products, services & intellectual assets (incl. inventions, technologies, know-how, patents), for sale, collaboration and/or license■ OTHER USERS access resources, services, the newsletter and interactive blog that are also available to Partners and Users

Sample need

The R&D division of Hanoi Water Company is looking for water treatment technologies that can co-treat Hanoi Water Company

So far, conventional centralized water treatment plants have been used to treat ground water in Hanoi city. However, over the last decade, ammonium and arsenic levels have risen in a number of production wells. The Hanoi Water Company is therefore keen on reaching out to technology providers who can address this problem.

Get involved

- Register as a User to:
 - communicate your green innovation and technology needs
 - advertise your inventions, technologies, products and services
 - connect with the innovation and business communities globally

- Become a Partner and shape the further development of WIPO GREEN



www.wipo.int/green



Thank you !

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