How to Improve National Diffusion Capacity for Green Technology?

By Rafis Abazov (PhD)
National Director
MDP/Global Classroom Project
(Joint Educational Project EI/Columbia Univ.-Al Farabi Kazakh National Univ.)
Definitions

- Green Technology (GT) is technology that has the potentials to significantly improve environmental performance relative to other technologies.
Table of Content

- Green Technology (GT);
- Challenges in development of GT;
- How to improve national diffusion capacity for GT;
- The way forward
Components of Green (environmentally sound) Technologies

- Protect the environment;
- Less polluting;
- Use all resources in a more sustainable manner;
- Recycle more of their wastes and products;

(UNDESA, 2012)
Green Technology (GT) includes technologies that in general

- Produce low or now waste;
- Increase resource-efficiency and energy-efficiency;
- Helps to treat pollution
Green Technology (GT) industries

- Agriculture (e.g. organic agriculture, etc.);
- Energy (e.g. renewable energy, etc.);
- Water and waste management;
- Construction (sustainable building materials and technologies);
- Transportation
Challenges for the development of Green Technologies (GT)

- Lack of information;
- Lack of human resources and skills;
- High implementation cost;
- Lack of knowledge about alternative process technologies;
- Lack of knowledge about alternative chemical and raw material inputs;
- Low national diffusion capacity for Green Technology (GT);
- Inadequate policy motivation
Policy tools to improve national diffusion capacity for Green Technology (GT)

- Support for higher-learning and R&D;
- Stimulate FDIs and domestic investments;
- Develop environmentally-friendly legislature;
- Stimulate greater usage of renewable and energy-saving technologies;
- Support SMEs in adapting Green Technologies;
- Promote among general public the usage of Green Technologies
Promoting the transfer of Green Technology (GT) by focusing on:

- Supply factors;
- Demand factors
Dealing with the supply factors in developing countries

- Develop enabling environment in recipient developing countries;
- Capacity building including human capacities;
- Develop infrastructure to support production and management of Green Technology transfer;
Dealing with the demand factors in developing countries

- Encouragement of voluntary actions;
- Introduce “Green” requirements and measures;
- Develop stimulation mechanisms for adapting GT;
- Increase awareness among businesses, especially among SMEs;
- Increase awareness among general public;
Improve linkages between sectors (major players)

- University and R&D sectors;
- Industries;
- Government
Development of infrastructure for Green Technology transfer

- GT education campaigns to promote GT readiness;
- GT innovation fairs, conferences and workshops;
- Business incubators;
- R&D centers;
- Technoparks with appropriate access to ICT;
- Industries
Stakeholders

- Government;
- Private Sector/Businesses;
- International development institutions;
- Media/public groups/civil society groups;
- Individual consumers
Case Study (1): Roadmap for agricultural sector in the Republic of Korea

- R&D;
- Infrastructure management (e.g. farmland and water management);
- Economic means (e.g. grants, etc.);
- Legal and institutional improvement;
- Human resource training and education;
- Monitoring (e.g. monitoring adaptation, etc.);
- Technology and management applicable to farm households
Facilitating GT transfers

- Knowledge exchanges;
- Institution building;
- Trade promotion
Knowledge exchanges

- International (joint) R&D;
- Academic exchanges;
- Joint educational programs (higher education);
Institution building

- State institutions;
- Private institutions;
- Public institutions
Trade promotion

- Removal of trade barriers to facilitate GT imports;
- Stimulation of trade in GT
- Development of GT friendly trade environment
Case study (2): Market based instruments (MBIs) in the UK

- The Landfill tax;
- The Climate Change Levy;
- The 100% Capital Allowances Scheme;
- The UK Emission Trading Scheme;
- The Renewable obligations
Innovation process and GT

- Institutional innovations (e.g. Corporate Social Responsibility);
- Technological innovations;
- Service innovations
The way forward

- Use policy tools to develop GT friendly environment;
- Improve national diffusion capacity for GT;
- Develop dialogue between stakeholders;
- Facilitate knowledge exchanges;
- Facilitate institution building;
- Facilitate trade promotion;
- Enable innovation process
Thank you

Q&A