

# UNFCCC TECHNOLOGY TRANSFER AND THE PRIVATE SECTOR

## TECHNOLOGY TRANSFER: A BRIEF OVERVIEW

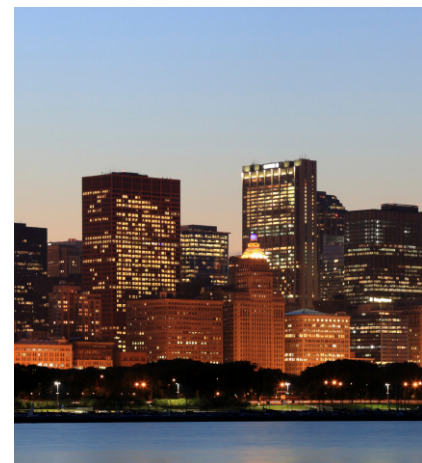
As the climate change debate progresses, there is growing interest in decoupling economic growth and increased greenhouse gas emissions. Critical to confront the climate challenge is the deployment of clean technology. In an effort to enable developing nations to leap frog conventional, high-carbon sources of energy, the UNFCCC has proposed a mechanism to transfer knowledge, expertise, capacity and technology from industrialized countries to the developing world.

Although member states did not reach agreement on a legally-binding multilateral agreement at the Copenhagen Climate negotiations, efforts around technology transfer continue to advance. The private sector has an important role to play in this initiative as the primary source of financing, expertise and capacity building. Many economic opportunities exist for clean technology and energy efficiency technology deployment. In order for these opportunities to be realized, however, significant steps must be taken to overcome key barriers outlined in this fact sheet.

## THE TECHNOLOGY TRANSFER MECHANISM: A BRIEF HISTORY

The UNFCCC first outlined its technology transfer initiative in the original convention documents in 1992. Since then, several entities within the UNFCCC structure have taken on responsibility for this program, with the aim of translating the concept into effective and meaningful projects and actions.

As initially defined, technology transfer was the chief means of enabling developing countries to undergo meaningful emissions reductions without negatively impacting economic growth. Developing nations, as a result, were not responsible for binding emissions reductions until developed nations had implemented and financed



### HOW IS TECHNOLOGY TRANSFER DEFINED?

The Intergovernmental Panel on Climate Change, an independent body to the UNFCCC, defines technology transfer as “a broad set of processes covering the flows of know-how, experience and equipment for mitigating and adapting to climate change amongst different stakeholders such as government, private sector entities, financial institutions, NGOs and research/ education institutions.”

mechanisms and technologies to allow them to do so. The Subsidiary Body for Scientific and Technological Advice first took responsibility for this program.

In 2000, the Expert Group on Technology Transfer (EGTT) was established to manage the research, recommendations and strategies for technology transfer at the UN.

The Ad Hoc Working Group on Long-Term Cooperative Action (AWG-LCA) was developed at the UNFCCC Convention in Bali in 2007 in tandem with an interim technology transfer fund managed by the Global Environment Facility (GEF) as a transitional body to direct action through 2012. The LCA process, commissioned reports from the EGTT and used them to create draft proposals for developing more effective technology transfer policies and mechanisms. On May 17, 2010, the LCA released a new post-2012 proposal to establish a Technology Executive Committee to research and assess policy and technical issues around technology transfer and make recommendations to promote the acceleration of clean technology diffusion within the developing world. The Technology Executive Committee would also be also tasked to collaborate with key stakeholders, including the private sector.

Technology transfer has become one of the central issues surrounding global climate negotiations, but divergent views exist on the roles and responsibilities of developing nations and the industrialized world. While there is widespread agreement that technology inventories and joint R&D is important, there are varying opinions on the structure of a transfer system..

## WHY IS THERE A NEED FOR INTERNATIONAL TECHNOLOGY TRANSFER MECHANISMS?

The need for a technology transfer mechanism is threefold. First, and most importantly, it will be necessary to develop and deploy cost-effective, low-carbon solutions that break the tie between economic development and carbon-intensive technologies. Energy use in non-**OECD (Organisation for Economic Co-operation and Development)** countries will comprise approximately 85% of global energy demand growth in future years.<sup>1</sup> Much of the development will result in the construction of new buildings, energy infrastructure and generation facilities. The private sector and the governments within the developing world face a great opportunity to ensure that buildings are energy efficient, the energy supply is diversified with low-carbon sources and the rapid urbanization is met with smarter cities, transportation and buildings.

Developed countries, private businesses, academic institutions and NGOs are all in a position to propose and facilitate solutions that marry environmental performance with economic development. Sharing knowledge, expertise, technology and capacity with these countries will be imperative to making this program effective.

According to the World Business Council for Sustainable Development, existing technologies can meet approximately 70% of needed emissions reductions targets. While technological innovation will be a key component of effectively addressing climate change, there is a significant opportunity to more effectively diffuse existing technologies into the marketplace. The key is unlocking future markets in the developing world at a faster pace. The UNFCCC must continue to outline best practices, necessary regulations, and specific actions that countries should take to attract private capital flow. Energy efficiency, in particular, offers technologies and approaches with positive economic value in many sectors today.

Finally, there are significant benefits for the cities and communities receiving knowledge, technologies and new capacities through this program. First and foremost, the infrastructure developments and access to energy will lead to increased private investment into the country resulting in new economic opportunities. This will likely feed into progressive spiral of development with improved education, growing job opportunities, and rising political stability. With energy efficient infrastructure powered by domestic,

<sup>1</sup>WBCSD report: Enabling frameworks for technology diffusion: a business perspective.

renewable sources of energy, these communities will also be less dependent on foreign sources of energy like oil, gas and coal.<sup>2</sup>

<sup>1</sup>WBCSD report: Enabling frameworks for technology diffusion: a business perspective.

## BARRIERS TO TECHNOLOGY TRANSFER

There are several reasons why efforts for deploying and diffusing low carbon technologies have failed.

1. Most visibly, there are **political hurdles** regarding differing views on roles and responsibilities – and the sequencing of action – related to technology transfer in a post-2012 regime.
2. There is **limited understanding of the best practices** for jumpstarting, financing and measuring private sector investment in clean energy technology in the developing world. While the broad concept is widely understood and supported, few have broken it down into concrete plans of action. For example, developing nations struggle to identify their needs and requests for specific technologies and knowledge sharing. The private sector can play an important role in translating this concept into on-the-ground plans of action.
3. A disconnect exists between the negotiating governments making the rules and the private companies that will provide the majority of funding and implementation. The incentives for private investment are not always present, resulting in limited action.
4. There is currently no fully-enforced policy or legal framework for addressing the issue of **intellectual property**. Consequently, companies are afraid to work with local businesses or governments due to the lack of IP protection and/or enforcement.
5. As the UNFCCC EGTT states, there are a **limited number of ‘enabling environments’** within developing nations to attract the necessary private investment and market entry. These countries must set in place regulatory frameworks, capacity and education programs, and economic incentives to create the necessary market conditions and demand for these technologies. Barriers, such as import restrictions or tariffs, must also be discontinued, and public/private partnerships must be established to set up capacity building programs around installing and maintaining the technology.
6. Nations have **varying technology standards** that can impede private investment.
7. Because several clean energy technologies, including some renewable energy technologies, are still in nascent phases of technology development and commercialization, the availability and cost of the technology can present a significant challenge for countries with limited public capital.

## THE BUSINESS CASE FOR TECHNOLOGY TRANSFER

While there appear to be significant barriers to technology transfer, the business opportunities related to such a program are significant. Technology transfer has the potential to dramatically alter the global marketplace by facilitating the rapid development of new markets and customers.

The private sector is already seeking new markets in developing countries for direct investments, sales and technology licensing agreements. It is in the best interest of the private sector to work with governments, academic institutions, and NGO’s to overcome some of the major barriers and create stable, attractive markets for entry.

Working with the UNFCCC will be critical to the success of the program because the private sector will be the major player in developing, transferring and financing mitigation and adaptation technologies.<sup>3</sup> It will require ingenuity and innovation in building new business models to adapt existing technologies to better suit new markets and developing new, cost-effective technologies to confront the challenge.

<sup>3</sup> June 1, 2009. Intervention before the Subsidiary Body for scientific and Technological Advice. Development and Transfer of Technology. Bonn, Germany. BCSE Remarks. Accessed at: <http://www.bcse.org/images/pdf/1%20un%20intervention%200601.pdf>

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