

2nd LAC Regional Policy Dialogue

Enhancing Climate Finance and Promoting Technology Transfer in the LAC region

Background Note – Day 3 (20 October 2022)

Day 3. Technology Transfer in the LAC region: An essential element for enhancing green development

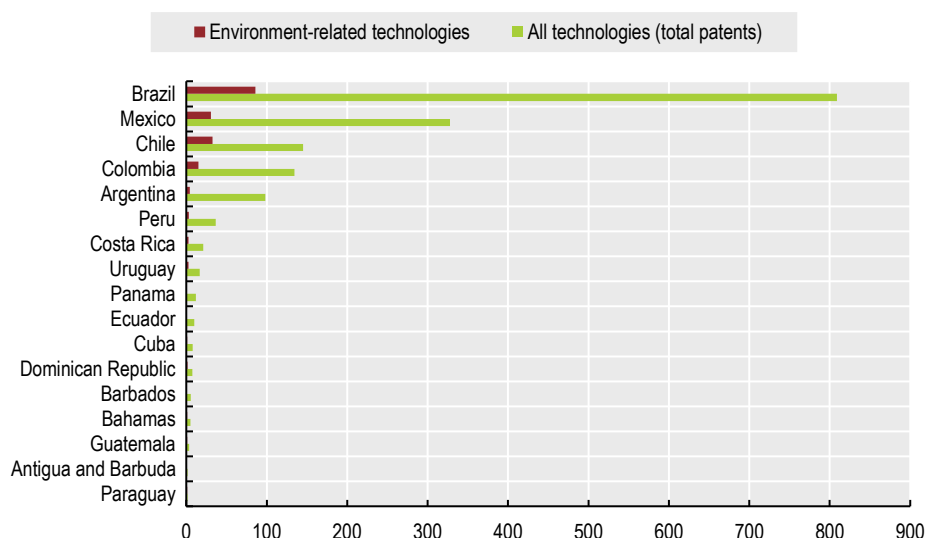
Technology transfer to developing countries has been a mandate of the UNFCCC, with inclusion of references to both transferring technology and know-how (i.e., capacity building) through lifting technical, legal and administrative barriers; setting sound economic policies; and enhancing implementation of climate-friendly technologies (World Bank, 2007^[1]). As a term, it refers both to technology deployment for climate change mitigation and adaptation (infrastructure, operations, manufacturing, innovation); as well as institutional and policy capabilities to support the diffusion of technologies and technology co-operation between and within countries (Garrett and Moarif, 2018^[2]). It is widely acknowledged that technological innovation, and therefore technology transfer, can play a key role in achieving environmental objectives, a message that has been repeatedly highlighted during international negotiations on climate (COP UNFCCC). It could also support a productive transformation towards less resource-intensive sectors, by attracting greener investments and by joining higher-value global chains with environmental and sustainability criteria (OECD et al., forthcoming^[3]).

According to past OECD analysis, the main determinants behind international climate change mitigation technology transfer, measured by patent activity, include geographic distance and level of trade between countries, existing human capital in the country seeking to receive the technology, environmental stringency or flexibility in countries' policies, as well as in-house technology development activities in medium- and large-sized industrial facilities (investment) (Hašičič et al., 2010^[4]).

OECD analysis indicates that LAC countries face challenges such as low productivity, lack of economic diversification, and reliance in low-value-added sectors. These challenges hamper greater competitiveness and prosperity, and slow down the necessary productive transformation for further development. Innovation can play a role in overcoming such challenges and closing down productivity gaps, which are often the result of high informality, low skill levels and low levels of technology usage (OECD/CAF, 2019^[5]). At the same time, as much as climate change technology innovation and transfer may benefit countries' transformation, not all countries have the same capacity or framework to absorb such technology. Its enhancement requires a set of public policies to be in place, which can both accelerate innovation and promote international co-operation in this field, as well guarantee compliance with some environmental and sustainability criteria.

Patents and trademarks are often used as indicators of innovation (technological and non-technological, respectively). LAC countries are not among the major contributors to innovation. At the same time, OECD data on environment-related patents for LAC countries show that on average, the percentage of environment-related patents to the total patents by country follow the global trend. In fact, on average, the LAC environment-related patents in 2019 were about 15% of total patents, when the same figure for the world was just above 11%, and the OECD average was only at about 4.5%. This, however, is because of the high percentage of environment-related patents in total patents in countries such as Paraguay, Antigua and Barbuda, and Guatemala, who actually have a very low number of patents in total (Figure 1).

Figure 1. Green patents in the LAC region



Note: Environmental innovation measured using patent data. Data based on inventor's country of residence.

Source: OECD.Stat

Based on comparative analysis by the Inter-American Development Bank (IDB), examining "[Climate Technology Transfer Mechanisms and Networks in Latin America and the Caribbean](#)", the following points could be highlighted to facilitate climate technology transfer:

- R&D national strategies and technological roadmaps for specific technologies must be deployed;
- Increasing the levels of investment in R&D and innovation is necessary to implement R&D strategies;
- Low-price imports jeopardise the development of local innovative products; while a strong local manufacturing sector supports the adoption and diffusion of new green technology products;
- An enabling environment can support the development of local green technology or allow for technology transfer, i.e. a set of support measures such as investment subsidies, subsidised financing, financial guarantees, tax benefits, access and connection to infrastructure networks.

Most importantly, countries would need to identify clearly their technology needs. The Technology Needs Assessment (TNA), introduced since COP-7, allows countries to both prioritise technologies based on their social, economic and environmental impacts, as well as their climate change mitigation or adaptation potential. Developing countries tend, however, to prioritise technology that is already mature, meaning technology that is low-cost, easily accessible and often already in the country. On the contrary, technologies that are linked to niche markets, such as electric vehicles, carbon capture, hydrogen fuel cells etc, are very rarely deployed beyond a certain geographical region (OECD, forthcoming^[6]).

There are a series of mechanisms and networks promoting climate technology development and transfer from developed to developing countries. International development co-operation is providing leverage to countries to address the lack of finance, capacity and policy support in facilitating climate technology transfer (OECD, forthcoming^[6]). International organisations are also developing mechanisms and instruments which enable technology transfer. The UNEP Climate Technology Centre and Network provides technical assistance to developing countries with the aim to create access to knowledge on climate technologies and to foster collaboration between climate technology stakeholders. Within the LAC region, UNEP has launched a series of regional programmes and projects to support countries' responses to climate change. The Regional Gateway for Technology Transfer and Climate Change Action for Latin America and the Caribbean (REGATTA) aims at strengthening capacity and knowledge sharing of climate

change technologies for both mitigation and adaptation in the region (REGATTA, n.d.^[7]). MOVE is an initiative supporting the transition to electric mobility in the region by preparing local actors to both evaluate new technologies and identify funding opportunities (MOVE, n.d.^[8]).

Questions for consideration:

1. What bottlenecks would you identify as the main ones hampering technological transfer at the national level in LAC countries?
 2. How can development finance support national efforts to deploy specific technologies in different sectors in LAC?
 3. What is the role of the private sector in catalysing the benefits from technology transfer in LAC?
-

References

- Garrett, J. and S. Moarif (2018), "Reporting on capacity-building and technology support under the Paris Agreement: Issues and options for guidance", *OECD/IEA Climate Change Expert Group Papers*, No. 2018/01, OECD Publishing, Paris, <https://doi.org/10.1787/f5330a47-en>. [2]
- Haščič, I. et al. (2010), "Climate Policy and Technological Innovation and Transfer: An Overview of Trends and Recent Empirical Results", *OECD Environment Working Papers*, No. 30, OECD Publishing, Paris, <https://doi.org/10.1787/5km33bnggcd0-en>. [4]
- MOVE (n.d.), *Movilidad Eléctrica Latinoamérica y el Caribe*, <https://movelatam.org/> (accessed on 10 October 2022). [8]
- OECD (forthcoming), *Technology transfer for climate mitigation and adaptation: Analysing needs and development assistance support in technology transfer process*. [6]
- OECD et al. (forthcoming), *Latin American Economic Outlook 2022*. [3]
- OECD/CAF (2019), "Innovation and technology (Dimension 5)", in *Latin America and the Caribbean 2019: Policies for Competitive SMEs in the Pacific Alliance and Participating South American countries*, OECD Publishing, Paris, <https://doi.org/10.1787/ef1c27ba-en>. [5]
- REGATTA (n.d.), *REGATTA Communities of Practice*, <https://cambioclimatico-regatta.org/index.php/en> (accessed on 10 October 2022). [7]
- World Bank (2007), *International Trade and Climate Change: Economic, Legal and Institutional Perspectives*, <https://doi.org/10.1596/978-0-8213-7225-8>. [1]