

TC DOCUMENT

I. BASIC INFORMATION FOR TC

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| ▪ Country/Region: | Regional | | | | | | | | | | | | | | | | |
| ▪ TC Name: | Climate technology transfer mechanisms and networks in Latin America and the Caribbean | | | | | | | | | | | | | | | | |
| ▪ TC Number: | RG-T2384 | | | | | | | | | | | | | | | | |
| ▪ Team Leader/Members: | Francisco Arango (INE/CCS), Team Leader; Sandra López (INE/CCS); Ana Ríos (INE/CCS); Juan Chang (INE/CCS); Emiliano Detta (INE/CCS); Maricarmen Esquivel (INE/CCS); Milagros De Pomar (INE/CCS); Gmelina Ramírez (CCS/CME); Kai Hertz (ORP/GCM); Patrick Doyle (SCF/SMU); Mauricio Bouskela (IFD/CTI), María Teresa Soto-Aguilar (VPC/FMP); Ileana Pinto (VPC/FMP); and Viviana Maya (LEG/SGO). | | | | | | | | | | | | | | | | |
| ▪ Date of TC Abstract authorization: | January 18 th , 2013 | | | | | | | | | | | | | | | | |
| ▪ Beneficiary: | Public and private entities in the member countries of Latin-America and the Caribbean | | | | | | | | | | | | | | | | |
| ▪ Executing Agency and contact name: | <ol style="list-style-type: none"> 1. Instituto Nacional de Ecología y Cambio Climático (INECC), Daniel Buira 2. Fundación Bariloche (Bariloche), Daniel Bouille 3. World Resources Institute (WRI), Benoit Lefevre 4. Centro Agronómico Tropical de Investigación y Enseñanza (CATIE), Bastiaan Louman 5. Inter-American Development Bank (IDB), Kai Hertz (ORP/GCM) and the Secretariat for the Regional Fund for Agricultural Technology (FONTAGRO) | | | | | | | | | | | | | | | | |
| ▪ Donors providing funding: | Global Environment Facility (GEF) | | | | | | | | | | | | | | | | |
| ▪ IDB Funding Requested: | <table style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2"><u>Grant amount</u></td> </tr> <tr> <td>GEF Trust Fund:</td> <td style="text-align: right;">US\$9,082,500</td> </tr> <tr> <td>GEF Special Climate Change Fund:</td> <td style="text-align: right;">US\$1,816,500</td> </tr> <tr> <td>Total:</td> <td style="text-align: right;">US\$10,899,000</td> </tr> <tr> <td colspan="2"><u>Agency fee</u></td> </tr> <tr> <td>GEF Trust Fund:</td> <td style="text-align: right;">US\$908,250</td> </tr> <tr> <td>GEF Special Climate Change Fund:</td> <td style="text-align: right;">US\$181,650</td> </tr> <tr> <td>Total:</td> <td style="text-align: right;">US\$1,089,900</td> </tr> </table> | <u>Grant amount</u> | | GEF Trust Fund: | US\$9,082,500 | GEF Special Climate Change Fund: | US\$1,816,500 | Total: | US\$10,899,000 | <u>Agency fee</u> | | GEF Trust Fund: | US\$908,250 | GEF Special Climate Change Fund: | US\$181,650 | Total: | US\$1,089,900 |
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| ▪ Disbursement period: | 40 months (36 months of execution) | | | | | | | | | | | | | | | | |
| ▪ Required start date: | June, 2014 | | | | | | | | | | | | | | | | |
| ▪ Types of consultants: | Consulting firms and individual consultants | | | | | | | | | | | | | | | | |
| ▪ Prepared by Unit: | INE/CCS | | | | | | | | | | | | | | | | |
| ▪ Unit of Disbursement Responsibility: | INE | | | | | | | | | | | | | | | | |

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|------------------------------------------|----------------------------------------------------------------------|
| ▪ TC Included in Country Strategy (y/n): | No |
| ▪ TC included in CPD (y/n): | No |
| ▪ GCI-9 Sector Priority: | Climate change, sustainable energy and environmental sustainability. |

II. OBJECTIVES AND JUSTIFICATION

- 2.1. **Project goals, strategy and objectives.** The objective of the project on “Climate technology transfer mechanisms and networks in Latin America and the Caribbean” is to promote the development and transfer of environmentally sound technologies (EST) in Latin America and the Caribbean (LAC), in order to contribute to the ultimate goal of reducing greenhouse gas (GHG) emissions and reducing the vulnerability to climate change in specific sectors in LAC. The project’s strategy is to build national capacities to identify, assess, develop and transfer EST, focusing on: (a) the promotion of and support to regional collaborative efforts; (b) the support to planning and policy-making processes at national and sectoral levels; (c) the demonstration of policies and enabling mechanisms; and (d) the mobilization of private and public financial and human resources. The project will pilot institutional frameworks and mechanisms to enhance the development and transfer of EST, taking into consideration and contributing directly to key design features of the technology mechanism (TM) agreed under the United Nations Framework Convention on Climate Change (UNFCCC). To facilitate the understanding of the document, a list of acronyms and abbreviations is included in the following [link](#).
- 2.2. In order to maximize the project’s global and local environmental benefits, its activities will focus on sectors that are a priority for climate change mitigation and adaptation in LAC: renewable energy, energy efficiency, transport, forestry and agriculture. The project will include specific criteria to promote a broad and diverse participation by countries in LAC, including also small island developing states in the Caribbean that will benefit from the project activities on both mitigation and adaptation. During the first year of the project, activities will focus on engaging stakeholders in the region, identifying sector-specific priority areas of work, building and strengthening thematic networks and offering examples of analytical work on enabling policies and mechanisms for the development and transfer of EST. During the second and third year of the project, focus will gradually shift to responding to in-country originated requests and supporting the identification, prioritization and implementation of sector-specific EST.
- 2.3. The project will focus on the development of national capacities to: (a) elaborate plans and policies to facilitate the development and transfer of EST, and (b) identify, select, finance and adopt EST. While the former objective will emphasize the role of public institutions and deliver specific results regarding policies and plans for the development of EST, the latter will seek to engage the private sector and other technology users in the policy-making process, with a view also to piloting investments in specific EST. This approach aims at adequately identifying and addressing the barriers to the adoption of EST at all relevant levels (e.g. regulatory, financial, technical, information, etc.). The participation by technology users (represented by, inter alia, business associations, chambers of

commerce, leading businesses, consumers associations, etc.) will be fundamental to ensure that their views and priorities are addressed, and that the mechanisms and interventions promoted by the project can lead effectively to the adoption and diffusion of EST.

- 2.4. **International context.** At its sixteenth session in Cancun, the Conference of the Parties (COP) to the UNFCCC decided the establishment of a TM, with a view to supporting actions regarding the development and transfer of EST for climate change mitigation and adaptation. The TM includes a Technology Executive Committee (TEC) and a Climate Technology Centre and Network (CTCN). The Climate Technology Centre is hosted by the United Nations Environment Program (UNEP) and the United Nations Industrial Development Organization (UNIDO), supported by eleven centres of excellence in developing and developed countries. The centre is located in Copenhagen, Denmark, and became operational at the end of 2013. The CTCN will respond to developing countries' requests for technical assistance on the assessment and preparation of policies, strategies and projects on EST development and transfer.
- 2.5. National designated entities (NDEs) are the focal point for the CTCN in each country; they facilitate activities related to the TM and coordinate these with other related initiatives and stakeholders. Developing countries will access the services of the CTCN through NDEs, submitting requests for technical assistance to the CTCN and collaborating with the CTCN to refine and prioritize these requests. Given the key role of NDEs in the implementation of the TM, countries in LAC interested in taking part in the mechanism may wish to facilitate the designation and operationalization of these entities.
- 2.6. **Regional context.** Countries in LAC contribute with 10.5% of global GHG emissions.¹ LAC's specific geographic, natural and socioeconomic context makes the region particularly vulnerable to climate change and therefore significant impacts are expected, in particular on water resources, coastal zones, biodiversity, health and agriculture. According to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), important changes in precipitation and increases in temperature have been observed in the region.
- 2.7. With a share of 33% of the region's emissions, compared to 65% globally, the energy sector of LAC is comparatively less carbon-intensive.² This is mainly due to the high reliance of the region's power sector on hydropower, which accounts for 62% of the installed capacity and 70% of power generation. Despite the relatively low-carbon footprint of LAC's energy matrix, historic trends and forecasts indicate that LAC's energy consumption and GHG emissions are on the rise, with electricity demand growing at a rate of 4.8% annually over the next 10 years, and with large energy infrastructure investments programmed in the upcoming decades. According to the International Energy Agency (IEA) the region is expected to almost double the energy demand over the next two decades.³

¹ WRI, CAIT 2.0. 2013. Climate Analysis Indicators Tool: WRI's Climate Data Explorer. Washington, DC: World Resources Institute. Available at: <http://cait2.wri.org>.

² *Ibid.*

³ OECD/IEA, 2012, World Energy Outlook 2012. Available at: <http://www.iea.org/publications/freepublications/publication/name,49561,en.html>

- 2.8. GHG emissions from the transport sector in LAC are growing at a fast rate, having reached approximately 30% of the overall GHG emissions from the energy sector.⁴ Economic development, rapid urbanization and motorization, inadequate mass transit options, and inefficient freight and logistics sectors are some of the drivers for the increase in GHG emissions in the transportation sector. In addition to these, urban sprawl, larger commuting distances, higher costs of commuting by public transport, as well as a gradual growth in the size, weight and power of passenger vehicles, are additional factors contributing to the increase in GHG emissions from the transport sector.
- 2.9. Tropical deforestation contributes with approximately 20% of annual global GHG emissions. In comparison to other regions, in LAC, land use, land-use change and forestry (LULUCF) is a larger contributor to GHG emissions (33%).⁵ LULUCF is characterized by extensive changes in land vegetation, destruction of forests, expansion of agriculture, construction of large infrastructure projects and land degradation. Curbing deforestation and implementing sound forest management practices could significantly reduce the region's GHG emissions, as well as bring about a suite of co-benefits associated with sustainable rural development, poverty reduction, and conservation of ecosystem services, such as access to safe drinking water and the protection of biodiversity.
- 2.10. Agriculture in LAC accounts for approximately 5% of the region's gross domestic product (GDP), 16% of employment⁶ and is central to food security. The impacts of climate change on agricultural activities are one of the highest concerns for regional governments and communities. According to IPCC's Third Assessment Report "Climate change will have different types of effects in the regions of the world. It was stated that in South America, floods and droughts would become more frequent and this will cause sediment loads and the degradation of the quality of water in some areas. Yields of important crops are projected to decrease in many locations of LAC."⁷
- 2.11. **Problem and barriers analysis.** Technology encompasses tangible assets (e.g. infrastructure and machinery), intangible assets (e.g. know-how, skills and practices), and institutional and organizational frameworks. EST are technologies that can reduce GHG emissions and/or reduce the vulnerability to climate change, while contributing to sustainable development objectives. Under these definitions, the development and transfer of EST becomes a requirement for the transition to low-carbon, climate-resilient development paths, which is an explicit goal sought by countries in LAC. However, the development and transfer of EST requires enabling environments and is hampered by barriers of various types: (a) policy and regulatory barriers; absent, inconvenient or poorly enforced policies and regulations are a deterrent for the adoption of EST and may distort some of their competitive advantages when compared to conventional technologies with higher environmental

⁴ WRI, *op.cit.*

⁵ *Ibid.*

⁶ World Bank, Development Indicators. 2014. Available at: <http://data.worldbank.org/data-catalog/world-development-indicators>

⁷ Cited in: "Application of environmentally sound technologies for adaptation to climate change". UNFCCC (FCCC/TP/2006/2), 2006.

and social impacts. Policy and regulatory barriers may arise from, *inter alia*, an incomplete understanding of policy effects (including unintended consequences), the legacy of outdated frameworks, political instability, lack of resources for enforcement, or a clash of interests; (b) financial and economic barriers; insufficient access to financial resources, high cost of capital, poor understanding of risks, lack of adequate risk management instruments, inexperience with EST-specific business models and adverse incentives are obstacles for securing financing for investments in the development and adoption of EST. These obstacles, while they may affect all type of investments, tend to have a particularly hard impact on investments on EST due to their usually higher upfront costs and innovative nature; (c) technical and capacity barriers; lack of necessary technical skills and experience, unavailable maintenance and technical support, performance uncertainty and unreliability, incompatibility with existing hardware and practices are common examples of technical barriers that may slow down the adoption of EST. Usually, technical barriers are compounded by regulatory (e.g. lack of standards) and financial (e.g. insufficient access to financing) barriers, demanding a comprehensive intervention to create an enabling environment; (d) information and awareness barriers; in some contexts, information and awareness barriers are a primary obstacle for the adoption of EST. Complete and up-to-date information on technology options may not be readily available, misconceptions on performance, costs and availability of EST may prevail, and the market opportunities for EST may be unknown or uncertain.

- 2.12. **Alignment with Bank's priorities in the region.** The project contributes to the objectives under the Ninth General Increase in the Resources of the Bank (GCI-9) (AB-2764), which require that the Bank promotes sustainable growth in LAC, including the promotion of global environmental sustainability, addressing the challenges presented by climate change, while ensuring that energy requirements for development are met. The objectives identify the protection of the environment, the response to climate change, and the promotion of sustainable energy and food security as priorities for the IDB. It further mandates that the Bank improves its capacity to assist the region in its transition to a green economy, including the development of institutional and regulatory frameworks to allow investments in areas such as sustainable transport, renewable energy and energy efficiency. In light of the priority given to this issue under GCI-9, the Bank has committed to a specific annual lending target for climate change, renewable energy and environmental sustainability of 25%, to be met at the end of the 2012-2015 period.

III. DESCRIPTION OF ACTIVITIES/COMPONENTS AND BUDGET

- 3.1. The project will be executed around four interlinked components. The first component will address the policy and regulatory barriers, improving the capacity of policy-makers to identify and assess EST needs and opportunities, and to formulate policies and plans to promote the adoption of priority EST. Component two of the project will facilitate the access to regional expertise, thus reducing the cost and time associated to the implementation of EST related initiatives and therefore contributing to the removal of information, technical and capacity barriers. Component three will draw from the expertise linked through component two and produce recommendations on actions, mechanisms and policies for the

adoption of EST, in particular for those EST identified as a priority under component one. Component three will contribute to removing policy and regulatory barriers to the deployment of EST by supporting stakeholders evaluate and adopt enabling policies and mechanisms for the deployment of EST. Component four will promote investments in the adoption of EST by means of producing feasibility, technology and cost-benefit assessments, market studies and financial models, and financing proposals for investments in EST.

- 3.2. **Component 1. Development of national policy and institutional capacities.** The objective of this component is to develop institutional capacities and analytical tools to address issues on EST in the context of national and sectoral policies and plans. The activities of this component will focus on the role of national authorities responsible for climate change policy-making, in particular with regards to the identification, assessment and adoption of EST to achieve climate change policy objectives. These activities include: (a) expert dialogues on EST and climate change policy in the context of national systems for technology and innovation; (b) elaboration of policy recommendations to integrate considerations on EST in national systems for technology and innovation; (c) regional dialogues on climate change planning and EST; and (d) elaboration of guidelines and methodologies for the inclusion of EST considerations on climate change planning. *Instituto Nacional de Ecología y Cambio Climático* (INECC), in Mexico, is the Project Executing Agency (PEA) for component one. INECC will coordinate with and receive technical support from the four sectoral PEAs (see paragraph 4.3 below).
- 3.3. **Component 2. Strengthen technology networks and centers.** This component will support the creation and strengthening of four regional EST networks on energy, transport, forestry and climate-resilient agriculture. Activities under component two will aim at identifying and prioritizing opportunities of the adoption of EST in each sector in LAC, and in promoting regional partnerships and collaboration through, *inter alia*, the identification of relevant expertise in the region and selected outreach and dissemination activities. Strong emphasis will be placed in linking and contributing to existing regional networking initiatives, with a view also to ensuring the continuation of the networks' activities beyond project closure. Activities under component two include: (a) outreach and network building; (b) mapping of regional expertise; (c) elaboration of sectoral overviews of EST in LAC; and (d) elaboration of business plans for to ensure the sustainability of the activities of EST networks. The regional expertise identified and linked through the activities of EST networks will be available to stakeholders LAC and will also be used to complete project activities under components three and four. Each of the four sectoral PEAs (Bariloche, WRI, CATIE, IDB-Fontagro) will be responsible for the execution of this set of activities for its corresponding sector. Detailed descriptions of the activities are provided in the work plans referred to in paragraph 3.6 below. Relevant experience and lessons supporting regional EST networks will be shared among PEAs, with a view to distilling and disseminating best practices across sectors.
- 3.4. **Component 3. Pilot technology transfer mechanisms.** This component aims at creating enabling environments for the development and transfer of EST. The activities under this component will identify, assess and showcase specific

examples of technology transfer mechanisms and policies (e.g. regulations, standards, financial mechanisms, etc.). Among other analytical tools, technology roadmaps will be used to identify and discuss the concrete actions and mechanisms that are required for the adoption of specific technologies in a given context. The activities to be executed under this component are: (a) elaboration of case studies on EST development and transfer (e.g. experience with the adoption of flex-fuel cars in Brazil and solar thermal energy in Uruguay); (b) preparation of technology roadmaps for the adoption of EST (e.g. roadmap on fuel efficiency standards for road vehicles, roadmap for the adoption of forest monitoring systems); and (c) assessment of technical standards and regulations as mechanisms for the adoption of EST (e.g. comparative assessment of standards for energy efficiency in buildings). Project partners have agreed on a number of outputs of regional interest to be completed during the first year of the project (see [Detailed Results Matrix](#)). These outputs will serve to exemplify the type of analytical tools employed by the project to disseminate information on EST and the GEF supported project, and to motivate the participation of stakeholders in the project activities. During the second and third year of the project, sectoral PEAs will invite and respond to requests for technical assistance from countries in LAC to assess and pilot EST transfer mechanisms. Sectoral PEAs will be responsible for the execution of the activities under this component and details are provided in the work plans referred to in paragraph 3.6 below.

- 3.5. **Component 4. Leverage private and public investments.** Component four will enable private and public investments in the development and transfer of EST in LAC. The project will facilitate investment through the identification of investment opportunities, the elaboration of technology assessments and feasibility studies, and the assessment of the economic and financial feasibility of the adoption of ESTs (including cost-benefit analysis, market studies, business and financial models and the design of financial mechanisms). The project will also support the mobilization of international climate financing, supporting the preparation of project proposals and facilitating partnerships. Outputs under component four will respond to country-originated requests that will be evaluated, prioritized and approved in accordance with criteria and procedures to be approved by the IDB and adopted by PEAs. The procedures should ensure transparency, consistency and efficiency, and prioritize EST following criteria including cost-effectiveness, mitigation potential, replicability and consistency with national circumstances, capabilities and priorities. Sectoral PEAs will be responsible for the execution of activities under component four (details are included in the work plans referred to in paragraph 3.6 below). In the case of the agriculture sector, grants from the GEF Special Climate Change Fund (SCCF) will also be used in combination with resources from the Regional Fund for Agricultural Technology (Fontagro) to promote and finance collaborative initiatives on EST development and transfer. With this purpose in mind, the IDB, in collaboration with Fontagro, will organize and administer a competitive call for proposals on EST for adaptation in agriculture that will be open to organizations that are eligible to receive funding from the IDB.
- 3.6. Approved work plans for the first year of project activities are included in the following links: [INECC](#), [Bariloche](#), [WRI](#), [CATIE](#), and [IDB/FONTAGRO](#). The

work plans describe the activities to be undertaken and the products to be delivered by each PEA under every component. Work plans for subsequent years will be prepared by PEAs and approved by the IDB during project execution.

- 3.7. **Global environment benefits.** The project seeks to mobilize US\$50 million in investment in EST, mainly through activities executed under component four. Direct emissions reductions from investments in EST in all sectors are estimated at 1.7 million tones CO₂-eq. Indirect emissions reductions from investments benefiting indirectly from the project activities are estimated at 3.3 million tones CO₂-eq. Total emission reductions are therefore estimated at 5 million tones CO₂-eq. As a result, the cost for the GEF Trust Fund contribution (US\$9.08 million) per ton reduced/removed is 1.82 US\$/tCO₂-eq. Activities in the agriculture sector will focus on adaptation to climate change and will be aligned with the third objective of GEF's "Adaptation, Monitoring and Assessment Tool" (AMAT). The third objective of AMAT measures results regarding the promotion of the transfer and adoption of adaptation technologies under two distinct outcomes: (i) "successful demonstration, deployment, and transfer of relevant adaptation technology in targeted areas," and (ii) "enhanced enabling environment to support adaptation-related technology transfer." The project will deliver results under these two outcomes through, *inter alia*, the co-financing of proposals to address issues related to the development and transfer of EST in the agriculture sector in LAC. Details on the estimation of global environment benefits are provided in the following link: [Global Environment Benefits](#).
- 3.8. **Key stakeholders.** The project activities need to be in line with the TM, thus, collaborating with UNFCCC, TEC and CTCN is a key element of its strategy. At its eighteenth session, Parties to the UNFCCC formally selected UNEP and UNIDO as the hosts of the CTC, supported by eleven international organizations⁸. The European, Asian and the African multilateral development banks are preparing similar projects with grants from GEF and all four banks, including the IDB, have agreed to collaborate during the implementation of these projects. National governments will play a crucial role as the project will promote the dialogue on enabling policy environments for the development and transfer of EST in the region. The private sector will participate in the discussion and piloting of technology transfer mechanisms and will play a key role in the adoption of EST. The project will implement the necessary participation mechanisms to ensure that the inputs and views from all relevant stakeholder, including civil society and academia, are adequately addressed.
- 3.9. **Project Results Matrix.** A summary of the results matrix is presented below. For a complete description, please see the following link: [Detailed Results Matrix](#).

⁸ Asian Institute of Technology (Thailand), Bariloche Foundation (Argentina), Council for Scientific and Industrial Research (South Africa), The Energy and Resources Institute (India), Environment and Development Action in the Third World (Senegal), Tropical Agricultural Research and Higher Education Center (Costa Rica), World Agroforestry Centre (Kenya), Deutsche Gesellschaft für Internationale Zusammenarbeit (Germany), Energy Research Centre of the Netherlands, National Renewable Energy Laboratory (United States), and United Nations Environment Programme Risø Centre (Denmark).

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| Project objective | To promote the development and transfer of EST in LAC, in order to contribute to the ultimate goal of reducing GHG emissions and reducing the vulnerability to climate change in specific sectors in LAC. | | | | |
| Outcome indicators | Base | Year 1 | Year 2 | Year 3 | Target |
| <u>Indicator 1.</u> Investments in EST mobilized by the project [US\$ million] [target is cumulative number] | 0 | 0 | 20 | 30 | 50 |
| <u>Indicator 2.</u> Direct GHG emissions reductions [million tones CO ₂ equivalent] [target is cumulative number] | 0 | 0 | 0.7 | 1.0 | 1.7 |
| Component 1. Development of national policy and institutional capacities | | | | | |
| Outcome indicators | Base | Year 1 | Year 2 | Year 3 | Target |
| <u>Indicator 1.</u> Number of countries in LAC that have adopted policies or regulations to enable the development and transfer of EST | 0 | 0 | 0 | 4 | 4 |
| <u>Indicator 2.</u> Number of countries that are applying methodologies to include EST considerations in climate change planning | TBD | TBD | TBD | TBD | TBD |
| Output indicators | Base | Year 1 | Year 2 | Year 3 | Target |
| 1. Workshops on EST and national systems for technology and innovation | | | | | |
| <u>Indicator 1.</u> Number of workshops held [target is cumulative number] | 0 | 1 | 1 | 1 | 3 |
| <u>Indicator 2.</u> Number of government representatives participating in workshops [target is cumulative number] | 0 | 30 | 30 | 40 | 100 |
| <u>Indicator 3.</u> Number of different countries participating in workshops | 0 | 8 | 12 | 15 | 15 |
| 2. Guidebook on EST and national systems for technology and innovation | | | | | |
| <u>Indicator 1.</u> Number of guidebooks published | 0 | 0 | 1 | 0 | 1 |
| 3. Regional dialogues on climate change planning and EST | | | | | |
| <u>Indicator 1.</u> Number of workshops held | 0 | 1 | 1 | 1 | 3 |
| <u>Indicator 2.</u> Number of government representatives trained in climate change planning practices | 0 | 15 | 15 | 30 | 60 |
| <u>Indicator 3.</u> Number of different countries participating in workshops | 0 | 5 | 10 | 20 | 20 |
| 4. Guidelines on climate change planning and EST | | | | | |
| <u>Indicator 1.</u> Number of guidebooks published | 0 | 0 | 1 | 0 | 1 |
| Component 2. Strengthen technology networks and centers | | | | | |
| Outcome indicators | Base | Year 1 | Year 2 | Year 3 | Target |
| <u>Indicator 1.</u> Number of thematic networks in LAC that have incorporated the promotion of EST as part of their mission/work plans | 2 | 2 | 4 | 5 | 5 |
| <u>Indicator 2.</u> Number of institutions in countries in LAC that are active participants in thematic networks which have incorporated the promotion of EST as part of their mission/work plans | 18 | 18 | 25 | 40 | 40 |
| Output indicators | Base | Year 1 | Year 2 | Year 3 | Target |
| 1. Workshops/side events for the promotion of thematic networks | | | | | |

| | | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------|---------------|---------------|---------------|
| Indicator 1. Number of workshops/side events [target is cumulative number] | 0 | 4 | 4 | 4 | 12 |
| Indicator 2. Number of different countries participating in workshops/side events | 0 | 10 | 15 | 20 | 20 |
| 2. Mapping of regional expertise on EST | | | | | |
| Indicator 1. Number of sectoral resources/expertise databases | 0 | 4 | 4 | 4 | 4 |
| 3. Sectoral overviews of EST in LAC | | | | | |
| Indicator 1. Number of overviews of EST for specific sectors in LAC | 0 | 6 | 0 | 0 | 6 |
| 4. Business plans for thematic networks | | | | | |
| Indicator 1. Number of business plans for thematic networks | 0 | 0 | 0 | 4 | 4 |
| Component 3. Pilot technology transfer mechanisms | | | | | |
| Outcome indicators | Base | Year 1 | Year 2 | Year 3 | Target |
| Indicator 1. Number of feasible mechanisms for EST transfer showcased by the project [target is cumulative number] | 0 | 5 | 5 | 5 | 15 |
| Indicator 2. Number of countries that have adopted policies and EST transfer mechanisms showcased by the project [target is cumulative number] | 0 | 0 | 2 | 3 | 5 |
| Output indicators | Base | Year 1 | Year 2 | Year 3 | Target |
| 1. Case studies on EST development and transfer | | | | | |
| Indicator 1. Number of case studies prepared and disseminated [target is cumulative number] | 0 | 10 | 4 | 2 | 16 |
| 2. Technology roadmaps for the adoption of EST | | | | | |
| Indicator 1. Number of technology roadmaps completed and disseminated [target is cumulative number] | 0 | 5 | 2 | 0 | 7 |
| 3. Assessments of EST transfer mechanisms | | | | | |
| Indicator 1. Number of assessments of mechanisms for the adoption of EST prepared and disseminated [target is cumulative number] | 0 | 1 | 2 | 2 | 5 |
| Component 4. Leverage private and public investments | | | | | |
| Outcome indicators | Base | Year 1 | Year 2 | Year 3 | Target |
| <i>Please refer to outcome indicators at the project level.</i> | | | | | |
| Output indicators | Base | Year 1 | Year 2 | Year 3 | Target |
| 1. Support to country-driven investment initiatives on EST | | | | | |
| Indicator 1. Number of procedures for the selection and delivery of technical assistance approved | 0 | 4 | 0 | 0 | 4 |
| Indicator 2. Technical assessments of EST completed [target is cumulative number] | 0 | 0 | 5 | 10 | 15 |
| Indicator 3. Cost-benefit, market studies or financial models and assessments of EST completed [target is cumulative number] | 0 | 0 | 5 | 10 | 15 |
| Indicator 4. Number of project proposals on EST development and transfer completed [target is cumulative number] | 0 | 0 | 3 | 5 | 8 |
| Indicator 5. Number of collaborative projects on EST for adaptation in agriculture completed | 0 | 0 | 0 | 6 | 6 |

3.10. **Indicative budget:** The project is requesting US\$9,082,500 from the GEF Trust Fund and US\$1,816,500 from the GEF SCCF⁹. Resources from the GEF Trust Fund have been allocated to PEAs in charge of executing the components on the development of national capacities (INECC), energy (Bariloche), transport (WRI) and forestry (CATIE). The terms for the transfer and utilization of these resources will be governed by grant agreements to be signed between the IDB and each PEA (further details in section IV below), and by annual work plans to be agreed upon by the IDB and each PEA. Resources from the SCCF will be executed by the IDB (ORP/GCM), with technical support provided by Fontagro.

| Description | GEF Trust Fund | | | | GEF SCCF | Total Funding |
|--------------------------------------------------------------------------|---------------------|----------------------|---------------------|---------------------|---------------------|---------------|
| | INECC | Bariloche | WRI | CATIE | IDB/GCM | |
| Component 1. Development of national policy and institutional capacities | 1,138,824 | - | - | - | - | 1,138,824 |
| Component 2. Strengthen technology networks and centers | - | 270,000 | 225,000 | 180,000 | 190,000 | 865,000 |
| Component 3. Pilot technology transfer mechanisms | - | 1,341,816 | 950,908 | 770,908 | 520,908 | 3,584,540 |
| Component 4. Leverage private and public investments | | 1,700,000 | 1,100,000 | 1,100,000 | 1,060,000* | 4,960,000 |
| Project management | 81,511 [†] | 87,511 ^{††} | 60,511 [†] | 75,511 [†] | 45,592 [‡] | 350,636 |
| Subtotal | 1,220,335 | 3,399,327 | 2,336,419 | 2,216,419 | 1,816,500 | 10,899,000 |

* Fontagro will contribute an additional US\$800,000 to this element of component 4 for a total of USD 1,860,000.

[†] including annual financial audits (INECC US\$36,000, WRI US\$15,000, CATIE USD\$30,000), travel expenses (US\$30,000), and miscellaneous expenses (e.g. office supplies, contingencies).

^{††} including annual financial audits (US\$12,000), travel expenses (US\$60,000), and miscellaneous expenses (e.g. office supplies, contingencies).

[‡] including travel expenses (US\$30,000), and miscellaneous expenses (e.g. office supplies, contingencies).

IV. EXECUTING AGENCY AND EXECUTION STRUCTURE

4.1 **Overview of implementation arrangements.** The project implementation arrangements include a GEF Implementing Agency (IA), five PEAs and a Technical Committee (TC). The following paragraphs provide an overview of the implementation arrangements, for additional details, please refer to the following link: [Implementation Arrangements](#).

4.2 **Implementing Agency (IA):** The IDB will act as the project IA and will be responsible for project supervision and evaluation, including, *inter alia*, provide technical guidance for project implementation, carry-out at least one annual supervision mission, make advance payments, reimburse incurred expenses to PEAs, make direct payments to third parties, review financial reports, monitor and review project expenditure reports, oversee the preparation of annual implementation reports, undertake the mid-term and final evaluations and prepare

⁹ The Financial Procedures Agreement for the GEF SCCF is under preparation. The finalized agreement is a requirement for the transfer of SCCF resources to the IDB.

the project and financial closure documentation. Within the IDB, INE/CCS will be responsible for IA-related functions.

- 4.3 **Project Executing Agencies (PEA):** Five PEAs will be responsible for the day-to-day execution of thematic/sectoral activities under the project: (a) INECC, a public organization in Mexico, will be the PEA responsible for the execution of component one of the project on the development of national policy and institutional capacities; (b) *Fundación Bariloche*, a non-for-profit private organization with headquarters in Argentina, will be the PEA responsible for the execution of the energy sector activities under components two, three and four; (c) World Resources Institute (WRI/Embarq), a non-for-profit private corporation established in the State of Delaware and with headquarters in Washington D.C. in the United States, will be the PEA responsible for the execution of the activities under components two, three and four that are related to the transport sector; (d) *Centro Agronómico Tropical de Investigación y Enseñanza (CATIE)*, a non-for-profit private organization with headquarters in Costa Rica will act as the PEA for the activities on forestry under components two, three and four; and (e) the IDB (in its capacity as legal representative and administrator of Fontagro), will be the PEA responsible for the execution of the agriculture sector activities under components two, three and four. Fontagro is an initiative supported by the IDB and the Inter-American Institute for Cooperation on Agriculture (IICA) which promotes the development of technologies for the agriculture sector. Fontagro operates through regional networks of cooperative programmes for the development of agricultural technology that will constitute the core of a regional network on EST for agriculture. Fontagro's strategy for 2010-2015 highlights climate change adaptation as one of its three pillars and has a portfolio of activities in this area. Fontagro's regional network and experience are key assets that benefit the project and justify the Bank's role as PEA for activities on the agriculture sector. The PEA functions for activities on the agriculture sector will be responsibility of the Office of Outreach and Partnerships of the IDB (ORP/GCM).
- 4.4 The IDB will enter into technical cooperation agreements with each PEA, in accordance with the activities agreed with PEAs under each thematic/sectoral scope. PEAs will prepare an annual work plan, detailing the activities and outputs to be delivered. Annual work plans will be submitted to the IDB for review and approval.

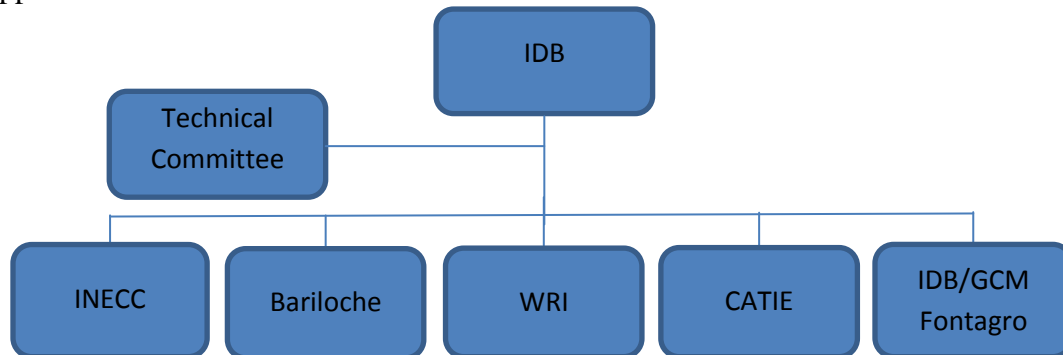


Figure 1. Implementation arrangements

- 4.5 **Technical Committee (TC):** A TC will be established to facilitate an effective coordination among partner institutions. The TC will be constituted by representatives of the IDB, INECC, Bariloche, WRI, CATIE and Fontagro. Other relevant institutions could be invited to be part of the TC. The TC will meet at least twice a year to review the progress of the Project, share information and facilitate decisions on technical and administrative matters. The TC could invite practitioners and scientists to participate in meetings to provide technical insight into decision-making.
- 4.6 **Procurement and external audit.** All procurement activities to be carried out by the Bank as the executing agency will follow current procedures for the selection of consulting firms per Policy GN-2350-9 using the tool e-sourcing; Human Resources procedures per ADM-650 for the hiring of individual consultants; and Corporate Procurement procedures for all non-consulting services, per Policy GN-2303-20.
- 4.7 All procurement activities to be carried out by PEA will follow the Policies for the Procurement of Goods and Works Financed by IDB (GN-2349-9) and the Policies for the Selection and Contracting of Consultants Financed by the IDB (GN-2350-9). Concerning external audits, the project team will determine if audited or unaudited project financial statements are required from each PEA based on the amount of the contribution, level of risk and complexity of the components to be executed. A procurement plan for the first year of project execution is included in Annex I.
- 4.8 **Summary of arrangements for monitoring and evaluation.** The project's monitoring and evaluation will allow tracking and assessing the progress towards achieving the outputs and outcomes, as defined in the [Detailed Results Matrix](#). Monitoring and evaluation will be conducted in accordance with IDB and GEF guidance and procedures. Annual reports, as well as the mid-term and final evaluations will be presented by PEAs to the IDB for approval. The IDB will compile annual reports by PEAs and submit them to the GEF secretariat. The mid-term evaluation will be completed by an external party and will be conducted within eighteen months after project approval or when 40% of the GEF resources have been disbursed, whichever comes last. This evaluation will determine progress toward the achievement of project objectives, the level of stakeholder participation, positive changes as a result of the intervention, and will identify necessary changes to be made. This review will principally ascertain if project outcomes are in the process of being met by current implementation strategies. An external final evaluation will be conducted three months before project closure and will focus on the same areas mentioned above. The final evaluation will undertake an ex-post, cost-effectiveness analysis to evaluate project results and impacts. The mid-term and final evaluations will be contracted by the IDB and paid with resources from the agency fee.
- 4.9 **Disbursements.** The disbursement period will be 40 months and the implementation period will be 36 months. Disbursements will be supervised on an ex-post basis. With regards to the management of disbursements, PEAs will handle a single corporate account where each entity will receive the funds for their activities.
- 4.10 **Special execution condition.** Concerning component one, to be executed by INECC, the technical cooperation agreement will include a special execution

condition requiring that the GEF contribution is included in the entity's approved annual budget during each year of the execution period.

V. MAJOR ISSUES

- 5.1 **Risks.** The project has a number of medium to low-level risks, including: (a) the slow progress in the implementation of the TM under UNFCCC; (b) poor coordination among PEAs; (c) insufficient interest/support by national governments; (d) lack of interest by the private sector; (e) EST are inadequate to the needs and practices of local technology users; (f) political and/or economic instability; and (g) lack of qualified experts to support the project activities. These risks will be mitigated with strategies proposed in the project design such as: (i) the project will pursue activities that will deliver positive results in terms of the development and transfer of EST even in the context of a challenged implementation of the TM; (ii) activities to engage with stakeholders and disseminate early results should also aim at identifying likely investment opportunities eligible under component four; (iii) formal and informal communication and reporting functions by PEAs will be adopted to facilitate the coordination of inputs and activities; and sufficient resources have been allocated to coordination and monitoring activities that include the assignment of at least one technical coordinator to each PEA; (iv) the project design includes the promotion of collaboration with a broad base of expert organizations in the region and abroad, mapping and linking to thematic networks the existing supply of technical expertise in the region; and (v) the IDB will liaise with PEAs with a view to linking investment opportunities with financing products available through the Bank.
- 5.2 **Fiduciary risk.** Each proposed PEAs went through an institutional fiduciary capacity evaluation. The following are the summaries from the evaluations: (a) INECC. The evaluation concluded that INECC has very strong technical competencies. However, it identified areas for improvement. The analysis rated the fiduciary as medium. As risk mitigation measures, the project team will provide the necessary training to ensure that IDB's procurement policies and procedures are observed; (b) Bariloche, WRI and CATIE; the conclusion of the respective evaluation of these institutions completed during project preparation revealed that: (i) they have adequate technical and monitoring capacities to execute their activities under the project; (ii) these institutions have integrated accounting management systems that are adequate; (iii) their systems allow easy access and compilation of information on all accounting and financial operations as well as physical records; and (iv) the activities to be executed by these institutions are regulated under terms of reference and Bank's policy, as well as rules of each institution. In conclusion, these three institutions were evaluated as having a medium or low fiduciary risk. Hence, mitigation measures will be taken where needed and become part of the technical cooperation agreements to ensure that IDB Procurement and Financial Management policies are observed by all PEAs.

VI. EXCEPTIONS TO BANK POLICY

- 6.1 No exceptions to the Bank's policies have been identified.

VII. ENVIRONMENTAL AND SOCIAL STRATEGY

- 7.1 The project doesn't include any activity that may generate negative environmental and/or social impacts. On the contrary, it is expected that the outputs would lead to positive environmental impacts. Following the [Safeguard Policy Filter Report and Safeguard Classification Form](#), the project has been classified under category "C".
- 7.2 The project will include considerations to address gender issues during the planning and execution of activities, including, *inter alia*, the assessment of gender-specific impacts and challenges from the adoption of EST. The project monitoring and evaluation practices, including the mid-term and final evaluation, will assess the project's gender-specific impacts.

ANNEXES

Annex I - Procurement Plan¹⁰

¹⁰ The Procurement Plan considers only the first year of execution, and will be updated during the execution of the project.