

SUPPORTING THE DESIGN OF LONG TERM DECARBONIZATION STRATEGIES

RG-T3193

CERTIFICATION

I hereby certify that this operation was approved for financing under the **French Climate Fund for Latin America and the Caribbean (FRC)**, through a communication dated February 15, 2019 and signed by Nadine Schiavi (ORP/GCM). Also, I certify that resources from said fund are available for up to **US\$990,000** in order to finance the activities described and budgeted in this document. This certification reserves resource for the referenced project for a period of four (4) calendar months counted from the date of eligibility from the funding source. If the project is not approved by the IDB within that period, the reserve of resources will be cancelled, except in the case a new certification is granted. The commitment and disbursement of these resources shall be made only by the Bank in US dollars. The same currency shall be used to stipulate the remuneration and payments to consultants, except in the case of local consultants working in their own borrowing member country who shall have their remuneration defined and paid in the currency of such country. No resources of the Fund shall be made available to cover amounts greater than the amount certified herein above for the implementation of this operation. Amounts greater than the certified amount may arise from commitments on contracts denominated in a currency other than the Fund currency, resulting in currency exchange rate differences, representing a risk that will not be absorbed by the Fund.

Certified by:	Original Signed	04/12/2019
	_____ Sonia M. Rivera Chief Grants and Co-Financing Management Unit ORP/GCM	_____ Date

Approved by:	Original Signed	04/16/2019
	_____ Juan Pablo Bonilla Gerente Sector de Cambio Climático y Desarrollo Sostenible CSD/CSD	_____ Date

TC Document

I. Basic Information for the Technical Cooperation (TC)

▪ Country/Region:	Regional
▪ TC Name:	Supporting the Design of Long Term Decarbonization Strategies
▪ TC Number:	RG-T3193
▪ Team Leader/Members:	Adrien, Vogt-Schilb (CSD/CCS) Team Leader; Marcela Jaramillo (CSD/CCS) Alternate Team Leader; Carolina Verissimo Da Silva (LEG/SGO) Mary Tankersley (BDA/ACP); Ana Rios (CSD/RND); Bridget Hoffmann, (RES/RES); Jennifer Doherty (CSD/CCS); Santiago Bucaram (CSD/RND); Raul Delgado; (CSD/CCS); (CSD/CCS); Cristina Calderon (CSD/CCS); Juan Gomez (CSD/CCS); Carlos Guiza (CSD/CCS); Mariana Silva (CSD/CCS).
▪ Taxonomy:	Research and Dissemination
▪ Date of TC Abstract authorization:	February 15 th , 2019
▪ Beneficiaries:	Latin-American and Caribbean borrowing member countries of the IDB
▪ Executing Agency:	Inter-American Development Bank
▪ Donors providing funding:	French Climate Fund for Latin America and the Caribbean (FRC)
▪ IDB Funding Requested:	US\$990,000
▪ Local counterpart funding, if any:	N/A
▪ Disbursement period (Execution period):	24 months (executed over 24 months)
▪ Required start date:	April 2019
▪ Types of consultants:	Individuals and Firms
▪ Prepared by Unit:	Climate Change Division (CSD/CCS)
▪ Unit of Disbursement Responsibility:	Climate Change and Sustainable Development Sector (CSD/CSD)
▪ TC Included in Country Strategy:	N/A
▪ TC included in CPD:	N/A
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Productivity and innovation; climate change and environment sustainability; and institutional capacity and the rule of law

II. Objectives and Justification of the TC

- 2.1 The international climate change agenda will require ambitious policy reforms. During the 21st Conference of the Parties of the United Nations Framework Convention on Climate Change, and through the resulting Paris Agreement, global leaders have pledged to make efforts to stabilize the increase in global temperature well below 2°C, and preferably below 1.5°C.¹ These are ambitious targets: they require reaching zero net emissions of carbon dioxide (CO₂) before the end of the

¹ United Nations, "Paris Agreement", 2015.

century.² This scientific consensus has been elevated to an international objective in the Paris Agreement, in which parties pledge “to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases (GHG) in the second half of this century”.

- 2.2 To implement this long-term goal, countries around the world agreed to submit Nationally Determined Contributions (NDC), which include more or less detailed plans to reduce GHG emissions. The first round of NDC set emissions reduction plans through 2025 or 2030, thereafter all NDC are to be updated –and strengthened– every five years. In addition, a regular stock taking process will eventually take place to assess the aggregate effect of all NDC, which can provide a base to gradually increase their ambition.³ Finally, the Paris Agreement calls countries to explore potential long-term decarbonization strategies (or long-term strategies [LTS]), which lay out how countries can make substantial progress towards full decarbonization by 2050, and help understand whether their NDC is in line with the long-term goal.⁴
- 2.3 To operationalize the Paris Agreement, countries thus need to design LTS considering two key factors: (i) the need to put their economies on track towards full decarbonization by the end of the century; and (ii) the importance of the political economy in making ambitious reforms successful.⁵ Indeed, emissions reduction policies have substantial potential to create losers, e.g. poor and middle-class households facing higher energy and food prices due to energy subsidy removal or carbon pricing; energy-intensive and trade-exposed companies losing competitiveness due to environmental regulations; powerful lobbyists and thousands of workers opposing the phase down of fossil fuel-based energy. To increase their social and political acceptability, emissions reduction policies can be designed to be aligned with domestic development agendas. For instance: (i) a public transport system that reduces global GHG emissions while it also improves vehicular congestion and the health of local population; and (ii) by avoiding or compensating concentrated losses –e.g. if the social impacts of higher energy prices are compensated with spending on social protection.⁶
- 2.4 A wide range of modeling exercises can provide crucial information to the design process of effective and politically feasible LTS, NDC and climate policies. The Climate Change Division of the Bank (CSD/CCS) has aimed efforts in this direction, in particular by leading modeling work to assess the distributional impacts of carbon prices and the removal of fossil fuel subsidies, as well as how to mitigate the resulting impacts with social programs.⁷ This regional research suggests that poor and middle class households in LAC stand to lose a significant fraction of their real income if governments implement carbon taxes. But quantitative analysis and lessons from

² IPCC, “Summary for Policymakers,” in Climate Change 2014, Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press (Cambridge, United Kingdom and New York, NY, USA., 2014).

³ UNEP. 2017. The Emissions Gap Report 2017: A United Nations Environment Synthesis Report.

⁴ Bataille et al., “The Need for National Deep Decarbonization Pathways for Effective Climate Policy,” Climate Policy 16, no. sup1 (June 20, 2016): S7–26, doi:10.1080/14693062.2016.1173005; Sachs et al., “Pathways to Deep Decarbonization: Interim 2014 Report” (New York and Paris: Deep Decarbonization Pathways Project (United Nations’ Sustainable Development Solutions Network), 2014).

⁵ Vogt-Schilb, et al. 2017. “Climate Policies and Nationally Determined Contributions: Reconciling the Needed Ambition with the Political Economy.”

⁶ Vogt-Schilb, et al. 2017. “Distributive Impact of Energy Subsidies and Reform.” In The Other Side of the Boom: Energy Prices and Subsidies in Latin America and the Caribbean During the Super-Cycle [Estefania Marchan and Ramon Espinasa Eds.], 71–100. Washington DC: Inter-American Development Bank.

⁷ Operation RG-E1563, “Managing Distributional Impacts of Carbon Taxes in LAC”.

fossil fuel subsidy reform suggest that governments can compensate them and make reforms socially acceptable by recycling a small fraction of revenues from carbon taxes in in-kind and in cash compensation⁸. Further research at the country level funded by this operation could inform the design of specific policy packages that tax carbon and increase redistribution. It has also taken actions to familiarize policymakers with available models to plan for emissions reductions,⁹ as well as to conduct research on reduction pathways that minimize abrupt disruption to the most carbon-intensive sectors.¹⁰ This research shows that in general NDCs in the region are not aligned with the long-term decarbonization objective, and that strengthening NDCs can reduce the long-term cost of decarbonization pathways, in particular by reducing future stranded assets and associated political costs.¹¹ Further research funded by this operation could investigate this issue with more details at the country level. In addition, the Environment, Rural Development and Disaster Risk Management Division of the Bank (CSD/RND) has developed an in-house Integrated Economic-Environmental Modelling Framework to assess –in an economy-wide fashion, environmental and wealth impacts of public policy and investment.¹² This research shows how economic growth in some countries of the region could be spurred by relying more on environmental services.¹³ The experiences and outputs that have arisen from these efforts provide a solid basis for the present operation and its implementation.

- 2.5 Under the “Deep Decarbonization Pathways in LAC” (DDPLAC) technical cooperation (ATN/MC-16271-RG), the IDB is building analytical capacity to research emissions reduction pathways in Argentina, Colombia, Costa Rica, and Ecuador, while it strengthens the dialogue between modelers and policymakers. This operation revealed a large appetite in LAC to understand the implications of LTS in all sectors of the economy, and to build in-country capacities to perform independent assessments of decarbonization plans. The “National Decarbonization Plan” that President Alvarado unveiled for Costa Rica on February 24th, 2019, is perhaps the best example of how countries in LAC can make use of domestic modeling capacity built under DDPLAC when designing their LTS.¹⁴ Funds allocated to DDPLAC have been used to cover modelling of decarbonization pathways of four countries so far, often with a focus on just one sector per country (electricity, transport, or land use). But decarbonization and LTS are relevant issues for all countries in the region and all sectors of the economy.
- 2.6 In this context, this regional knowledge and dissemination Technical Cooperation (TC) has three objectives. First, it will deepen the analysis of regional decarbonization pathways started under the DDPLAC project, as well as the dissemination of such analysis by: (i) assessing the role of more sectors in decarbonizing the four countries that are already being studied (making sure that

⁸ Feng, et al. 2018. “Managing Distributive Impact of Energy Subsidies and Reform in Latin America and the Caribbean.” IDB Working Paper Series 947. Vogt-Schilb, et al. 2017. “Climate Policies and Nationally Determined Contributions: Reconciling the Needed Ambition with the Political Economy.” IDB Working Paper Series 818. Vogt-Schilb, et al. 2019. “Making Carbon Taxes Pro-Poor Using Cash Transfers in Latin America and the Caribbean.” Under Peer Review.

⁹ ATN/FM-14833-RG, “Climate Technology Transfer Mechanisms and Networks in LAC”.

¹⁰ Operation RG-K1447, “Integrating Climate Risk into Economic Decision-Making Frameworks”.

¹¹ Binsted, et al. 2019. “Implications of the Paris Agreement for Stranded Assets in Latin America”.

¹² ATN/OC14583-RG, “Development of Integrated Economic-Environmental Framework”.

¹³ Banerjee et al. 2019. “The SEEA-Based Integrated Economic-Environmental Modelling Framework: An Illustration with Guatemala’s Forest and Fuelwood Sector.” Environmental and Resource Economics 72 (2): 539–58.

¹⁴ Government of Costa Rica. 2019. “Plan Nacional de Descarbonización 2018-2050”.

decarbonization of transport, energy and land use are properly modelled in all countries, regardless of the initial focus of the teams there); (ii) assessing decarbonization pathways in more countries; and (iii) publishing a report on lessons learned from the project for policymakers in the region seeking to reinforce their NDC and align it with the long-term decarbonization goal. Second, this TC will disseminate existing knowledge about long-term decarbonization strategies and further understand the knowledge needed by government agencies, the private sector and civil society to make progress in implementing the Paris Agreement, by funding stakeholder engagement workshops. Third, this TC will inform the design of politically acceptable transition pathways towards carbon neutrality in LAC, by funding regional studies on these issues.

- 2.7 This operation is consistent with the Update to the Institutional Strategy 2010-2020 (AB-3008) and is aligned with the development challenge of productivity and innovation by providing training for government agencies and academia –in cutting-edge climate modeling methodologies, and by generating innovative knowledge to assist countries in the design of better NDC. It is also aligned with the cross-cutting themes of: (i) climate change and environment sustainability, as it seeks to enhance the planning capacity of LAC Governments in the design of LTS and NDC, which are critical to respond to the objectives of the Paris Agreement to limit the global temperature rise to well below 2°C, and manage climate related risks; and (ii) institutional capacity and the rule of law, as it seeks to strengthen the capability of relevant institutions to define robust long term planning to tackle climate change and seize development opportunities.
- 2.8 This operation contributes to the Corporate Results Framework 2016-2019 (GN-2727-6), specifically to the following indicators: (i) “government agencies benefited by projects that strengthen technological and managerial tools to improve public service delivery ”; and (ii) “new approvals aligned with at least one challenge or cross-cutting theme of the Update to the Institutional Strategy (% of lending and TC volume)”. Also, in the long term, the project will contribute to the reduction of “GHG emissions (kg of CO₂e per \$1 GDP (PPP))”. Additionally, the project is aligned with: (i) the Climate Change Sector Framework Document (GN-2835-8) in its line of action 1; and (ii) the objectives of the *NDC Invest Platform*.
- 2.9 This operation will contribute to implement the objective of the French Climate Fund for Latin America and the Caribbean regarding “the generation of strategic knowledge on climate change” in the region, by designing new methodologies and tools, disseminating knowledge products, delivering research policy dialogue events and leading the regional conversation about decarbonization.

III. Description of Activities/Components and Budget

- 3.1 **Component 1. Expanding the analysis of long-term decarbonization pathways done under the DDPLAC project (US\$400,000).** This component aims at broadening the regional and sectoral scope of the DDPLAC program, as well as improve the dissemination of its results to regional and international audiences.
- 3.2 Additionally, it will fund the inclusion of at least one more country in the analyses performed under the DDPLAC program. DDPLAC leads efforts to transfer modeling experiences from cutting-edge international teams to LAC universities or think tanks to: (i) establish modelling teams able to inform the design process of climate policies; (ii) assess pathways towards carbon neutrality; (iii) strengthen the capacity of local

academia to dialogue with policymakers; and (iv) build a regional community of decarbonization modeling practitioners.

- 3.3 Currently, this initiative is generating specific knowledge for four countries in the region (Argentina, Costa Rica, Colombia and Ecuador). This component will add at least a new team from a country in the LAC region, which will be selected by the IDB and the Institute for Sustainable Development and International Relations (IDDRI –a Paris-based think tank). A team in DDPLAC consists of an academic team or think tank in LAC (the trainee), coupled with an academic team or think tank from an IDB member country (the trainer) that possesses advanced skills and experience using modeling tools and its findings to inform policymaking. The selection criteria for the trainee teams includes: (i) experience in previous modeling projects to inform climate policies (e.g. MAPS, DDPP, Clima-LAMP); (ii) demonstrated capacity to assess emissions reduction strategies; and (iii) track record in engaging the government of their country in climate policy. To be selected, trainee teams will submit a work plan that includes: (i) research questions; (ii) a work program in terms of relationships to be modeled, data gathering and model outputs to be tracked; and (iii) a budget and human resources plan.
- 3.4 The DDPLAC project was procured by hiring IDDRI (using a single source selection modality) following IDB's corporate procurement policies (IDDRI then subcontracted the eight universities from seven different countries that take part in this project). Given that the delivery of service from IDDRI has been more than satisfactory so far, and since the activities funded by this component entail a natural continuation of the activities that this firm currently carries on, this component will follow the same hiring modality.
- 3.5 IDDRI will subcontract the selected team, perform quality control over the modeling and policy conclusions and include the selected teams in the regional workshops that IDDRI is facilitating for DDPLAC.
- 3.6 This component will also enable the expansion of the sectoral coverage of the analysis and the strengthening of the technical content of those regional workshops, by funding the participation of international experts in climate change policy or sectorial planning (energy, transport, and land-use), as well as of policymakers tasked with developing LTS in their countries. As part of this effort, this component may fund the participation of IDB staff members from CSD/CCS in DDPLAC project workshops.
- 3.7 Finally, under this component, IDDRI will be tasked with the publication of a report on lessons learned from DDPLAC. The report's target audience are policymakers in the region seeking to align their respective NDC with long-term decarbonization targets and sustainable development goals.
- 3.8 **Component 2. Assessing politically-acceptable emission-reduction pathways (US\$360,000).** This component will fund at least four studies based on existing models to: (i) assess emissions-reduction pathways in the energy and land-use sectors; (ii) manage stranded assets and distributional impacts of climate and 'green' fiscal policies; and (iii) align climate actions with development objectives. The studies will be designed by the IDB, with inputs from LAC Governments. The IDB will hire universities, think tanks and independent consultants under the firm consultant modality to carry out these studies, which are intended to inform not only policymaking processes in the region, but also other Bank operations, as well as

lead to the publication of academic papers. IDB policies regarding intellectual property will apply to any publication.

- 3.9 **Component 3. Policy dialogue and stakeholder engagement (US\$90,000).** This component will fund national stakeholder engagement workshops in the region with two objectives: (i) disseminate to the national public and key stakeholders from the private sector, civil society, other donor agencies and the government, the findings about the feasibility, relevance, benefits and potential costs of long-term decarbonization strategies; and (ii) inform the design of studies, including those carried out under Components 2 and 4, by understanding the most pressing research needs from policymakers, civil society and the private sector. This component may be used to fund the participation of IDB staff members from CSD/CCS in these workshops.
- 3.10 **Component 4. Regional research and quality control (US\$100,000).** This component will fund the support of a one-year full-time equivalent post-doctoral research assistant hired by the IDB (following the instructions in Appendix 10 of the Operational Guidelines for Technical Cooperation Products (GN-2629-1)). The consultant will execute, under the supervision of IDB staff, two regional studies to demonstrate new ways to: (i) assess emissions-reduction pathways in the energy and land-use sectors; (ii) manage stranded assets and distributional impacts of climate and 'green' fiscal policies; and (iii) align climate actions with development objectives. The consultant will also perform technical quality control and enhancement, as well as other due diligence related to the project.
- 3.11 **Component 5. Communication and dissemination (US\$40,000).** The Bank will communicate lessons learned to a wide regional and global audience of policymakers, policy analysts, academia, donor countries, and the public through academic papers, reports for policymakers, and presentations at workshops. This component will finance the corresponding edition, translation and dissemination expenses. Resources from this component may be used to finance the participation of IDB staff members of CSD/CCS in externally organized events if the organizers request the IDB to disseminate knowledge on: (i) planning long-term decarbonization pathways; or (ii) improving the social acceptability of decarbonization pathways to regional or international audiences.

Indicative Budget (US\$)

Component	IDB Funding	Counterpart	Total
1. Expanding the analysis of decarbonization pathways	400,000	0	400,000
2. Assess politically-acceptable emission-reduction pathways	360,000	0	360,000
3. Policy dialogue and stakeholder engagement	90,000	0	90,000
4. Regional research and quality control	100,000	0	100,000
5. Communication and dissemination	40,000	0	40,000
Total	990,000	0	990,000

IV. Executing Agency and Execution Structure

- 4.1 This operation will be executed by the IDB through CSD/CCS, which will coordinate with other internal departments and divisions, including IDB Country Offices, and establish partnerships with academia, think tanks and governments. CSD/CCS will also share terms of reference or draft work programs describing studies funded under Components 1, 3 and 5 with relevant focal points in IDB Country Offices, government agencies and the French Development Agency (AFD)¹⁵ to collect

¹⁵ The IDB and AFD have engaged in a partnership to share expertise on knowledge products related to climate change.

feedback and consider adjustments.

- 4.2 The regional scope of the activities to be performed and the limited availability of relevant technical capacity in the region required to coordinate this project, justify the execution by the IDB. The project will leverage synergies and complementarities with IDB operations, research and in-house expertise, to facilitate the use of prospective models and decarbonization pathways aimed at providing valuable inputs for the planning and implementation of NDC and LTS.
- 4.3 Prior to the start of any of the activities financed by this operation in a member country of the Bank, a non-objection letter will be obtained from the corresponding official liaison entity in the respective country.
- 4.4 As the executing agency, the IDB will follow its procurement policies and guidelines related to hiring processes: (i) individual consultants will be hired in accordance with the guidelines set out in policy AM-650; (ii) consulting firms of an intellectual nature only will be hired in accordance with the “Policy for the Selection and Contracting of Consulting Firms for Bank-executed Operational Work” (GN-2765-1) and its related Operational Guidelines (OP-1155-4); and (iii) logistics and other related services in accordance with the “IDB Corporate Procurement Policy” (GN-2303-20).
- 4.5 The TC monitoring will seek the success of the timely implementation of the operation’s activities, assessing its effectiveness in the long-term and ensuring budget control, the timely delivery and quality of goods and services, and other aspects related to project management. The IDB will prepare quarterly reports to assess execution performance, potential problems and possible corrective measures.

V. Major Issues

- 5.1 The main risks during a process of knowledge generation and dissemination would be that the results of the analysis do not reach policymakers and do not inform the policy design process, which is the ultimate goal of the operation. To mitigate this risk, the operation will fund stakeholder engagement workshops (Component 3) that will seek to: (i) listen to the requirements that local stakeholders consider most relevant for them to be able to provide them with studies that cater to their specific needs; and (ii) disseminate results from the analyses financed by the operation.

VI. Exceptions to Bank Policy

- 6.1 There are no exceptions to the Bank’s policies regarding this operation.

VII. Environmental and Social Strategy

- 7.1 The proposed project will have no environmental or social impacts, as it will finance the development of countries’ modelling capacities and LTS related studies.
- 7.2 Per the Environment and Safeguards Compliance Policy of the IDB (OP-703), the operation has been classified as ‘Category C’ (see the [Safeguards Screening Form](#) and the [Safeguards Policy Filter](#)).

VIII. Required Annexes

- [Results Matrix](#)
- [Terms of Reference](#)
- [Procurement Plan](#)