

## Technical Cooperation Document

### I. Basic Information for TC

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|--|---|
| ▪ Country/Region:  | REGIONAL  |
| ▪ TC Name:   | Knowledge for Managing Local Pollution in LAC   |
| ▪ TC Number:   | RG-T4014  |
| ▪ Team Leader/Members:   | Blackman, Allen (CSD/CSD) Team Leader; Rojas Sanchez, Laura Natalia (VPS/VPS) Alternate Team Leader; Acevedo Alameda, Paloma (CSD/HUD); Gomez, Juan Carlos (CSD/CCS); Hoffmann, Bridget Lynn (RES/RES); Natalia Almeida (LEG/SGO); Santa Pena, Camilo Andres (CSD/CCS); Savedoff, Bill (SCL/SPH); Vogt-Schilb, Adrien (CSD/CCS) |
| ▪ Taxonomy:  | Research and Dissemination  |
| ▪ Operation Supported by the TC:                                   | N/A   |
| ▪ Date of TC Abstract authorization:                               | 13 Oct 2021   |
| ▪ Beneficiary:   | Latin American and Caribbean Countries  |
| ▪ Executing Agency and contact name:                               | Inter-American Development Bank   |
| ▪ Donors providing funding:  | OC Strategic Development Program for Sustainability(SUS)  |
| ▪ IDB Funding Requested:   | US\$300,000.00  |
| ▪ Local counterpart funding, if any:                               | US\$0   |
| ▪ Disbursement period (Execution period):                          | 24 months (24 months)   |
| ▪ Required start date:   | January, 2022   |
| ▪ Types of consultants:  | Firms and Individuals   |
| ▪ Prepared by Unit:  | CSD-Climate Change and Sustainable Development Sector   |
| ▪ Unit of Disbursement Responsibility:                             | CSD/CSD-Climate Change and Sustainable Development Sector   |
| ▪ TC included in Country Strategy:                                 | No  |
| ▪ TC included in CPD:  | No  |
| ▪ Alignment to the Update to the Institutional Strategy 2020-2023: | Environmental sustainability; Institutional capacity and rule of law; Social inclusion and equality   |

### II. Objectives and Justification

- 2.1 Local pollution is the leading cause of premature mortality in low- and middle-income countries (GAHP 2013). It is associated with more than eight million deaths per year—two to three times the number of deaths from AIDS, tuberculosis and malaria combined and more than 10 times the number from war, crime, and other forms of violence (Landrigan et al. 2018). More than 80 percent of deaths associated with pollution are due to air pollution—both indoor and outdoor—and the remainder are associated with water pollution, poor sanitation, and contaminated sites (GAHP 2013).
- 2.2 Pollution-related disease is most prevalent among vulnerable and marginalized populations because they are exposed to more risk factors and have less access to health services (Landrigan et. al. 2018). Women are also disproportionately affected because they typically have primary responsibility for household activities and therefore are exposed to higher concentrations of indoor pollutants.

- 2.3 As urbanization, industrialization, and commercial agriculture have advanced in Latin America and the Caribbean (LAC), local pollution has become increasingly severe, often despite advances in environmental regulation. At least 150 million people in LAC live in cities that do not meet World Health Organization guidelines. However, this figure may be underestimated since only 22 percent of LAC's population lives in areas with ground level air pollution monitors (Riojas Rodriguez et al., 2016). Air pollution in the region causes more than 170,000 premature deaths per year, five percent of all such deaths. Associated welfare losses exceed two percent of GDP (World Bank/IHME 2016).
- 2.4 Water pollution and sanitation also are significant problems. Roughly a quarter of LAC's water bodies have relatively high concentrations of fecal coliforms (more than 10000 nmp/100ml). These high levels of contamination represent a challenge in both urban and rural areas since approximately 25 million inhabitants of rural areas in LAC are in contact with contaminated surface waters from the cities (UNEP 2016). The region would need to invest more than US\$33 billion to increase the fraction of wastewater treated to just under two-thirds by 2030 (Mejía et al., 2012). Thirty-five percent of the region's population does not have access to safely managed drinking water services, and 78 percent does not have access to safely managed sanitation services (World Bank 2019).
- 2.5 Despite these pressing problems, funding for research, policies, and programs focused on local pollution in low- and middle-income countries is limited: most funding concerns global problems such as climate change and biodiversity loss. A recent high-profile international commission on the pollution therefore recommends that multilateral development banks along with bilateral funding agencies and other international organizations, "...elevate pollution prevention within the agendas of international development and global health, and substantially increase the resources they devote to pollution, establishing it as a priority in funding mechanisms." (Landrigan et al. 2018, 499).
- 2.6 The broad objective of this technical cooperation (TC) is to develop the knowledge that the IDB and its clients need to develop efficient and effective policies and programs to reduce local pollution and mitigate its effects on human health. The specific objectives are to foster communication and collaboration among research institutions, the IDB and the policy community, and build the knowledge base on which these stakeholders can draw. These specific objectives, in turn, will be accomplished by funding: (i) policy-relevant, rigorous research on local pollution and its links to human health by and/or with key research and policy institutions that are experts on this topic; and (ii) networking, workshops and other dissemination activities.
- 2.7 This operation is consistent with the Second Update to the Institutional Strategy (AB-3190-2) and is aligned with the development challenge of *social inclusion and equality*, since local pollution has disproportionate impacts on the poor who often work outdoors and in close proximity to hazards, and who lack access to health care. It is also aligned with the cross-cutting themes of: (i) *climate change and environmental sustainability*, as it ultimately intends to reduce the impacts of pollution; and (ii) *institutional capacity and the rule of law*, since the broad objective is to develop the knowledge that the IADB and its clients need to formulate efficient and effective policies and programs to reduce local pollution and mitigate its effects on human health. Additionally, the program will contribute to the Corporate Results Framework 2020-2023 (GN-2727-12) (CRF) in that the Results Matrix indicators (launch project workshop implemented, analytical papers, dissemination workshops and IADB

publications) will help to advance: the CRF Country Development results level 1 indicators of government effectiveness (15), voice and accountability (18); the level 2 indicators of households with improved access to water and sanitation (4), and emissions avoided (19); and the level 3 indicators of projects supporting climate change mitigation and/or adaptation (6), projects supporting institutional capacity and rule of law (9), and average downloads of IDBG publications (22).

- 2.8 This operation is aligned with Vision 2025's goal of promoting sustainable and inclusive economic growth by strengthening good governance and institutions because it aims to improve environmental governance and strengthen environmental regulatory institutions. The operation is also aligned with Vision 2025's goal of identifying a pathway to accelerating recovery from the Covid-19 pandemic by helping countries foster climate mitigation because it aims to reduce local air pollution, which also entails reducing greenhouse gas emissions.
- 2.9 The operation is aligned with the IDB Integrated Strategy for Climate Change Adaptation and Mitigation, and Sustainable and Renewable Energy (GN-2609-1) and with the objectives and results of the Ordinary Capital Strategic Development Program for Sustainability (GN-2819-1) (SUS) as it addresses the human health consequence of air pollutants and greenhouse gas emissions. The operation is aligned with the SUS objective of "expanding the knowledge base on climate change mitigation, adaptation, and sustainable energy geared towards leveraging climate investment" and with the expected output of "strategic knowledge".
- 2.10 The proposed initiative is closely aligned with the Environment and Biodiversity Sector Framework Document (GN-2827-5), in particular with the 'development challenges' of gaps in environmental governance and water, soil and air pollution, and 'lines of action' that call for improving environmental governance, reducing exposure to that pollution, and raising awareness of health-related impacts. The TC also complements the Bank's on-going work on air pollution through operations ATN/OC17924-CO and ATN/OC-15677-RG, as it opens lines of communication and promotes a regional dialogue between the community of experts—including team leaders of these funded operations—the scientific community, and policy makers, to leverage the lessons learned to address knowledge gaps.

### **III. Description of Activities/Components and Budget**

- 3.1 **Component 1. Collaborative research on local pollution in LAC (US\$260,000).**  
This component will finance a set of three to seven rigorous research projects on local pollution by and/or with key research and policy institutions that are experts on this topic. To enhance the quality of the research and dissemination, and to facilitate a bottom-up approach to identify topics that are most important and relevant to our client countries, the projects will be selected via a call for proposals. The scope will be limited to studies that: (i) focus on air pollution, water pollution and hazardous waste; and (ii) use rigorous quantitative impact evaluation methods, preferably randomized controlled trials. The purpose of these criteria is to maximize opportunities for networking and synergies among research teams working on common topics with common empirical methods and to ensure that results generated are credible, replicable, and policy relevant. Proposals will be solicited from teams based in both universities and research institutions. To ensure widespread interest in the call for proposals, we will disseminate it via the nearly 350 universities and research institutes that comprise the Red-de-Centros organized and coordinated by RES. We also will disseminate it through professional association listservs and blogs including those

maintained by the Latin American and Caribbean Economics Association (LACEA), the Latin American Association of Environmental and Resource Economists (LAERE), and the Environment for Development (EfD) Initiative.

- 3.2 Activities include: (i) compile a list of relevant research institutions and researchers; (ii) design and disseminate a call for proposals; (iii) select projects according to the following criteria: (a) policy relevance; (b) potential for policy impacts by leveraging or building contacts with key stakeholders; (c) contribution to knowledge base; (d) innovation; (e) rigorous and feasible research design; (f) solid dissemination plan; (g) affiliation with a leading center of expertise; (h) facilitates geographical balance with LAC (i.e., not necessarily focused on countries with mature research capacity) ideally including at least one research project from each LAC subregion; and (i) relevance to one of the following three lines of research: air and water pollution, behavioral economics, or environmental governance (however, to ensure that topics that are important in client countries are not ruled out, focus on these three lines of research will not be mandatory); (iv) organize a pre-selection workshop/webinar at which a final or semifinal group of proponents present their proposals to a panel of judges; (v) monitor and coordinate the progress of the reports; and (vi) coordinate and quality-control the final products. A scientific committee comprised of TC team members along with outside experts will select the proposals to be funded.
- 3.3 The specifics of the analytical projects conducted by research teams led by individual consultants and firms will be determined via a competitive process described above. Research teams will produce seven sets of deliverables: a revised proposal, an oral presentation of this proposal in a first workshop, a detailed research plan, a first implementation status report, a second implementation status report, a draft paper reporting results, and an oral presentation of paper in a second workshop, and a final paper.
- 3.4 The timing for completion of Component 1 will be 18 months to allow the teams to develop the proposed analysis and submit a finalized paper to the IDB project team.
- 3.5 **Component 2. Networking and dissemination (US\$40,000).** This component will finance additional networking among the research teams, policy makers, and IDB staff, and dissemination of research results to target audiences including local and international policy and academic stakeholders. Dissemination of results will include: (i) public disclosure of the awarded proposals with corresponding teams through the Bank's electronic outlets; (ii) a workshop/webinar to present the projects' results; (iii) publication of the research reports as IDB publications; and (iv) the specific local dissemination strategies defined for each project. Dissemination activities will target key national and regional stakeholders, including representatives of national environmental regulatory and health ministries, regional environmental non-governmental and multilateral organizations such as the Pan American Health Organization (PAHO), the Global Alliance on Health and Pollution (GAHP), and the United Nations Environmental Program (UNEP) Climate and Clean Air Coalition, academic and research institutions such as Resource for the Future (RFF) and the World Resources Institute (WRI), and specialists within IADBG. One end goal of dissemination is to ensure that the results and networks are appropriated by these stakeholders and ultimately improve environmental policies in LAC. A second closely related end goal is to inform the design and implementation of IDBG operations. Dissemination of research results within IADBG will help to achieve the second goal by strengthening the case for operations that reduce local pollution and mitigate its effects on human health and identifying efficient and effective means of doing that.

- 3.6 The timing for execution of Component 2 will be six months after the deadline for final products from each team.
- 3.7 The expected outputs of this TC include an IDBG publication or set of publications presenting results, policy prescriptions and directions for the future based on the findings of the funded research projects. Results and policy prescriptions may be compiled into one or more IDB publications. The Bank will own the property rights of these knowledge products.
- 3.8 The expected results of this TC include: (i) a broader knowledge base to inform the scientific community and decision makers; and (ii) a network of stakeholders organized around the topic of air pollution in LAC.
- 3.9 The outputs and results of this TC will be shared with the SUS Technical Committee and reported to the fund.
- 3.10 The total amount of funding needed to achieve the expected outputs is US\$300,000, financed with resources from the SUS.

**Indicative Budget (US\$)**

| <b>Component</b>  | <b>IDB/Fund</b> | <b>Counterpart</b> | <b>Total</b>   |
|---|-----------------|--------------------|----------------|
| Component 1. Collaborative research on local pollution in LAC | 260,000         | 0                  | 260,000        |
| Component 2. Networking and dissemination                     | 40,000          | 0                  | 40,000         |
| <b>Total</b>  | <b>300,000</b>  | <b>0</b>           | <b>300,000</b> |

#### **IV. Executing Agency and Execution Structure**

- 4.1 This operation will be executed by the IDB given the regional coverage of the activities to be performed and possible synergies and complementarities with Bank operations and research. The Climate Change and Sustainable Development Department's (CSD) Front Office will be responsible for the preparation, execution, and supervision of Components 1 and 2 following the policies established by the Bank. The team leader (Allen Blackman –Economics Principal Advisor for CSD) will be responsible for the execution and monitoring of the operation. He will directly supervise the submission of deliverables and track that these products are delivered according to the project's planned timeline with the support of the Alternate Team Leader and the team members of the project.
- 4.2 There will be no supervision by the IDB's Country Offices (COF) for the execution of the TC. However, the COF, and in particular, IDB Country Representatives, will be consulted during the selection process and once the project team has selected the countries where each funded study will take place. The COF may have the following roles: (i) for Component 1, advise on project selection criteria such as policy relevance and dissemination plans, and facilitate networking among key stakeholders; and (ii) for Component 2, help to disseminate the lessons learned by acting as the bridge between academia and policy makers. COF will be informed and consulted about government contacts and missions related to implementation of the TC.
- 4.3 The principal reason for this execution structure is that the IDB has roughly 30 years of experience working with a network of about 300 research centers in LAC (*Red de Centros*, hosted within the IDB's Research Department). The Bank has expertise, capacity and experience commissioning research projects granted via a call for proposals. A second reason is that the Bank has the capacity to identify and fill knowledge gaps at the regional scale. A final reason has to do with dissemination. The policy implications from the proposed studies will be informative for other countries.

Execution of the project by the IDB will facilitate the communication and dissemination of the results of the proposed studies across countries.

- 4.4 The activities to be executed under this operation have been included in the Procurement Plan (Annex IV) and will be executed in accordance with the IDB's established procurement methods. Specifically, the Bank will follow its procurement policies and guidelines related to contracting processes: (i) individual consultants will be hired according to the guidelines established in policy AM-650; (ii) consulting firms of an intellectual nature will be hired according to the "Policy for the selection and contracting of consulting firms for operational work carried out by the Bank" ([GN-2765-4](#)) and its Operational Guidelines ([OP-1155-4](#)); and (iii) other non-consulting services in accordance with the "IDB Institutional Procurement Policy" ([GN-2303-28](#)).
- 4.5 The individual consultants and firms selected to carry out the activities planned for this operation will be hired using the Single Source Selection (SSS). SSS is justified because: (i) the contract values will be less than US\$100,000; and (ii) each individual consultant and firm selected will present a clear advantage over competition. The second justification stems from the fact that individual consultants and firms will effectively be selected via the competitive process described in Paragraphs 3.1 and 3.2, which entails a call for proposal and application of seven pre-specified selection criteria.
- 4.6 Due to sanitary restrictions, the proposal kick-off workshop will be conducted remotely as a webinar. The location of the dissemination workshop will be determined once the proposals are received and selected. In case an in-person dissemination workshop is not feasible due to sanitary restrictions, a virtual workshop will be hosted, and the corresponding budget will be re-allocated to research and/or local dissemination activities. A non-objection letter from a country's Liaison Agency with the IDB will be obtained prior to the start of any activities related to the operation in that country.

## **V. Major Issues**

- 5.1 The main risk to successful and timely execution of the project is that research teams may not have the capacity or data needed to complete their individual projects. To minimize that risk, we will carefully select research projects through a competitive process (see ¶4.5): we will engage with consultants with track record of successful execution and select only projects with well-designed research plans. In addition, contracts will be structured, and projects will be monitored in such a way that continued incentives for timely performance is ensured.
- 5.2 A secondary risk is that the knowledge developed does not impact the decision-making process. To minimize that risk, policy relevance and potential for policy impacts will be included as part of the selection criteria. Also, we will request a dissemination strategy from each granted proposal. Finally, points of contact in COF will be involved to connect researchers with policy makers.
- 5.3 A third risk is that the continuing Covid-19 pandemic and recovery will impede the research, networking, and dissemination. We will undertake several measures to minimize this risk. First, only research proposals at relatively low risk of being disrupted by Covid-19 pandemic will be funded. Second, funded research teams will be required to develop identify residual risks related to Covid-19 and develop plans to mitigate them. And finally, network building, convening and dissemination activities will be conducted remotely until such time that they are deemed safe.

## **VI. Exceptions to Bank Policy**

- 6.1 This operation does not involve exceptions to Bank's policies.

## **VII. Environmental and Social Strategy**

- 7.1 This TC is not intended to finance pre-feasibility or feasibility studies of specific investment projects or environmental and social studies associated with them; therefore, this TC does not entail applicable requirements related to the Bank's Environmental and Social Policy Framework (ESPF).

### **Required Annexes**

[Results Matrix - RG-T4014](#)

[Terms of Reference - RG-T4014](#)

[Procurement Plan - RG-T4014](#)