

TC Document

Proyecto Individual (IP) de la Facilidad CANEF (RG-X1262)

I. BASIC INFORMATION FOR TC

▪ Country/Region:	REGIONAL
▪ TC Name:	CANEF: Paradigm shift in the Non-Renewable Natural Resources Sectors for Latin America and the Caribbean
▪ TC Number:	RG-T3642
▪ Team Leader/Members:	Balza Angulo, Lenin Humberto (INE/INE) Team Leader; Manzano, Osmel Enrique (CAN/CAN) Alternate Team Leader; Sucre Pantin, Carlos Gustavo (INE/INE) Alternate Team Leader; Aldaz Guallart, Miguel (ORP/REM); Almeida Oleas, Natalia (LEG/SGO); Bonifaz Urquizu, Jeanette (INE/INE); Brusatin Cadavid, Nicola (INE/INE); Carvajal Blanco, Paola (INE/INE); Carvalho Metanias Hallack, Michelle (INE/ENE); Clarke, Dillon Dexter (INE/INE); De Los Rios Rueda, Camilo (INE/INE); Gauto, Víctor (CCB/CGY); Isabel Williamson, David Alejandro (ORP/GCM); Jimenez Mori, Raul Alberto (DSP/DVF); Nunes Da Cunha, Natascha (INE/INE); Planas Marti, Maria Alexandra (INE/ENE); Reyes-Tagle, Gerardo (IFD/FMM); Rojas Sanchez, Laura Natalia (CSD/RND); Sologuren Blanco, Jaime (INE/ENE); Unzueta Saavedra, Adriana (INE/INE); Valencia Arana, Oscar Mauricio (IFD/FMM); Vogt-Schilb, Adrien (CSD/CCS); Walter, Martin (INE/CCH)
▪ Taxonomy:	Research and Dissemination
▪ Operation Supported by the TC:	N/A
▪ Date of TC Abstract authorization:	
▪ Beneficiary:	Regional
▪ Executing Agency and contact name:	Inter-American Development Bank
▪ Donors providing funding:	Canada Cooperation Framework(CCF)
▪ IDB Funding Requested:	US\$600,000.00
▪ Local counterpart funding, if any:	US\$0
▪ Disbursement period (which includes Execution period):	24 months
▪ Required start date:	June 2020
▪ Types of consultants:	Individual, Firms
▪ Prepared by Unit:	INE-Infrastructure and Energy Sector
▪ Unit of Disbursement Responsibility:	INE-Infrastructure and Energy Sector
▪ TC included in Country Strategy (y/n):	No
▪ TC included in CPD (y/n):	No
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Social inclusion and equality; Productivity and innovation; Institutional capacity and rule of law; Environmental sustainability

II. OBJECTIVES AND JUSTIFICATION OF THE TC

- 2.1 This Technical Cooperation (TC) will support the development of critical knowledge products regarding the most pressing issues of the Non-Renewable Natural Resources sectors in Latin America and the Caribbean (LAC). To this end, the technical cooperation has two main goals: (i) to explain/expose the nature and development of non-renewable natural resources, amid new opportunities and challenges in the region given the transition towards a zero-carbon energy system, and (ii) to provide cogent policy insights for civil society and policymakers from the region.
- 2.2 The TC will intricately provide a set of stylized facts to serve as tools to answer the most compelling challenges of the non-renewable natural resources sectors in LAC. In particular, it will: (i) map the impacts and transmission channels of the mining and hydrocarbon sector, and elaborate on corrective and mitigative policy measures that can be undertaken; (ii) analyze the comparative roles of non-renewable natural resources sectors in maximizing social and economic benefits; and (iii) define the extent of new paradigm shifts in the non-renewable natural resources sector as a result of energy decarbonization and energy transition, new technologies, and raw materials demand for renewable energy infrastructure development. The TC is expected to delve into the necessary policy actions to stimulate the sustainable development of extractive activity and produce cutting-edge knowledge products in the process for the benefit of civil society, industry, and government.
- 2.3 Latin America and the Caribbean remains an attractive region for the mining and hydrocarbons industry, with substantial investments received over the last decade relative to other parts of the world. Apart from its favorable geophysical characteristics that promote high recoverability relative to costs, the non-renewable natural resources industries have a high degree of planning security, due to stable economies and the pro-extractive stance of most governments in Latin America and the Caribbean. They are among the largest producers of metals and have the second largest or one-fifth of the world's proven oil reserves. Oil, gas, and mining-related activities constitute one of the key pillars of the economies of several countries in the region.¹ Yet, meeting the international climate goals of the Paris Agreement will require the global economy to become carbon neutral by 2050, which causes an existential threat for fossil fuels, by far the leading source of carbon emissions globally and in the region (IDB and DDPLAC, 2019; Solano-Rodriguez et al, 2019)². To manage the risk of fossil fuel assets becoming stranded, countries will need to progressively divest from them and find new sources of export and fiscal revenues. On

¹ Oil, gas and mining in LAC account for approximately 4-5% of regional GDP and approximately 50% of total exports. The LAC region holds significant natural resource endowments and produces a substantial share of the global production of minerals and hydrocarbons. It is the world's leading source of metals and its second most important source of oil. Oil, gas and mining-related industries constitute one of the key pillars for economic and industrial growth; they account for a significant portion of public revenue streams and foreign currency inflows, and a major source of revenue for private investors. See Walter, Martin. 2015. [Extractives in Latin America and the Caribbean: The basics](#). Technical Note Nr. IDB-TN-907

² Getting to Net-Zero Emissions: Lessons from Latin America and the Caribbean. Inter-American Development Bank and Deep Decarbonization Pathways for Latin America and the Caribbean. <https://doi.org/10.18235/0002024>; Solano-Rodriguez, B., Pye, S., Li, P.-H., Ekins, P., Manzano, O., Vogt-Schilb, A., 2019. Implications of Climate Targets on Oil Production and Fiscal Revenues in Latin America and the Caribbean (Discussion Paper 701). Inter-American Development Bank. <https://doi.org/10.18235/0001802>

the other hand, most minerals and metals are key inputs for renewable energy technologies such as solar, wind, and energy storage, which play a fundamental role in the transition to net-zero (IDB and DDPLAC, 2019)..

- 2.4 The robustness of policy responses to impending “positive” and “negative” shocks to non-renewable natural resources sectors due to new dimensions that underpin price movement and the industries’ outlook can have far reaching socioeconomic and environmental consequences. Thus, the development of non-renewable natural resources sectors - when adequately managed - contribute to long term socioeconomic development (Venables, 2016). However, the role played by natural resources in development, and the non-renewable natural resources sector, has been part of the economic policy debate for some time.
- 2.5 On one side, since the work of Sachs and Warner (1995³ and 1997⁴), resource abundance has been perceived to be bad for development. Some stylized facts correlating resource abundance with low growth have emerged and formed this idea. Yet, this literature is devoid of evidence regarding the precise channels that produces this negative effect. Furthermore, the fact that many Latin American and Caribbean countries “suffer” from Dutch Disease, does not imply dynamic effects on growth and, consequently, on welfare. For that reason, some authors have further explored these dynamics effects. In fact, Krugman (1987)⁵ assumes that a “learning-by-doing” process is taking place in the manufacturing sector.
- 2.6 By way of contrast, some positive spillovers created by the resource sector have also been found in the literature. Recent studies, exploiting both cross-sectional and time variation, have found a strong positive correlation between natural resources abundance and growth (e.g Lederman and Moloney, 2006⁶; Balza et al., 2014⁷). In fact, by using the case of the United States in the late 19th and early 20th century, Wright and Czelusta (2002)⁸ highlight the role of positive externalities and complementarities of natural resources as key to viable development. As an example, the authors use the copper mines of the United States, which between 1900 and 1914 were 10 times more productive than Chilean mines, even though the later had superior geological conditions. Furthermore, they point out how technology increased the resource endowments of the economy. Nonetheless, despite extensive literature on the subject, we still know surprisingly little about the precise channels through which extractive industries impact development outcomes (Manzano, 2014).
- 2.7 A new branch of the literature has tried to unveil the precise impacts and channels of transmission of the natural resources at the local level. These studies have focused on several channels, from which fiscal revenues, specialization, pollution, and local

³ Sachs, Jeffrey y Andrew Warner, 1995, "[Natural Resource Abundance and Economic Growth](#)", NBER Working Paper n. 5398, NBER, Cambridge.

⁴ Sachs, J.D., Warner, A.M., 1997. [Sources of slow growth in African economies](#). Journal of African Economies 6 (3), 335-376.

⁵ Krugman, Paul. (1987). [The narrow moving band, the Dutch disease, and the competitive consequences of Mrs. Thatcher: Notes on trade in the presence of dynamic scale economies](#). Journal of Development Economics. Volume 27, Issues 1–2, October 1987, Pages 41-55

⁶ Lederman, D and W.F Maloney (eds) [Natural Resources, Neither Curse nor Destiny](#). Stanford, Stanford University Press and World Bank.

⁷ Balza, Lenin H., Ramón Espinasa, and Raul Jimenez. 2014. [Transforming Oil Abundance into Sector Performance: Which Institutions Really Matter?](#)

⁸ Wright, Gavin and Jesse Czelusta. 2002. [Resourced-based Economic Growth, Past and Present](#). Stanford University

demand shocks are the most studied (Aragon et al., 2015)⁹. Although promising, there are still inconclusive results on some of the most pressing issues of the extractive sector. To give just one example, while Black et al. (2005)¹⁰ found evidence of a negative impact of coal exploitation on high school enrollment in some US counties, Bonilla (2020)¹¹ argues that gold mining in Colombia led to a smaller high school dropout rate and higher primary enrollment during the Gold rush in the early 2000's. Thus, further research is needed to fully understand the role played by the non-renewable natural resources sector in economic development at the local level.

- 2.8 This TC team will work to make evidence available to policymakers and key stakeholders (politicians, government officials, representatives of the private sector, civil society, and media) in the region. By leveraging the most up-to-date tools in the literature (e.g. choice and survey experiments) this TC aims to provide support to integrate cutting-edge research and applied knowledge generated to answer the most compelling challenges of the sector in LAC (**Error! Reference source not found.**), towards the creation and on-the-field pilot execution of smarter policy in the non-renewable natural resources sector. The main objective of this TC is pushing the knowledge frontier forward and develop high quality products with important policy implications.
- 2.9 The technical cooperation is aligned with two themes of the Bank's Second Update to the Institutional Strategy (UIS) (AB-3190-2): provide adequate knowledge and innovation ecosystems; and strengthen capacity of the state. On the first issue, the TC will develop literature necessary to strengthen technical knowledge and technology transfer in the sector. Regarding the second theme, the TC supports the strengthening of the policies and institutions that govern the non-renewable natural resources sector in LAC. Additionally, this TC is also consistent with the Energy Sector Framework Document (GN-2830-8)), as it will define the extent of new paradigm shifts in non-renewable natural resources sector as a result of energy decarbonization and energy transition, new technologies, and raw materials demand for renewable energy infrastructure development. Finally, the TC is also aligned with the cross-cutting area of climate change.
- 2.10 This TC is also aligned with the objectives of the Canadian Facility for the Extractives Sector (CANEF). Through CANEF, the IDB helps LAC countries move toward more responsive, flexible, and transparent sector. CANEF supports the promotion of innovative and sustainable solutions to challenges in the extractives sector in LAC. Approved by the IDB in March 2016, the Facility reflects a prolonged effort by the IDB to better integrate its efforts in the extractives sector (oil, gas and mining sector), and the Bank's successful longstanding partnership with the Government of Canada. CANEF finances non-reimbursable technical cooperation projects aligned with its strategic objectives. CANEF subprojects support the development of a range of knowledge products, including regional and country-specific public goods, such as technical reports, studies and course curricula on issues pertaining to the extractives sector (oil, gas and mining sector) that contribute to foster long-term perspectives for

⁹ Aragon et al. (2015). [The local economic impacts of resource abundance: what have we learned? Policy Research Working paper, no. WPS 7263](#). World Bank Group.

¹⁰ Black et al. (2005). [Tight Labor Markets and the Demand for Education: Evidence from the Coal Boom and Bust](#). IL Review. Vol. 59, No. 1 (Oct. 2005), pp. 3-16.

¹¹ Bonilla, Leonardo (2020). [Mining and human capital accumulation: Evidence from the Colombian gold rush](#). Volume 145, June 2020, 102471

sector development and responsible investment and improve stakeholder collaboration and institutional strengthening.

III. DESCRIPTION OF ACTIVITIES/COMPONENTS AND BUDGET

Activities will be organized under the following components:

- 3.1 **Component 1: Primary data collection (US\$100,000).** This component aims to collect valuable data on individual beliefs about the non-renewable natural resources sector to better understand the perception and behavior of communities towards it. The data collected will serve to capture fairness, trust, and distribution considerations of the non-renewable natural resources sector at the local level in LAC. It will be collected using innovative methods in experimental economics, like choice experiments and survey experiments, hand in hand with key stakeholders and research partners.
- 3.2 **Component 2: Applied research in the Non-renewable Natural Resources Sectors for LAC (US\$175,000).** This component will support the development of new and innovative applied knowledge products in topical areas related to the non-renewable natural resources in LAC, leveraging both the data collected in *Component 1* and other high-quality data available. It is expected to finance at least four technical notes on areas that will enable to: (i) unveil the impacts and transmission channels of the mining and hydrocarbon sector, and elaborate on corrective and mitigative policy measures that can be undertaken; (ii) understand the dynamic effects of decarbonization and energy transition on long term prospects in non-renewable natural resources industries in LAC, and the assessment of social and environmental challenges in promoting sustainable practices; and (iii) analyze the comparative roles of non-renewable natural resources sectors in maximizing social and economic benefits, among others.¹²
- 3.3 **Component 3: Policy Implementation Guidelines and Piloting Programs (US\$200,000).** This component finances the development of a non-renewable natural resources policy assessment guideline, through which gaps in national extractive policy frameworks can be assessed and policy proof of concept projects can be carried out. Besides, it finances the implementation of one or more pilot programs to determine the most appropriate methods of adopting and carrying out the policy research developed through the activities of the components above.¹³ Depending on the research and its recommendations, these pilot programs may be national or local in their scope. The results from this component along with the previous two would be policy research with recommendations that are not only academically sound but proven on practical basis on the ground for adoption or modification by local or national authorities.

¹² These research areas will be consulted and further refined in collaboration with key stakeholders and policymakers, both at regional and country level.

¹³ The criteria for selection of the country and location include the existence of: (i) a local mining sector; (ii) previous analyses of gaps that new public policies would cover; (iii) public policies under design to create new institutions that provide services at the local level to the mining sector; (iv) clear local demand for services provided by that public policy under design; (v) interest from national authorities in testing the public policy's application; and (vi) capacity of local or national authorities in carrying out the pilot and measuring its results.

- 3.4 **Component 4: Program Management and Knowledge Dissemination (US\$100,000).** This component supports project coordination, promotion, synergies, exchange, and dissemination of generated knowledge necessary for the project's success. Relevant knowledge products generated by this TC will be integrated into the IDB research & policy discussion paper series. More specifically, this component will provide support for editing, systematization and dissemination of the knowledge products generated under components 1, 2 and 3. All knowledge products prepared and generated by this TC will be the sole and exclusive property of the Bank and as such the Bank has exclusive title, rights (including copyright) and interest in the products. The Bank may copy, reproduce, distribute, disseminate, publish and/or display the products in any format or media now known or hereafter developed, in any publication, website, blog, catalog, event, exhibit, archive, as well as in any Bank materials. The cost of publications is included in this component.

Indicative Budget

Activity/Component	IDB/Fund Funding (US\$)	Total Funding (US\$)
Component 1: Primary data collection	100,000	100,000
Component 2: Applied research in the Non-Renewable Natural Resources Sectors for LAC	175,000	175,000
Component 3: Policy Implementation Guidelines and Pilot Programs	200,000	200,000
Component 4: Program Management and Knowledge Dissemination	100,000	100,000
Travel and contingencies	25,000	25,000
Total	600,000	600,000

IV. EXECUTING AGENCY AND EXECUTION STRUCTURE

- 4.1 Given the strategic objective of the TC of providing a set of stylized facts to serve as tools to answer the most compelling challenges of the non-renewable natural resources sectors in LAC, the Bank will act as the executing agency for the purpose of the administration of the project taking advantage of its expertise and relationship with different stakeholders related to the natural resources sector. The Bank, at its Washington DC headquarters, is responsible for the supervision and implementation of the Canadian Extractive Sector Facility (RG-X1262) resources as a Project Specific Grant (PSG) contribution. The Bank is expected to serve as a catalyzer of knowledge, innovation, and impact policy on multiple scales within the region, making the regional coordination of the IDB a necessary condition of this TC. The Bank will lead implementation, programmatic oversight of the different activities, and coordinate annual meetings with the donor to provide an overall assessment of the program's progress and results. Active engagement with and awareness of the work of other organizations operating in the field will also help avoid any potential overlaps with on-going efforts. Prior to the initiation of specific in-country activities in the beneficiary countries, the Bank will obtain the letter of non-objection from the corresponding liaison office.

- 4.2 The Bank will contract individual consultants, consulting firms and non-consulting services in accordance with the Bank's current procurement policies and procedures. The activities to be executed under this operation have been included in the Procurement Plan (Annex) and will be executed in accordance with the Bank's established procurement methods, namely: (a) Hiring of individual consultants, as established in AM standards-650; (b) Contracting of consulting firms for services of an intellectual nature according to GN-2765-4 and its associated operational guides (OP-1155-4) and (c) Contracting of logistics services and other services other than consultancy, according to the policy GN-2303-28.

V. MAJOR ISSUES

- 5.1 The main implementation risk of this TC is that key findings and main policy recommendations may not be adopted by policy makers and practitioners in the region. To mitigate the risk, the project team will work closely together with partners, policy makers, and key stakeholders in all the phases of the project. Another concern is that the planned analytical products may not be produced at the desired level of quality. To address that issue, the team is simultaneously pursuing several different avenues of research and budgeting several layers of peer reviewing throughout the process to ensure quality and relevance.
- 5.2 The dramatic spread of COVID-19 has disrupted lives and communities and generated important disruptions in economic activities across Latin America and the Caribbean. This means that projects may face implementation challenges, including logistical issues and communication delays. To mitigate these issues, project implementation will firstly focus on remote data collection and sensing applications, desktop research, online communications, and remote interactions with willing partners.

VI. EXCEPTIONS TO BANK POLICY

- 6.1 None apply

VII. ENVIRONMENTAL AND SOCIAL STRATEGY

- 7.1 Given the nature of the expected activities to be financed for this TC, it is unlikely to have negative either direct or indirect social or environmental effects. Following ESG's project classification process (Safeguard Policy Filter and Safeguard Screening Form) requirements, it has been determined that this project falls under Category C. No environmental assessment studies or consultations are required for Category "C" operations. See Safeguard Screening Form ([SSF](#)) and Safeguard Policy Filter ([SPF](#)).

Required Annexes:

[Terms of Reference_73937.pdf](#)

[Procurement Plan_48042.pdf](#)