

TC Document

1. Basic Information for TC

▪ Country/Region:	REGIONAL
▪ TC Name:	Setting the Prices Right for Infrastructure Services
▪ TC Number:	RG-T3784
▪ Team Leader/Members:	Serebrisky, Tomas Sebastian (INE/INE) Team Leader; Calatayud, Maria Agustina (INE/TSP) Alternate Team Leader; Carvalho Metanias Hallack, Michelle (INE/ENE) Alternate Team Leader; Machado, Fabiana Velasques De Paula (INE/WSA) Alternate Team Leader; Almeida Oleas, Natalia (LEG/SGO); Bricchetti, Juan Pablo (INE/INE); Mastronardi, Leonardo Javier (INE/INE); Rivas Amiassorho, Maria Eugenia (INE/INE); Solis Sosa, Ben (INE/INE)
▪ Taxonomy:	Research and Dissemination
▪ Operation Supported by the TC:	N/A
▪ Date of TC Abstract authorization:	12 Jan 2021.
▪ Beneficiary:	IDB's borrowing member countries
▪ Executing Agency and contact name:	Inter-American Development Bank
▪ Donors providing funding:	OC Strategic Development Program for Infrastructure(INF)
▪ IDB Funding Requested:	US\$1,350,000.00
▪ Local counterpart funding, if any:	US\$0
▪ Disbursement period (which includes Execution period):	36 months
▪ Required start date:	May, 2021
▪ Types of consultants:	Firm and/or individual consultants
▪ Prepared by Unit:	INE-Infrastructure and Energy Sector
▪ Unit of Disbursement Responsibility:	INE/INE-Infrastructure and Energy Sector
▪ TC included in Country Strategy (y/n):	N/A
▪ TC included in CPD (y/n):	N/A
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Diversity; Economic integration; Environmental sustainability; Gender equality; Institutional capacity and rule of law; Productivity and innovation; Social inclusion and equality

2. Objectives and Justification of the TC

- 2.1 **Objectives of the TC.** The broad objective of this Technical Cooperation (TC) is to study the pricing of water and sanitation, energy, and transport services in the region to understand the underlying drivers of prices structures and levels and to use prices as a tool to improve the quality, access, and affordability of infrastructure services in Latin America and the Caribbean (LAC). Pricing regulation of infrastructure services pursues a myriad of objectives: productive efficiency (to provide incentives to service providers to minimize service production and delivery costs), allocative efficiency (to align prices with the cost of services to reduce overconsumption and avoid underconsumption, especially of those services that are essential to achieve basic needs and distributional or equity concerns (to minimize as much as possible underconsumption caused by lack of affordability). In practice, setting prices generate trade-offs among objectives pursued by regulators. For instance, achieving allocative

efficiency might imply charging higher prices in urban locations difficult (and more costly) to reach which are usually where low-income people live.

- 2.2 This TC will review how infrastructure prices are set in LAC. A review of pricing policies will be carried out to understand the underlying drivers of pricing structures and levels in the region. The focus will be on the impact of pricing on affordability and equity due to a fast-emerging process of technological disruption that is expected to alter the supply and demand of infrastructure services. Technological disruption is changing the provision of services, impacting pricing systems' sustainability, most of which have significant cross-subsidies between groups of consumers. The most common pricing schemes in developed countries and LAC will have to be adapted to account for the expected changes. Consequently, pricing regimes currently in place and those identified by industry experts and those being implemented in advanced economies will be thoroughly reviewed.
- 2.3 A key component of this TC will be the implementation of at least one research network (a tool the IDB Research Department has used extensively to generate novel research¹) to identify and evaluate the impact of recent pricing reforms on distributive and allocative efficiency. The beneficiaries of this TC will include all the IDB's borrowing member countries since the results and recommendations of the studies will ensure the representativeness by covering different typologies of pricing structures and institutional and regulatory aspects.
- 2.4 The main value added provided by the TC will be: (i) the generation of today non-existing data and knowledge on the current state of pricing of infrastructure services in the region; and (ii) the identification and evaluation of the impact of recent pricing reforms on distributive and allocative efficiency by and/or with key research and policy institutions that are experts on this topic.
- 2.5 **Justification of the TC. The primary research produced through this TC will serve to answer an important research path raised by the IDB's flagship publication "Development in the Americas" 2020, "From Structures to Services: The Path to Better Infrastructure in Latin America and the Caribbean".** The book emphasizes the need to focus public policy efforts on "soft" aspects of the infrastructure agenda to improve service performance. The ideal for consumers is to have high-quality services produced at the lowest possible cost and provided at low prices. Unfortunately, the reality in LAC is quite different. The quality of service is poor, prices are higher than other developing regions, and service providers have limited cost recovery. This means that the infrastructure sector in LAC must increase its efficiency. The efficiency has several dimensions: it encompasses the efficiency of investment to generate more and better assets; the ability of service providers to make the most of their existing assets to provide services; and the effectiveness of regulatory institutions to generate incentives for service providers to reduce costs and improve quality.
- 2.6 **Infrastructure pricing plays a crucial role in developing better infrastructure services in the region.** Social protests in the region triggered by an increase in transportation fares in Brazil in 2013 and Chile in 2019 are clear examples of the

¹ For a description of the IDB Research Networks ("Red de Centros") see <https://www.iadb.org/es/investigacion-y-datos/red-de-centros-de-investigacion-de-america-latina-y-el-caribe>

difficulties of setting the infrastructure services' prices. Regulators have the challenge to balance the trade-off between allocative efficiency (setting prices equal to costs) and social equity. Additionally, pricing is also relevant from a private perspective. When pricing is set appropriately, and utilities run efficiently, it attracts private financing (Fay et al., 2017²). Together with quality standards and investment requirements, prices are one of the most powerful instruments regulators have to improve services in the region (Cavallo et al. 2020ⁱⁱ).

- 2.7 **Optimal pricing strategies have been widely studied by the literature, but not in the region** (Ramsey 1927ⁱⁱⁱ, Boiteux 1960^{iv}, Laffont and Tirole 1994^v, Armstrong et al. 1996^{vi}, Baumol and Sidak 1994^{vii}). The worldwide analysis has also been focused on the infrastructure sector in general (Valletti and Estache 1999^{viii}, Cave et al. 2001^{ix}, Kariuki and Schwartz 2005^x, Estache et al. 2006^{xi}), and at a sectoral level in particular, including transport (Haralambides 2002^{xii}, Pels and Vehoef 2007^{xiii}, Verhoef et al 2008^{xiv}); energy (Ito 2014^{xv}, Borenstein 2012^{xvi}, Hobman et al. 2016^{xvii}); and water and sanitation sectors (Rogers et al. 2001^{xviii}, Rosegrant and Cline 2002^{xix}, García-Valiñas 2005^{xx}, Pulido-Velazquez et al. 2013^{xxi}). Even though some studies have addressed infrastructure pricing in the region (Formiga-Johnsson et al. 2007^{xxii}, Serebrisky 2011^{xxiii}, Donoso 2017^{xxiv}), the literature remains incipient and focused on a specific sector and/or country. Moreover, although affordability is a problem, especially for the poor, few subsidy schemes exist in the region and have not been analyzed thoroughly by the literature from a regional outlook.
- 2.8 **The infrastructure sector suffers from a notable lack of information regarding costing and pricing that impedes the formulation of proper policy recommendations.** Given the limited attention that costing and pricing of infrastructure services have received in the literature in the past, there is an enormous lack of data that needs to be filled. In transport, for instance, there is an urgent need to analyze the costs and prices of private vehicle use, public transportation, and urban logistics to understand the current price distortions that have led to an increase in motorization and congestion and be able to design policies enabling a sustainable, efficient, and inclusive urban transport. The compilation of data is necessary to detect critical variables of interest and allow for international benchmarking exercises. Therefore, a solid groundwork of information is paramount for rigorous analysis and well-elaborated policy recommendations, including the equity dimension.
- 2.9 **Strategic Alignment.** The present TC is aligned with the Second Update to the Institutional Strategy (UIS) (AB-3190-2) and is aligned with the development challenges of (i) social inclusion and equality, since the pricing of infrastructure services disproportionate impacts on the poor who face affordability concerns to access basic services; (ii) productivity and innovation, as technological changes impact the sustainability of pricing systems, most of which have significant cross-subsidies between groups of consumers; and (iii) economic integration, since this TC will address the needs of pricing infrastructure reforms to facilitating cross border trading of infrastructure services (for instance, electricity and road transport). It is also aligned with the cross-cutting themes of (i) gender equality and diversity by analyzing alternative pricing schemes to achieve social targets; and (ii) climate change and environmental sustainability by considering more sustainable services in the pricing of infrastructure services; and (iii) institutional capacity by identifying and evaluating the

² See [References](#).

impact of recent pricing reforms and required institutional reforms on distributive and allocative efficiency.

- 2.10 This TC is also aligned with the IDB Infrastructure Strategy: Sustainable Infrastructure for Competitiveness and Inclusive Growth (GN-2710-5) by promoting access to infrastructure services and recognizing the use of standards and prices to make consumption more efficient are effective tools for increasing the quantity and quality of infrastructure; and with the Ordinary Capital Strategic Development Programs (GN-2819-1) by enhancing the performance, quality, and sustainability of infrastructure services. This TC also contributes to the IDB Group Corporate Results Framework 2020-2023 (GN-2727-12) by strengthening the knowledge and innovation indicators through the papers and blogs to be published.

3. Description of activities/components and budget

- 3.1 The results of the TC will be disseminated through a combination of papers and blogs, but also as major components of Regional Policy Dialogues that INE's Division organized annually to provide evidence for loan proposal documents. Country Offices will be consulted on the best mechanisms for effective policy dialogue with them. In addition, the dissemination of results will include workshops/webinars to target audiences including local and international policy and academic stakeholders at the end of each component.
- 3.2 **Component 1. Diagnosis of pricing and its impact on equity in LAC (US\$ 450,000).** This component will finance studies to elaborate a diagnosis of the pricing of infrastructure services in the region and its major distributive impacts. The studies will be carried out internally and in partnership with commissioned consultancies. These studies will serve as a framework to understand the basics of costing and pricing in the region and go in-depth in certain aspects in Component 2.
- 3.3 Activities in this component include the generation of evidence and analysis of the following aspects: (i) relevance of pricing regulation of infrastructure services (energy, transport, and water and sanitation); (ii) general processes of price setting in the region; (iii) alternative pricing schemes to achieve social targets, in particular to low-income groups; (iv) alignment of pricing and policy goals; and (v) infrastructure and requirements for pricing.
- 3.4 The studies will include the identification and review of the main typologies of regulation, normative, and standards for setting infrastructure prices in the region, and interviews with IDB's sectorial specialists and key stakeholders of the infrastructure sector. In addition, the complete characterization of the pricing scheme in the region will be compiled in a database, which will include at least the following details: (i) geographic location of the pricing system (country and city); (ii) sector and subsector; (iii) authority responsible for setting the prices; (iv) type of pricing scheme; (v) updating pricing mechanisms; (vi) inclusion of social goals into tariff regimes; and (vi) assessment of subsidies and their targeting properties.
- 3.5 **Component 2. Collaborative research on the pricing of infrastructure services in LAC ("Red de Centros") (US\$ 550,000).** This component will finance a set of rigorous research projects to identify and evaluate the impact of recent pricing reforms on distributive and allocative efficiency 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 the issues that are

most important and relevant to our client countries, the projects will be selected via a combination of a competitive call for proposals and papers requested to top experts in the field with experience in infrastructure services and/or in Latin America and the Caribbean.

- 3.6 The definition of the specific themes of analysis for each sector (energy, transport, and water and sanitation) will be defined in close collaboration with the three infrastructure observatories INE hosts (EnergyHub, Observatorio de Movilidad Urbana and Observatorio Latinoamericano de Agua y Saneamiento) to identify the key areas of collaboration contributing to the generation of data and policy analysis. The three infrastructure observatories emerged as a result of the "Development in the Americas" IDB's 2020 flagship publication to fill the information gap on infrastructure services identified during the research.
- 3.7 Activities in this component 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; and (h) relevance to one of the following lines of research: impact of recent pricing reforms in the region; more transparent and competitive pricing of infrastructure services; understanding better the utilities performance and the incentives that tariffs generate for users and companies; and the link between use and charge for infrastructure services (however, to ensure that topics that are important in client countries are not ruled out, focus on these lines of research will not be mandatory); (iv) organize a pre-selection workshop/webinar at which a final or semi-final 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 of final products.
- 3.8 **Component 3. Identification and analysis of policies for setting the prices right of infrastructure services (US\$ 350,000).** This component aims to identify how the pricing of infrastructure services can be reformed in the region to account for the emerging trends and achieve policy objectives more effectively, based on the results of the diagnosis of pricing (Component 1) and the lessons learned from recent pricing reforms in the region and advanced economies (Component 2). This component intends to answer questions of the following nature: What are the required regulatory changes for fulfilling different pricing policy objectives? What are the impacts of the proposed pricing mechanisms? What are the required regulatory changes in the pricing of infrastructure services to adapt to new technologies (such as considering the impact of prosumers in the energy sector) and challenges (such as including the value of water resources in the water sector pricing)? The studies will be carried out internally and in partnership with commissioned consultancies.
- 3.9 Activities in this component include (i) analysis of lessons learned from regional experiences and international best practices; (ii) identification of required regulatory changes, including the analysis of the potential impact of emerging trends and technologies on pricing; and (iii) estimation of the impact of the new pricing policies of infrastructure services.
- 3.10 The estimated total cost of this TC is US\$1,350,000, to be financed in its entirety by the Ordinary Capital Strategic Development Program for Infrastructure (INF).

Indicative Budget (US\$)

Component	Description	IDB/INF	Counterpart Funding	Total Funding
Component 1	Diagnosis of pricing and its impact on equity in LAC	450,000	0.00	450,000
Component 2	Collaborative research on pricing of infrastructure services in LAC	550,000	0.00	550,000
Component 3	Identification of policies for setting the prices right of infrastructure services	350,000	0.00	350,000
Total		1,350,000	0.00	1,350,000

- 3.11 INE/INE will have technical and supervisory responsibility through the Team Leader and monitor all TC activities' progress.
- 3.12 The COF will be consulted if a specific study requires its participation because of its nature (for example, facilitating networking among key stakeholders for building a database).

4. Executing agency and execution structure

- 4.1 This operation will be executed by the IDB; the Infrastructure and Energy Sector (INE) will be responsible for the preparation, execution, and supervision of this TC following the policies established by the Bank. The execution of this TC by the IDB is justified because it is a Bank initiative and the important research path developed regarding infrastructure services in the last years. In addition, considering the regional scope of this TC, no other regional entity with the legal capacity to execute this TC could be identified and in order to guarantee the sustainability of the implementation of the project, this TC is Bank executed.
- 4.2 The Bank is ideally positioned, given its vast presence in the region, its capacity to engage the most relevant stakeholders, and its knowledge across all infrastructure sectors, to undertake the data collection and studies necessary to complete the project, and to disseminate the results among relevant actors in the region.
- 4.3 Moreover, 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 the expertise, capacity and experience commissioning research projects granted via competitive calls. The Bank has the capacity to identify and fill knowledge gaps at the regional scale. Furthermore, the policy implications from the proposed studies will be informative for other countries. Execution of the project by IDB will facilitate communication and dissemination of the results of the proposed studies across countries.

- 4.4 If any activity is required to be performed in any of the beneficiary countries, the Team Leader will request the non-objection of the respective government entity of the respective country.
- 4.5 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-2765-4) and its related Operational Guidelines (OP-1155-4); and (iii) logistics and other related services in accordance with the “IDB Corporate Procurement Policy” (GN-2303-28). The infrastructure experts for the Workshops will be hired using the Single Source Selection (SSS) method, considering the specific expertise required for delivering the Workshops.
- 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.
- 4.7 It is expected that all countries will be beneficiaries of the outputs of this TC by identifying policies for setting the prices right of infrastructure services. The selection of case studies and information gathering will seek equitable representation of Latin America and Caribbean countries.

5. Major issues

- 5.1 The main risk to the 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 both consultants and research projects through a competitive process. In addition, we will structure contracts and monitor those projects in a way to ensure continued incentives for timely performance. In addition, considering the current context of COVID-19, there could be potential limitations to gather unbiased information due to the impacts of the pandemic. In order to minimize that risk, the collection data plan will consider the potential biases to isolate the pandemic effect by thoroughly designing the data collection exercises.

6. Exceptions to Bank policy

- 6.1 It is not expected to request exceptions to any Bank policy.

7. Environmental and Social Strategy

- 7.1 The ESG classification for this operation is "C". The project implementation has no associated potential negative environmental and/or social impacts. No environmental assessments are required (see the [Safeguard Policy Filter](#) and the [Safeguard Screening Form](#)).

Required Annexes:

[Results Matrix - RG-T3784](#)

[Terms of Reference - RG-T3784](#)

[Procurement Plan - RG-T3784](#)