

RG-T2386
Enhanced Energy Dossiers: Energy Trade & Institutional Indicators

TC ABSTRACT

I. Basic project data

▪ Country/Region:	Regional
▪ TC Name:	Enhanced Energy Dossiers: Energy Trade & Institutional Indicators
▪ TC Number:	RG-T2386
▪ Team Leader/Members:	Ramón Espinasa, Team Leader (INE/ENE); Team Members: Jorge Mercado (INE/ENE), Lenin Balza (INE/ENE), Andres Robles (INE/ENE) Carlos Hinestrosa (INE/ENE), Raul Jiménez (INE/ENE), Carlos Sucre (INE/ENE); Juan Blyde (INT/INT)
▪ Indicate if: Operational Support, Client Support, or Research & Dissemination.	Research & Dissemination
▪ If Operational Support TC, give number and name of Operation Supported by the TC:	
▪ Reference to Request: (IDB docs #)	
▪ Date of TC Abstract:	1 August 2013
▪ Beneficiary (countries or entities which are the recipient of the technical assistance):	Countries in Latin America and the Caribbean
▪ Executing Agency and contact name (Organization or entity responsible for executing the TC Program) {If Bank: Contracting entity} {If the same as Beneficiary, please indicate}	Inter-American Development Bank, through the Energy Division (INE/ENE)
▪ IDB Funding Requested:	900,000 USD
▪ Local counterpart funding, if any:	
▪ Disbursement period (which includes execution period):	1 October 2013 – 1 October 2015
▪ Required start date:	1 October 2013
▪ Types of consultants (firm or individual consultants):	Individual
▪ Prepared by Unit:	INE/ENE
▪ Unit of Disbursement Responsibility:	INE/ENE
▪ Included in Country Strategy (y/n);	N;N
▪ TC included in CPD (y/n):	
▪ GCI-9 Sector Priority:	Regional integration; environmental sustainability; climate change

II. Objective and Justification

2.1. The general objective of this technical cooperation serves to increase and expand the knowledge and research developed under RG-T1884 and RG-T2048 through several products: (i) Caribbean & Southern Cone energy dossiers; (ii) energy trade flow database; (iii) institutional framework index.

2.2. Using the INE/ENE methodology, this operation will: (i) produce the energy dossiers for the countries of the Caribbean and the Southern Cone, which include the current regulatory framework of the energy sector in each region, the current energy consumption and production patterns, along with the historical evolution since 1971 of

the institutional arrangements and energy flows of each nation; (ii) construct an energy trade database depicting the import and export of all sources of energy for all countries in the region, current and historical, through a methodology to be developed at the Bank and with research carried out at the Bank that will inform regional energy integration efforts gaining strength throughout the region, itself heavily reliant on imported secondary energy for demand and exported primary energy for income and thus exposed in terms of national energy matrices; and (iii) it will construct an index that summarizes the institutional arrangements of the energy sector of each country in LAC, in a comparable fashion across time and countries

2.3. Over the past two years, using access to information compiled and published by the International Energy Agency, researchers at the Energy Division (INE/ENE) have developed in-house an innovative quantitative methodology that allows for cross country and inter-temporal comparisons on energy consumption and production patterns.

2.4. Under that methodology, INE/ENE has produced a comprehensive database summarizing the yearly flow of all sources of energy for all the countries in the Latin America & Caribbean (LAC) region that are members of the IADB, along with certain benchmark countries in the world, including the United States, Europe, China, India, Canada, Russia, Australia, Germany, and Japan - among others. The historical evolution of the energy flows has been produced for all countries in Central America, the Andean region, along with some of the benchmark nations. This quantitative work is accompanied by an in-depth analysis of the institutional arrangements that govern the energy sector in each of the countries of LAC. This institutional and policy mapping includes an analytical description of the policies and institutions responsible for regulating the energy sector at the national level along with that sector connections to other areas of the economy. The description of institutional arrangements is made more thorough by a discussion of the industrial organization of the energy sector.

2.5. The quantitative and qualitative analytical work are combined in order to create a given country's energy dossier, an innovative knowledge product that enables policy dialogue, institutional strengthening, and project preparation and implementation on a number of energy initiatives for the region. The dossiers are used as inputs to country programming activities, as well as in the formulation of initiatives in the respective countries' energy sectors, and in the design of investment programs and projects. The research has proven to be a valuable resource to the Energy and other divisions such as INE/CCS, CID, CCB, CSC, VPP, EXR, and OVE. The information is being used as an input into Country Strategies and Sector Notes. Insofar as the IDB, the GCI-9 introduced a lending target for climate change, renewable energy and environmental sustainability of 25 percent of loan approvals by 2015. Honoring the sustainability commitment will take considerable effort.

2.6. These energy dossiers are being enhanced by RG-X1171, an operation funded by the Government of Alberta, through the building of an online platform that houses some of the database information, both quantitative and qualitative. The online platform is an interactive tool for researchers and stakeholders in the energy community of Latin America & the Caribbean and elsewhere. This operation is also tasked with expanding the energy flow database with ground-level energy infrastructure information along with energy endowment information for all the countries in Latin America and the Caribbean.

III. Description of activities and outputs

3.1 Component I – Caribbean & Southern Cone Energy Dossiers: This component aims at increasing the stock of knowledge about the characteristics and functioning of the energy sector in the Caribbean (CCB) and Southern Cone countries (CSC). It will gather and centralize quantitative data about energy resources and describe the institutional capacity, industrial organization, and regulatory structure of the energy sector throughout CCB and CSC. Information about the energy flows in these countries is scarce and existing data is disparate and cannot be easily compared. By applying a standardized methodological approach statistical distortions can be minimized and energy matrixes can be utilized to describe and compare the flow of energy in each country for a given period. The institutional capacity and competence of the major players in the energy sector varies significantly among these countries. By carrying out an analysis of the historic and current set-up of the energy sector, this TC will allow for comparison of the institutional capacity, industrial organization, and regulatory framework in each of CCB and CSC.

This will enable policy makers to identify areas of institutional weakness and offer suggestions on how to continue or move towards a diversified and sustainable energy matrix.

3.1.1 Activity I-A – Energy Flows: This activity finances the contracting of consultant services to collect and organize data and information about the energy flows in CCB and CSC and present it in the form of energy matrixes. The energy matrixes will identify the current principal sources of energy, show how primary energy is converted, and indicate how and by what sectors energy is subsequently consumed.

3.1.2 Activity I-B – Institutional Mapping: This activity finances the contracting of consultant services to research, identify and describe the institutional settings (industrial organization and regulatory framework) that affect the functioning of the energy sector in CCB and CSC. The effort will identify potential areas of institutional reform to more efficiently produce, distribute, and consume energy resources and to increase the countries' potential to diversify their energy makeup. Based on this information, legal and/or institutional reform needs will be identified. These findings will be key in guiding and providing the right incentives for future investments in the energy market in CCB and CSC.

3.1.3 Activity I-C – Publication & Dissemination: This activity finances the publication of energy dossiers that will present the results of activities I-A and I-B. The activity generates conditions to disseminate the findings of the energy dossiers in the form of (i) targeted distribution of the energy dossiers internally and externally with key public officials and private sector leaders; (ii) meetings and roundtable discussions with key decision makers and opinion leaders with the aim to share findings and recommendations; (iii) dissemination of the energy dossiers via electronic and mass media.

3.2 Component II – Energy Trade Flows: This component finances the construction of a new dataset on the international trade of primary and secondary energy of the countries in LAC using comparable data over time and across countries using a singular methodology. The energy flow data set built by INE/ENE includes important information on energy trade as it describes the amount of primary and secondary energy that a country imports and exports, but it lacks information on the origins of energy imports and on the destinations of energy exports. It is imperative for the region's stakeholders in energy to understand how energy trade affects their matrices. They would benefit from a dataset that places a given country on its proper international energy trade location in order to better understand the reliance on external factors for meeting energy demand or generating income for that given nation. This enhances the ability of stakeholders to make informed decisions for meeting their current and prospective energy needs by taking into account a part of that nation's energy security situation.

3.2.1 Activity II-A – Methodology Development: This activity finances the development of a methodology allowing for the construction of a database that uses sources of information that are the same across all countries and all time periods, such as UNComtrade and others. The methodology developed must be sustainable over time, expressed in common units of measurements, such as thousand barrels of oil per day. The methodology will be informed by the approach used under the energy flow project and will be developed in consultation with partners at the Integration and Trade (INT) department.

3.2.2 Activity II-B – Database Construction & Description: This activity finances the contracting of consultant services to collect, organize the energy trade data and information on a country-by-country basis and using the methodology developed in activity II-A in a unified fashion that is manageable and sustainable over time. This process will take a similar approach to that used under RG-T1884 and RGT2048 in the construction of the energy flow database. Upon the construction of the database, this activity will finance the description of these energy trade patterns in country documents that will be incorporated into the Energy Dossier of the particular country, thus enhancing the reach and scope of the work carried out in the previous technical cooperation projects.

3.2.3 Activity II-C – Publication & Dissemination: This activity finances the inclusion of energy trade flow descriptions for each country in the publication of each country energy dossier, along with the publication of the information in country documents that stand on their own. The activity generates conditions to

disseminate the findings of research in energy trade flows with targeted distribution internally and externally to public officials and private sector leaders, meetings and discussions with decision makers to share findings, and dissemination of the energy trade flow descriptions via electronic media.

3.3 Component III – Regulation & Industrial Organization Index: This component finances the construction of an index amassing the objective characteristics of regulations, the industrial organization of the market, and the institutional structure of the electricity and hydrocarbon subsectors of the 26 countries in the region since the 1980s. This effort compliments technical cooperation RG-T2201/RG-T2327 Sustainable Energy Rating for Latin America and the Caribbean, which seeks to build an index on the performance of the main electric sector participants through surveys and metrics on the current situation. Similarly, it will continue and enrich the work carried out under RG-T1884 and RG-T2048 as it consolidates under a single, homogeneous database all the research produced under those technical cooperation agreements.

3.3.1 Activity III-A – Variable & Index Design: The activity develops a parameterization methodology for qualitative information on the main characteristics of regulations, institutions and industrial organization of each activity and products under the energy sector. In this sense, it will use the extensive work of information collection carried out for RG-T1884 and RG-T2048 to identify the variables requiring construction. The objective is to build dichotomic and/or polytomic variables, specific to each subsector, activity, and energy product that can convey, in a comparable and homogenous manner, the characteristics of those markets for each country and year. Once those variables are established, an index will be designed that will present the set of characteristics. External consultant, along with bank specialists, will design these variables during working sessions held at the Bank.

3.3.2 Activity III-B – Annual Index Construction: This activity finances the constructing of a consultant for the construction of the database using the parameterization methodology designed under activity III-A. The consultant will use as a basis the information compiled in the drafting of the energy dossiers for the countries in the LAC region. The product will be a database with annual values for all countries in the region that will be used to calculate the annual index designed in activity III-A. The parameterization of the sector characteristics, such as current laws, current institutions, market share by company, trade balance, number of companies, tariff structure, among others, will allow for (i) the analysis of the historical evolution of the institutional characteristics in the different energy markets of each country; (ii) the illustration of the differences between countries over time as it pertains to their regulatory framework, industrial organization and institutional structure; (iii) carry out quantitative analyses on the determining institutional, industrial organization, and regulatory factors that explain performance in the energy sector; and (iv) adapt public policy recommendations to the particular context of each national energy sector.

3.3.3 Activity III-C – Publication & Dissemination: The results of this component will be published in electronic formats and presented in working groups and presentations organized by INE/ENE. A graphic design and visualization effort will be carried out to best present these findings in a user-friendly design and format to facilitate analysis of findings.

IV. Budget

Costs	Project Cost (US\$)							Counter part	Other
	Year 1			Year 2			Total Request		
Component	Consult.	Travel (1)	Other	Consult.	Travel (1)	Other			
Component I	\$115,000	\$25,000	\$10,000	\$115,000	\$25,000	\$10,000	\$300,000		
Component II	\$115,000	\$25,000	\$10,000	\$115,000	\$25,000	\$10,000	\$300,000		
Component III	\$115,000	\$25,000	\$10,000	\$115,000	\$25,000	\$10,000	\$300,000		
Sub-total	\$345,000	\$75,000	\$30,000	\$345,000	\$75,000	\$30,000	\$900,000		
Total	\$345,000	\$75,000	\$30,000	\$345,000	\$75,000	\$30,000	\$900,000		

(1) Consultant's travel only

(*) More details may be required by donors (e.g. consultant cost per day);

V. Executing agency and execution structure

5.1 This is a Bank-originated technical cooperation, aimed at deepening and broadening the work carried out under RG-T1884 and RG-T2048 so that it is possible to provide the information and knowledge necessary for the Energy Division to fulfill the Bank's commitment to support mitigation and adaptation efforts of borrowing members while meeting their developmental and energy requirements. It is imperative that knowledge and understanding of the region's energy sector and energy systems is fostered at the Bank. This TC is an opportunity to carry out that task. The Bank will use the knowledge generated through this TC to the benefit of the borrowing member countries.

5.2 The execution of this TC will provide a learning, knowledge transfer and data gathering opportunity for Bank staff involved on all aspects of the energy sector and extractive resources, allowing the bank to expand its support to borrowing member countries to providing a more complete service platform to more countries in the region and in newer areas such as energy security. Consequently, for these reasons it is critical that this TC be Bank-executed.

VI. Project Risks and issues (estimated length: about ½ page)

6.1 The main risk behind this technical cooperation is the availability of reliable data and information. The Caribbean energy sector is notorious for its lack of publicly available information, including data on consumption, production, and trade flows. The staff is well aware of this concern and efforts have been made to lessen this risk. There has been cooperation established within INE/ENE and between INE/ENE and the pertinent regional departments in order to foster the sharing of information. This has been successful in the past and the model will be applied in the future.

6.2 A secondary risk is the potential lack of information on energy trade patterns and the development of the energy trade methodology. This risk is controlled by collaborating with the Integration & Trade (INT) department in order to ascertain which sources of information are most reliable and gathering insights into methodology development.

VII. Environmental and Social Classification (estimated length: ¼ page)

C – Likely to cause minimal or no negative impacts

ORIGINAL SIGNED BY LEANDRO ALVES

Leandro Alves, Energy Division Chief