

ENERGY DATABASE

RG-T2603 (ATN/OC-15055-RG)

CERTIFICATION OF INCREASE

Original Approved Amount:	\$500,000
Increase Amount:	\$370,000
Total:	\$870,000

I hereby certify that this operation was approved for financing under the Sustainable Energy and Climate Change IDB Special Program (SCI) through a communication dated **June 14, 2016** and signed by Felipe Caicedo. Also, I certify that resources from said fund are available for up to US\$370,000 in order to finance the activities described and budgeted in this document. 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, i.e. represent a risk that will not be absorbed by the Fund.

Original signed

Sonia M. Rivera
Chief
Grants and Co-Financing Management Unit
ORP/GCM

06/17/2016

Date

Approved: Original signed

Pablo Pereira dos Santos
Manager
Infrastructure and Environment Sector
INE/INE

06/22/2016

Date

MEMORANDUM

Date: 1 June 2016

To: Pablo Pereira dos Santos
Manager, Infrastructure & Energy Sector

From: Rigoberto Ariel Yepez Garcia
Chief, Energy Division

Subject: Regional. ATN/OC-15055-RG (RG-T2603) "Energy Database". Proposal for additional funding

I. Background

- 1.1 The objective of this technical cooperation (TC) is to deepen and broaden the scope of the INE/ENE Energy Database by showcasing new research and knowledge products focused on Latin America and the Caribbean's most pressing energy challenges.
- 1.2 The Energy Database was originally developed by the "ENE Innovation Center" of the Energy Division, funded by RG-T1884 and RG-T2048 (US\$400,000.00 from the Institutional Strengthening Thematic Fund and US\$500,000.00 from the Sustainable Energy and Climate Change Fund, respectively). Additional support was provided by the Government of Alberta through a Project Specific Grant - RG-X1171 (Can\$1,000,000.00). Among the objectives of the original funds were the creation and publication of an in depth analysis of the energy sector for each of the IDB's borrowing member countries. The results were published as a series titled "Energy Dossiers." The scope of the Energy Database, in part funded by RG-X1171, was to transform the information contained in the Energy Dossiers into readily accessible knowledge. Many lessons were learned along this process. Principal among them is that publishing research as an "interactive information system," in contrast to traditional formats: (i) significantly increases its reach; and (ii) facilitates updates.
- 1.3 The Energy Database has continued to improve, grow and operate successfully with funds from RG-T2603 "Energy Database", granted eligibility on 20 May 2015 by the Eligibility and Strategic Committee of the Sustainable Energy and Climate Change Fund (SCI) (IDBDOCS#39640623) for a commitment of US\$500,000, with the possibility of incrementing the funds up to an additional amount of US\$370,000.
- 1.4 This operation was designed to: (i) fund the creation of new datasets, such as electricity prices at the country and regional levels, that are key to delivering projects that improve the sustainability of our borrowing member countries' energy matrix. To ensure the relevance of the new datasets for the Bank's operations, a survey of data/information priorities was conducted among the Energy Division's specialists and analysts (IDBDOCS#39678071); (ii) fund the creation of new visualizations that will best translate the datasets and implement them into the online Energy Database hosted in the Bank's website; and (iii) Disseminate and promote the updated Energy Database. Consultation will be sought with the Bank's member countries prior to the publication of any of the new visualizations to ensure that the data accurately depict the countries' energy matrix. Further, all visualizations and Bank generated datasets will be published using the

Creative Commons licenses as mandated in the new Numbers for Development (N4D) Database Data Protocol.

II. Progress

- 2.1. Currently, the Energy Database uses biofuels and waste data produced by the International Energy Agency (IEA). However, the IEA combines biomass and biofuels, wood, and waste as a single primary source of energy. This limits the information that can be extracted from the data because the components differ greatly from one another. Presenting this information separately facilitates the formulation of future policy and projects ranging from converting household waste to energy, to cooking fuel substitution. Biofuels and waste data is sometimes available on a disaggregated level from regional and national energy agencies.
- 2.2. The TC began its execution in 2015, and, in accordance with component one of the TC, financed the research and collection of disaggregated biofuels and waste data for the IDB member countries. USD\$85,000 was disbursed to finance the objectives of component one. Biofuels and waste data has been gathered from national and regional sources, and will be compiled into a single dataset. The newly created dataset will match, as closely as possible, the combined biofuels and waste data provided by the IEA to allow for a comparable breakdown across time and countries for the data presented in the Energy Database.
- 2.3. Component two of the TC focuses on the design and implementation of new visualizations that translate the newly created datasets to the interactive web environment of the Energy Database. USD\$100,000 was disbursed to finance the modification of existing visualizations and creation of new interactive graphics. A Software visualization firm that has been part of the project from inception, is tasked with visualizing the data provided by the Energy Division.
- 2.4. Additionally, USD\$20,000 was disbursed to finance the maintenance of the online Energy Database platform and ensure that any updates, changes, or modifications to the website follow IDB site requirements. The web developer tasked with the maintenance of the site is also responsible for incorporating the new visualizations to the interface of the Energy Database.
- 2.5. In March, 2016, the team leader and members of the TC met with the visualization and web development teams to ensure the project is proceeding apace and to discuss and modify the visualizations that have been produced. To date, interactive visualizations for electricity by source over time, and energy trade between countries have been created. Sample data collected was sent to the software visualizationn firm.

III. Objective and Justification of the Proposed Modification

- 3.1. The new datasets and visualizations added to the Energy Database will enhance and deepen the information provided by the tool and better inform the strategic planning of project execution by the Bank, as well as better inform policy makers. The product is proving to be a valuable resource to our borrowing member countries, and is a unique tool that can be used to derive forward thinking policy prescriptions and analyze regulatory frameworks.

- 3.2. It also assists the Bank's support of data-gathering efforts currently under way in the region, particularly those in the Caribbean, by contextualizing the energy sector of each country and region. In the case of countries where energy balance information is not available from sources that are cross-comparable, the data will be included and a note will be made regarding its singular data-gathering methodology. The tool and its content have been used in the elaboration of the Energy Sector Framework Document, in particular, to help frame the requirements for a successful transition to a more sustainable energy mix.
- 3.3. This operation was approved a total amount of US\$5000,000, with the possibility of incrementing the funds up to an additional amount of US\$370,000, provided that such amount is needed for purposes of complementing the activities identified in the operation. Presently, 76% of the resources allocated for ATN/OC-15055-RG have been disbursed and the activities for phase one have been implemented. With the additional funding, the following activities are expected to be executed, complementing the activities that will already be financed with the US\$500,000 initially approved:
- 3.4. Component 1: Creation of new datasets. This task consists of collecting, organizing, and publishing information and data on energy consumption patterns by income bracket at the country and regional levels to allow policy makers to target projects, and provide information for project design targeted to the greatest need. Further, this activity will produce changes to existing visualizations and adding options for exhibiting alternative information. For example, the Energy Comparison graphic, which displays a country's energy use for a specific source over time in comparison with others, will be upgraded to display a time series of energy sources over time. For the new trade data visualizations, a second batch will be created to contain alternative energy unit functions.
- 3.5. Component 2: Creation of New Visualizations. This component focuses on the design and implementation of new visualizations that translate the new datasets to an interactive web environment. The project will require the visualization of the new data gathered in and the adaptation of the Energy Database to run in PHP programming language. The Energy Database was designed to run in the Bank's system and conform to the specifications of the Bank's platform. However, the Bank is shifting to a new open source Content Management System (CMS), which operates under a different web environment. The additional funding will be used to finance the migration of the Energy Database to the new Bank platform. This will entail working closely with the web developer and Database software designers to detail the new site architecture and facilitate the migration to the CMS. This will ensure that the work carried out under component one and two remain accessible to the target audience of the project.
- 3.6. Component 3: Seminars and Dissemination. This component focuses on (i) the exchange of ideas and information on all aspects of energy data gathering and publishing at the country, regional and international levels; and (ii) the information and promotion of the use of the updated Energy Database. This component will be carried out via four activities: (1) Seminars: This activity will finance seminars on the importance of data collecting, reporting issues as well as issues pertaining to open data and improvement of data visualization. The seminars will take place in our borrowing member countries and to a targeted audience of government officials, policy makers,

experts, and when judged appropriate, the private sector. In addition, to maximize funds, whenever possible, partnership with local or regional organizations and/or other existing events (conferences or seminars) will be sought. (2) Consultation: This activity will ensure that consultation is carried out with member countries prior to publication to make sure that the dataset accurately reflects their energy matrix. (3) Marketing: This activity will devise and implement a strategic marketing plan that uses both traditional and innovative methodologies. The plan will leverage and be coherent with existing Bank platforms and programs. (4) Continuous Search Engine Optimization: This activity will finance consultant services to further define the users of the Energy Database by sector (government, universities, organizations, private sector, public at large), and adapt a strategy to maintain coherence between the tool and the objectives of the Energy Division, the Bank, our clients, team, developers, and EXR. A work plan will be developed to ensure the collaboration is structured in an effective manner.

IV. New Proposed Budget

4.1. The following table constitutes the new budget allocations for the project.

Component	Original Approved Amount (US\$)*	Increase Amount (US\$)*	Total Approved Amount (US\$)
I. Creation of new datasets	270,000	130,000	400,000
II. Creation of new visualizations	180,000	170,000	350,000
III. Seminars and Dissemination	50,000	70,000	120,000
Total	500,000	370,000	870,000
Given that dissemination is part and parcel of the work to be conducted, consultant travel is permitted for Seminars and Dissemination.			
Refer to the RG-T2603 Incremental Funding Appendix under IDBDOCS#39731209.			

V. Recommendation

5.1 Based on the above information, the project's team leader recommends that according to Section III of the OA-421 Delegation of Authority, the Infrastructure & Energy Sector Manager approve the funding increase in an amount of US\$370,000.

Vo. Bo.: _____ Original Signed _____ Date: _____ 06/21/2016
 Ramon Espinasa, INE/ENE

Vo. Bo.: _____ Original Signed _____ Date: _____ 06/22/2016
 Ariel Yepez
 Division Chief, INE/ENE

TC DOCUMENT
INCREMENTAL FUNDING APPENDIX
ENERGY DATABASE
RG-T2603

Should the additional \$370,000.00 be available, the funds would finance:

I. Description of activities

- 1.1 **Component 1 – Creation of New Datasets:** This component includes the research, generation and compilation of datasets that are relevant to the work of the Bank.

Energy consumption by income bracket: This task consists of collecting, organizing, and publishing information and data on energy consumption patterns by income bracket at the country and regional levels to allow policy makers to target projects, and provide information for project design targeted to the greatest need. Further, this activity will produce changes to existing visualizations and adding options for exhibiting alternative information. For example, the Energy Comparison graphic, which displays a country's energy use for a specific source over time in comparison with others, will be upgraded to display a time series of energy sources over time. For the new trade data visualizations, a second batch will be created to contain alternative energy unit functions.

- 1.2 **Component 2 – Creation of New Visualizations:** This component focuses on the design and implementation of new visualizations that translate the new datasets to an interactive web environment.

Visualizations for the new datasets created by Component 1 and adaptation to new IDB programming language. The project will require the visualization of the new data gathered in and the adaptation of the Energy Database to run in PHP programming language. The Energy Database was designed to run in the Bank's system and conform to the specifications of the Bank's platform. However, the Bank is shifting to a new open source Content Management System (CMS), which operates under a different web environment. The additional funding will be used to finance the migration of the Energy Database to the new Bank platform. This will entail working closely with the web developer and Database software designers to detail the new site architecture and facilitate the migration to the CMS. This will ensure that the work carried out under component one and two remain accessible to the target audience of the project.

And at least one new visualization to be determined by the Team Leader.

- 1.3 **Component 3 – Seminars and Dissemination:** This component focuses on (i) the exchange of ideas and information on all aspects of energy data gathering and publishing at the country, regional and international levels; and (ii) the information and promotion of the use of the updated Energy Database.

Seminars: This activity will finance seminars on the importance of data collecting, reporting issues as well as issues pertaining to open data and improvement of data

visualization. The seminars will take place in our borrowing member countries and to a targeted audience of government officials, policy makers, experts, and when judged appropriate, the private sector. In addition, to maximize funds, whenever possible, partnership with local or regional organizations and/or other existing events (conferences or seminars) will be sought.

Consultation: This activity will ensure that consultation is carried out with member countries prior to publication to make sure that the dataset accurately reflects their energy matrix.

Marketing: This activity will devise and implement a strategic marketing plan that uses both traditional and innovative methodologies. The plan will leverage and be coherent with existing Bank platforms and programs.

Continuous Search Engine Optimization: This activity will finance consultant services to further define the users of the Energy Database by sector (government, universities, organizations, private sector, public at large), and adapt a strategy to maintain coherence between the tool and the objectives of the Energy Division, the Bank, our clients, team, developers, and EXR. A work plan will be developed to ensure the collaboration is structured in an effective manner.

II - Indicative Result Matrix

	Activity	Output	Result	Means of Verification
Component 1	Research and collection of energy data for the Bank's member countries, generation of tables/reports for each country, and compilation of the information into Country or Region Specific datasets	1 new dataset: Energy consumption by income bracket	Enhance and deepen the information provided by the Energy Database to better inform the strategic planning of project execution by the Bank and other investors, as well as better inform policy makers.	Survey of the use of the datasets in project/loan preparation Use of the visualizations by different audiences (reports from Google Analytics)
Component 2	Work with the visualization and web development teams to translate the new datasets (as well as other data) into new interactive visualizations. This includes bringing the team together once every six months to ensure the project is proceeding apace.	Design of visualizations for the datasets created in Component 1 as well as 4 additional visualizations that are relevant to the Bank's operations. Publish the new visualizations in the Energy Database website	Publicly accessible, country or region specific data in a format that is easy to read and understand, to be used by the member countries as well as the Bank in preparation for loans, projects, sector development and public policy. The information will also facilitate knowledge exchange	Consultation will be sought from the member countries prior to publication (see component 3). Use of the visualization by internal and external audiences analyzed from reports produced by Google Analytics Requests to use the database and technical assistance on the subject by other governments and organizations

Component 3	Host seminars to disseminate the Energy Database and encourage its use by internal and external audiences.	At least two workshops that increase awareness of the Energy Database conducted in a combination of regions and individual countries in Latin America and the Caribbean.	Increased visibility and usage of the Energy Database for a broader policy dialogue and greater visibility of the energy challenges facing LAC. This awareness will open a host of opportunities for improvements in the energy sector at the regional and national levels.	High level attendance and positive feedback from seminars.
	Share the lessons learned and experience acquired in the collection, reporting, and development of the visualizations with internal and external audiences.	Work with energy partner organizations to leverage their events to promote the Energy Database Work with other multilaterals responsible for energy data to ensure non duplication of efforts and the creation of economies of scale for increase efficiency in all matters related to energy data.	Increase use of the Energy Database in the preparation of projects and loans by multilateral institutions and the private sector.	Increase traffic to the Energy Database including increased page views, increase time spent for each session, and increase on downloaded content. Analysis of pre and post seminars and marketing campaigns.

Budget

Component		RG-T2603				Total (US\$)
		Phase I		Phase II		
		IDB (US\$)	Subtotal (US\$)	IDB (US\$)	Subtotal (US\$)	
I. Creation of New Datasets	Phase I	270,000	270,000	-	-	
	Phase II	-	-	130,000	130,000	
	Total Component I					400,000
II. Creation of New Visualizations	Phase I	180,000	180,000	-	-	
	Phase II	-	-	170,000	170,000	
	Total Component II					350,000
III. Seminars and Dissemination	Phase I	50,000	50,000	-	-	
	Phase II	-	-	70,000	70,000	
	Total Component III					120,000
Total		500,000	500,000	370,000	370,000	870,000

* Given that dissemination is part and parcel of the work to be conducted, consultant travel is permitted for Seminars and Dissemination.