

Markets, business models and financial instruments for the deployment of electric mobility in Latin (D2435)

Description:

The transportation sector is the largest fossil fuel consumer in Latin American and the Caribbean region, therefore the main source of greenhouse gas emissions. These emissions not only contribute globally to the acceleration of climate change, but locally they impact the air quality, health, and quality of life of city dwellers in this markedly urban region.

Electric mobility (e-mobility), implemented under a Sustainable Transport Strategy of reduce-shift-improve is a key part of solution for the full decarbonisation, particularly in the urban context. As efforts continue to transition energy matrixes to cleaner and renewable sources, e-mobility will help mitigate emissions from the transportation sector and its dependence on fossil fuels, but also will highly help to improve LAC's air quality in cities, where 80% of the regional population lives.

Though electric vehicle uptake has increased across the region, efforts to mainstream it into public and private transportation are discontinuous and greatly vary among and within countries. Electric mobility has been addressed through various policy and financial instruments by countries across the region, yet the rapid and massive adoption of electric mobility needed to keep climate commitments has yet to be. States and entities in the region must lead the deep transformation that electromobility entails with structural changes that overcome existing barriers. To overcome these, they need specific knowledge that tackles market and policy gaps that are presently slowing down progress.

This TC's principal objective is to address the specific and emerging barriers and knowledge gaps for the massive deployment of electric mobility in Latin America and the Caribbean through knowledge creation and sharing. Particularly by addressing barriers or gaps identified by the IDB's previous experience working in the e-mobility space, with specific objectives such as:

- Supporting institutional capacities for e-mobility at all levels of local and national governance and enabling modern regulatory environments for accelerated e-mobility uptakes.
- Understanding e-mobility's socioeconomic benefits, emissions reduction capabilities, operational and service improvement implications, and externalities under different deployment scenarios in the region.
- Developing and understanding current and future e-mobility markets and business models for e-mobility accelerated deployment in public transport.
- Mapping and promoting a sustainable supply chain and industry of e-mobility services and materials.
- Leveraging emerging technologies for improved services and asset maintenance in e-mobility.

Submitted by:

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Research and Dissemination

Tags:

#decarbonization #e-mobility #ev #sustainabletransport #transportation

Linked Ideas:

Whiteboard:

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Has the proposal been discussed and authorized by the responsible sector or country department/division, as applicable?

Yes

Team Leader Responsible Department

INE

Are there specific countries that will directly benefit from your proposal?

Yes

Mark the specific countries that will be directly benefited from your proposal?

Argentina

Bahamas

Barbados

Belize

Bolivia

Brazil

Chile

Colombia

Costa Rica

Dominican Republic

Ecuador

El Salvador

Guatemala

Guyana

Haiti

Honduras

Jamaica

Mexico

Nicaragua

Panama

Paraguay

Peru

Suriname

Trinidad y Tobago

Uruguay

Venezuela

Where applicable, describe how the proposal aligns with the respective country strategy (for each country selected)

As a regional TC this aims to benefit all member countries and support Caribbean and Latin American countries achieve their transport and climate goals aligned with their Nationally Determined Contributions, and their respective country strategies. As a representative sample, the following country strategies were selected to demonstrate this TC's relevance, alignment, and scope:

Barbados

This TC aligns with Barbados's country strategy goals of promoting greater public sector digitization, and tackle climate change and emissions through transport decarbonization. And encourage the dialogue established in the CS for improved and sustainable transport systems (3.24).

Colombia

This TC aligns with Colombia's Country Strategy's goals of increasing the quality and stock of infrastructure (3.4), and of developing resilient infrastructure to reduce the impact and costs of climate change (3.14). And in the cross-cutting issue of stimulating the digital economy, as e-mobility stimulates innovation, and this TC aims to strengthen institutional capacities and digital transformation (3.40).

Dominican Republic

This TC aligns with the CS goals of developing a sustainable and resilient productive infrastructure in the electricity and the

transportation and logistics sectors (in partnership with the private sector) (3.17). And regarding cross cutting issues as it improves the "the digitalization of public services to bolster governance and transparency in **public institution**" (3.26).

Jamaica

This TC aligns with Jamaica's CS goals of accelerating the digital transformation of the government (3.9), and sector specific digitization, that can come from promoting e-mobility. And with their specific goal of promoting private adoption of renewable energy, green infrastructure services (e.g., electric vehicles) (3.10).

Paraguay

This TC aligns with Paraguay's country strategy as it aims to address institutional capacities for electric mobility through "support the country's efforts to continue closing the infrastructure gap and strengthen the governance of the sector's institutions" and "fostering sector-specific regulatory frameworks and the design, execution, monitoring, and evaluation capabilities of the institutions responsible for executing infrastructure projects" (3.24).

Does the proposal align to one or more sector frameworks?

Yes, the proposal aligns with at least one sector framework

Identify and describe how the proposal aligns to the sector framework(s)

1. Transportation Sector Framework

The TC's aligns with the following framework lines of action: (i) Promote efficient, inclusive, sustainable, and quality mobility for urban and interurban passengers; (ii) Strengthen sector institutions and regulations; (iii) Promote technological transformation in the sector; and (iv) Increase the availability of sector information and knowledge.

2. Climate Change Sector Framework

The TC's aligns with the framework's first line of action by promoting rapid decarbonization by (b) implementing already available decarbonization solutions. And aligns with the third line of action by building effective governance, particularly regarding the operationalization of existing climate strategies, and regarding the promotion of efficient digitalization to further climate goals.

3. Energy Sector Framework

This TC aligns with the sector framework's following goals of promoting good governance, increasing financial sustainability, strengthen institutions, and encourage multisector collaboration. It also aligns from the perspective of charging infrastructure, on "Countries Have Institutions Capable of Developing and Implementing Energy Policy, and of Planning, Supervising and Regulating Services" with the following lines of action (i) building strategic planning capacity, policy formulation, monitoring, and evaluation; (ii) strengthening capacity to regulate and implement policy and projects; (iii) increasing capacity to manage and supervise concessions and private investments; (iv) ensuring financial sustainability of the sector; (v) reviewing subsidies to ensure that when these are used, the sources and beneficiaries are identified, progressively phasing out generalized and fossil-fuel subsidies; and with institutions to learn how to incorporate innovations;

4. Extractive Industries Framework

This TC aligns with the following lines of action: (i) Promote socioenvironmental sustainability, shared value generation, integration, and economic diversification by the extractive industries; by understanding and creating knowledge around resource extraction for e-mobility materials and batteries. And regarding the line of action that aims to "Promote greater transparency and integrity in the extractive industries", by creating knowledge and understanding of the e-mobility supply chain that can "strengthen monitoring systems, accountability, and access to information, in accordance with international standards".

Select the regional challenges and cross-cutting issues to which the proposal aligns to

Productivity and Innovation

Climate Change and Environmental Sustainability

Institutional Capacity and Rule of Law

Justify the alignment to each selection above

This TC directly aims to improve institutional capacities and modernize regulatory environments for the acceleration of electric mobility uptake in Latin America and the Caribbean, and its outputs will help create and diffuse the knowledge necessary for this within public and private institutions.

The widespread adoption of electric mobility can drive innovation as transport systems adapt to emerging user needs and improve their enabling technologies, such as vehicle design, battery life and life cycle. Productivity improves as new markets and professions emerge around new electric mobility services, around maintenance and repair, and around upstream and downstream value-chain activities such as battery recycling.

This TC's goal is to help rapidly electrify mobility and transport services, thus directly addressing the mitigation aspects of climate change, and aligns with environmental concerns by improving knowledge and better decision making regarding the sustainability of the e-mobility value chain.

What is the estimated funding that you need in order to implement this proposal?

250000

Select the expected outputs of this proposal

Institutional Strengthening Deliverables (Training products, Management Information Systems, etc.)

Events (other than policy dialogues)

Knowledge Products

Are outputs strictly Knowledge Products?

No, the output is not strictly a Knowledge Product

Describe the motivation and main question(s) this TC intends to answer.

Describe the methodological approach to be used and the type of data (when applicable) which will be used

Please specify the type(s) of Knowledge Product (s) this TC encompasses:

Technical and Policy Notes

Working Papers

Please provide a brief description of the output(s) selected above (The number of units planned, and the estimated cost). If you selected others, please specify.

Component 1: Addressing barriers and knowledge gaps for electric mobility deployment in LAC. (150000)

For more than a decade, the IDB has been supporting the region in the transition to sustainable electric mobility and has been developing knowledge in technology and the enabling environment to generate projects and attract the necessary investments in this sector. The Bank's support was provided in phases. The first phase consisted of the development of national electric mobility strategies and road maps in several countries, institutional governance, specific regulation for their organized and effective implementation, pilot projects for electric buses, fiscal analysis, and feasibility studies for fleet electrification. In a second phase, which began in 2017, the IDB established an internal multi-sectoral working group that consolidated the knowledge of the different divisions within the Bank under the Electric Mobility Initiative and approved the first financing operations for concrete projects to switch to electric fleets and associated charging infrastructure. From this accumulated experience, an electric mobility agenda was built, focused on tackling markets, business models and financial instruments, and address specific issues that have come to light. This component aims to fund research activities that will permit a deeper understanding of these issues, barriers, or gaps, and emit concrete and usable policy recommendations to accelerate electric mobility deployment in the region.

Knowledge products:

This TC will fund the research and dissemination of policy notes and recommendations on topics where knowledge is still missing to accelerate e-mobility in the region:

- Socioeconomic evaluation of electromobility within the framework of sustainable transportation systems under different implementation scenarios. Quantifying direct and secondary benefits and costs associated with electromobility adoption as a mean for the decarbonization of cities. Providing evidence of the effectiveness of electromobility under different adoption scenarios (avoid-shift-improve framework)
- E-mobility supply chain, sustainability, and policy recommendations
- The limits of E-mobility and decarbonization: new fuels and frontier technologies.
- Markets, industry, and business models for e-mobility in LAC.
- E-mobility and fiscal policies.
- Management, institutional models, capacities, and regulatory environments for accelerated deployment of electric transport in local, urban, and rural environments in LAC.

Component 2: Mobilizing knowledge for accelerating transport sector electrification. (100000)

This component will mobilize existing and emerging knowledge, created through this TC's activities, among clients, public and private actors in the region, to inform better decision making, improve their capacities for management, and improve regulatory environments for e-mobility.

Institutional Strengthening Deliveries:

This TC will fund the continuous use of training activities and platforms for public and private transport actors across the region to improve knowledge and capacities gaps for the management and rapid deployment of electric mobility across the region. These trainings and activities will be hosted and shared on the EMOVILAC platform, created, and hosted by the IDB's electric mobility group. EMOVILAC is a virtual space for dialogue that facilitates the identification and support in the implementation of electromobility projects, while promoting technical training and knowledge exchange, with the help of updated information on policies, regulations, emissions inventories, incentives, and charging infrastructure in the twenty-six countries of the region.

Field workshops will be held to deepen knowledge around highly specific topics in relevant locations, to address subjects such as public transport business models, battery recycling facilities, traffic management

solutions for e-mobility, charging infrastructure and yards, and much more. These workshops will serve as presentational spaces to share best practices amongst transport authorities from the region, and as advocacy experiences to push forward the e-mobility agenda.

Events:

This TC will fund a regional conference focused on sharing learned lessons and best practices around e-mobility deployment, with perspectives from private sector actors all across the supply chain, the IDB, other multilateral partners, public sector authorities, and public transport providers.

Outcomes: If the outputs are delivered successfully, what is the change expected (in capacity, knowledge, behavior, etc.)

This TC will allow for public administrations that have started the implementation of policies and projects that encourage the rapid deployment of electric vehicles particularly in transport systems across the region, with their corresponding charging infrastructure and innovative tools for their maintenance and repair being used by governance and operational institutions. Electric mobility also presents a great opportunity for the region's mining sector and the creation of a future value chain for the manufacture of electric vehicle technology. Lithium is a crucial element in the batteries that make up electric vehicles. Argentina, Bolivia, and Chile account for around 60% of the world's lithium resources, while lithium deposits have also been found in Brazil, Mexico, and Peru. With global demand for lithium estimated to increase by more than 950% by 2050, this represents a huge opportunity for many Latin American companies to enter the electric mobility value chain.

(1) Attachments

Imagen CT.jpg

0 Comments