

IRENA Investment Forums

Report of Latin America Energy Transition Investment Forum

Montevideo, Uruguay
7, 8 and 9 November 2023

Introduction

The Latin American Energy Transition Investment Forum, co-hosted by International Renewable Energy Agency (IRENA) and the Government of Uruguay, in cooperation with Latin America Energy Organization (OLADE) and Inter-American Development Bank (IDB), convened regional and global decision-makers from the public and private sectors, including governments, financial community, development partners and other relevant stakeholders needed to drive energy transition investments.

A three-days forum was successfully held on November 7, 8 and 9, 2023, in Montevideo, Uruguay, during OLADE Energy Week. Along with high-level discussions on topics relevant to Latin America, the forum included dedicated sessions to explore ground-level challenges faced by developers and financiers in the region that hinders the creation of a bankable pipeline of projects and the expansion of capital mobilization.

In addition, during the forum matchmaking sessions were held to help public and private project proponents connect with potential commercial and financial partners. An exhibition area was also available to highlight additional projects from the region and to offer the opportunity to network with a diverse group of stakeholders who aim to advance the energy transition.

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Event structure

Pre- Forum Day	Day 1: High Level Energy Transitions Dialogue	Day 2: Energy Transition Project Facilitation
7 November 2023 10:00 – 18:00	8 November 2023 08:30 – 18:00	9 November 2023 09:00 – 18:00
<u>Finance Training Sessions</u> Presentation of IRENA’s project facilitation tools, followed by a deep dive into the project finance training modules. Sessions included the participation of representatives of project developers, investors, and financial institutions.	<u>High-level opening and key remarks by the host country.</u> Headlined by Ministers of Latin America and the Caribbean, discussions focused on various dimensions of promoting energy transition investments and access to finance in the region, such as, energy transition roadmap and investment needs, enabling conditions for financing the energy transition, innovative financing for energy transition projects.	<u>Deep-dive sessions</u> Focused on addressing risks associated with project origination, development, and implementation towards creating strong enabling frameworks to finance the energy transition. The discussions centred around the lowering of barriers to achieve a greater scale-up of investments in energy transition assets by taking actions to de- risk projects and mobilize capital. <u>Matchmaking Sessions</u> The matchmaking sessions connect business partners and facilitate investment opportunities among project developers, investors, and financiers, as relevant.

The detailed agenda is presented in Annex I.

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Forum Activities

Pre- Forum Day: Project Finance Training

The Project Finance Training was held on the Pre-Forum Day, 7 November, from 9:00 to 17:30 and had a closed-door format with participation by invitations only.

The Training was aimed at providing insights on the renewable energy project finance and facilitation, more specifically, it introduced IRENA's project facilitation tools, highlighted the rudiments of project finance, as well as showed examples of successes and failures in renewable energy project development with a special focus on the Latin American region.

The Training agenda comprised two parts. The first part was dedicated to the IRENA's project facilitation tools, during which participants had a chance to learn more about the Climate Investment Platform (CIP) and Energy Transition Accelerator Financing Platform (ETAF) and specific features and requirements of the two platforms. In addition, the first part of the Training gave an overview of the IRENA's project assessment criteria – what aspects are taken into account when considering projects for the IRENA's support. This topic also included a review of the Project Information Document (PID) – final project materials to be presented to the potential financiers once the project is selected for support. The second part of the Training provided an introduction to the project finance and discussed different topics such as project concepts, types of contracts, risks, financial structuring, loan agreements, etc. The Training had an interactive format which allowed participants to ask questions after each of the topics covered.

A total number of delegates participated in the Training session was 66 including representatives of the NewGen youth start-ups (see additional details in the Youth-led Start-ups Section below). A feedback survey was conducted after the session. According to the survey results, most of the participants found the Training very useful and would be interested in attending such type of events in the future. The Training attendees also indicated which topics they would like to see covered during future events.

Day 1: High Level Energy Transitions Dialogue

Join opening of the Latin America Energy Transition Investment Forum and the LIII OLADE Ministerial Meeting

The High-Level Energy Transitions Dialogue of the Latin America Energy Transition Investment Forum was presented as part of the LIII OLADE Ministerial Meeting. Both high-level events were opened by the Government of Uruguay, represented by H.E. Mrs Elisa Facio, Minister of Industry, Energy and Mining; Mr Ariel Yépez, Manager Energy and Infrastructure Sector, IDB; Mr Andrés Rebolledo, Executive Secretary, OLADE and Mr Francesco La Camera, Director-General, IRENA.

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Latin America Energy Transition Investment Forum Ministerial Dialogue on Promoting Energy Transition Investments and Facilitating Finance in the Region

This high-level dialogue took place in the context of OLADE Ministerial meeting, offering Ministers with a platform to share their perspectives on the urgent need to activate investments towards energy transition-related technologies.

A scene-setting presentation by Ricardo Gorini, Head Renewable Energy Transition Roadmaps (REMAP), Innovation and Technology Centre IRENA, addressed the current state of financing the energy transition in Latin America, the efforts required to keep the 1.5c scenario alive and the need of the region to advance in the energy integration. **The presentation is presented in Annex II.**

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Followed by an open discussion by country delegates, moderated by Ms. Isabel Beltran, Managing Director, Latin America & the Caribbean, Global Energy Alliance for People and Planet (GEAPP), about the pressing need to promote investments in technologies related to the transition and facilitating the necessary financial mechanisms to support an opportune and effective transition.

Minister of Industry, Energy and Mining of Uruguay, Elisa Facio, stated that the country should continue to pursue the reduction of subsidies in all facets of the supply chain, in particular at the level of final consumption. Adding that there may be an interaction between private generation and the electrical regulatory market in order to facilitate greater renewable generation. Minister also mentioned that there has been a very slow growth in electric mobility due to the high cost of vehicles, not only for companies, but for final users. In Uruguay, large investments are being made, supporting and building related infrastructure for electric vehicles.

Vice Minister of Energy of the Dominican Republic, Rafael Orlando Gómez Del Giudice, mentioned that investment in renewable energy projects usually involves a significant amount of capital and takes a considerable amount of time to repay. In developing countries, both factors contribute to project risk perception. Dominican Republic's renewable energy development is based on private investment, rather than public investment. By implementing PPA contracts, private companies develop infrastructure, whereas the public sector is responsible for providing participants with a clear and transparent legal framework. Various fiscal and economic incentives have been established by the Dominican Republic government in order to motivate financial agents to participate in and invest in renewable energy projects. Additionally, the Vice Minister stressed the importance of land-use planning to ensure an efficient use of the limited land and to avoid competing with other economic sectors, while respecting protected areas such as national parks and considering the need for a proper transmission network.

Director of Electricity of Panama, Dr. Guadalupe Gonzalez, has suggested more of this type of dialogue should take place, including both the ministers of energy and environment as well as the ministers of economy and finance, since new forms of financing are required for the deployment of new technologies in the region and for the acceleration of the energy transition. In Panama, efforts are being made to create

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a National Fund for the Energy Transition, but there are challenges regarding fiscal impact and financial instruments to be used.

Vice Minister of Energy of Cuba, Ms. Tatiana Amarán Bogachova, highlighted that due to the political aspects, Cuban companies and investor entities are required to meet very restrictive financing conditions. According to the Vice Minister, IRENA member countries should establish a collaboration mechanism to allow them to advance in the energy transition, regardless of their differences or political ideals.

National Secretary for Energy Transition and Planning of Brazil, Mr. Thiago Barral, emphasized the need for stability, and predictability of rules in the foundation of the framework. By respecting contracts, investors will have greater confidence in long-term commitments and investments. Brazilian authorities have successfully established an auction for transmission infrastructure that has attracted multiple bidders. Additionally, the country is currently issuing sustainable bonds through the BNDES to finance a national climate fund that is dedicated to climate action and energy transition projects. As well as a Guarantee Fund to provide financial support to energy efficiency programs. According to Mr. Barral, regional action is needed to enhance the transparency of multilateral climate funds in order to increase access to concessional funding.

In his remarks, Mr. Orlando Trujillo, head of International Affairs for Colombia's Ministry of Energy and Mines, commended IRENA for hosting the Investment Forum and explained that the country has published a roadmap for energy transition and is currently estimating the total investment needed to implement it. In addition, Colombia is consolidating a country-portfolio of green projects, which includes 6 GW of renewable energy projects. This includes offshore wind and green hydrogen plans. Additionally, Colombia is a leading promoter of debt swap for climate action.

Ms. Flavia Royón, National Energy Secretary of Argentina, noted that energy transition should not lead to greater regional dependence on technology, but rather provide the region with the capability to provide its own technology.

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SESSION I: High-Level Panel Discussion on Creating Enabling Conditions Conducive to Energy Transition Investments in Latin America

This session discussed enabling policy, regulatory and institutional frameworks that can help drive the investment needed for sustainable energy transitions, such as, regional and national commitments to raise ambitions, measures that eliminate market distortions and disincentivize new investments in fossil fuel technologies and policy instruments that mitigate risks and facilitate access to finance.

The session was moderated by Mr Gurbuz Gonul, Director, Country Engagement and Partnerships, IRENA and brought together high-level panellists from governments, development agencies and banks, and the private sector. Panellists consisted of:

- **Uruguay** – H.E. Mrs Elisa Facio, Minister of Industry, Energy and Mining
- **CAF** – Mr Jorge Arbache, Vice President, Private Sector
- **Acciona Energía** – Mr Miguel Arrarás, General Director for South America
- **United States of America** – Mr José Fernández, Under Secretary for Economic Growth, Energy, and Environment, Department of State
- **UNDP** – Mr Alfonso Fernández de Castro, Uruguay Resident Representative

H.E. Mrs Elisa Facio stated that Uruguay has experienced its first energy transition, and as the country enter the second phase of the energy transition, they must end dependence on fossil fuels. The most important challenge in Uruguay is to transition transportation into electric or renewable energy sources, both domestically and industrially. Several incentives are available to encourage the use of electric vehicles in the country. However, the required infrastructure, such as charging stations, still requires additional work and will require additional financial support.

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In his remarks, Mr. Jose Fernandez recognized the efforts being made in Latin America - there are programs being implemented, programs being launched, and Latin America occupies an advantageous position in relevant topics such as green hydrogen. The United States passed the inflation reduction act one year ago, which resulted in the largest amount of funding allocated to clean energy technology in history, 369 billion dollars, to support technology and electric mobility. It is estimated that the inflation reduction act will generate 1.7 trillion dollars in investment over a period of 10 years following implementation, which means that the market will be incentivised to act rather than penalized.

Mr. Jorge Arbache noted that developing and emerging countries are often considered as part of a single group. As a matter of fact, there are numerous classifications and characteristics. Uruguay, for instance, has already begun planning for the second energy transition, whereas other countries are attempting to start the first, so the solutions necessary will differ greatly, as will the financing needs, as well as the necessary capacities. There is also a need for the countries to have a broad and comprehensive sustainability policy. The existence of critical minerals that are part of the energy transition agenda should also be taken into account. There is an urgent need to secure biodiversity, which is critical to the transition, including for the development of the carbon market. Mr Arbache also mentioned the cost of capital for the energy transition. the need for equity to develop new technologies such as green hydrogen. He also suggested that a study be conducted regarding banking projects, followed by the establishment of funds to finance development projects, thereby reducing the dependency on public budgets and development banks, such as CAF and allowing the private sector to play a greater role. Furthermore, countries and multilateral banks should provide the conditions for the private sector to enter while reducing the perception of risk as much as possible. Mr Abache concluded by calling for better coordination between the national and subnational levels of government and the agencies of cooperation.

According to Miguel Arrarás, the private sector is seeking political, judicial, and economic stability in order to invest in the region as well as conditions that enable renewable technologies to compete with traditional technologies. It is essential that countries implement a carbon tax and cease subsidizing the fossil fuel industry in order to reduce carbon emissions.

Mr Alfonso Fernández de Castro stated that the first goal is to ensure that fossil fuels pays for the impact it has on the environment. The cost of carbon subsidies in 2022 is estimated to be over 77 trillion dollars, or approximately 7% of the world's GDP. As part of the UNDP, structural and institutional capacities are placed at the service of countries and partners at all levels, both at the central and regional levels, as well as at the country level, to work from the macro to the micro level. The development of a macro perspective of the country vision requires international cooperation in order for countries to develop all aspects of their NDCs, sectoral plans, as well as a vision of sustainable development that cannot be seen from a single point of view. A coordinated international effort should incorporate financiers and institutions to materialize regional climate action plans.

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SESSION II: High-Level Panel Discussion on Innovative Financing for Boosting Energy Transition Investments in the Region

This High-level discussion focused on innovative financing practices from and outside the region that can help accelerate energy transition investments. The discussion provided a spotlight on innovative financing strategies that have the potential to expedite investments in the energy transition, a critical imperative for sustainable development and climate mitigation.

The session was moderated by Mr Marcelino Madrigal, Chief of the Energy Division, IDB and brought together high-level panellists from governments, climate investment funds, philanthropic organizations, and the private sector. Mr Henry Gonzalez, Deputy Executive Director, GCF, delivered a prerecorded message and panelists consisted of:

- **Dominican Republic** – Mr Rafael Orlando Gómez Del Giudice, Vice Minister of Energy
- **Cuba** – Ms Tatiana Amarán Bogachova, Vice Minister of Energy and Mines
- **Costa Rica** – Mr Carlos Isaac Pérez Mejía, Vice Minister of Strategic Management, Ministry of Environment and Energy
- **Caribbean Climate-Smart Accelerator** - Mrs Racquel Moses, CEO.
- **Global Wind Energy Council (GWEC)** – Mr Ramón Fiestas, President Latin America
- **Global Energy Alliance for People and Planet (GEAPP)** – Ms. Isabel Beltran, Managing Director, Latin America & the Caribbean

During his opening remarks, Mr Henry Gonzalez stated that countries in the region should focus their efforts on transforming the energy sector in four critical areas: i) Ensure that the most vulnerable populations and those with the least access to energy are provided with adequate energy access. ii) Develop markets for new renewable energy technologies. iii) Promote the development of renewable energy in order to reach the goal of 50% by 2030, which will pave the way for a greater ambition of net

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zero emissions by 2050. iv) Focus on sectors such as the chemical industry, steel, transportation, and aviation that are difficult to decarbonize.



Mrs Racquel Moses stated that the energy transition presents a unique opportunity for Caribbean states to become a leading economy. Currently, the Caribbean Climate-Smart Accelerator is mapping all the financing opportunities for the region and has identified approximately 1 billion dollars of funding for energy projects. In the region there is a geothermal potential of 29 GW, which represents a significant opportunity for internal demand as well as establishing an export market for green hydrogen, as is being discussed in Chile and Mexico. The tourism industry is the major contributor to the Caribbean region's economies, and with the new opportunities for economic development, the region should become an energy provider for tourism-related transportation. Caribbean islands face challenges in developing interconnection infrastructure due to high investment risks as well as a lack of project readiness. In order to support climate resilience, the Caribbean Climate-Smart Accelerator has established a blended finance facility of 218 million dollars along with partners such as the Caribbean Development Bank, the Government of Canada, and the Inter-American Development Bank (IDB), which help fill in the gaps that cannot be addressed by other financial instruments. Moreover, philanthropic funds are readily available through the Innovative Fund, which facilitates access to financial instruments and project preparation.

Mr. Ramón Fiestas mentioned that approximately 7 to 8 billion million dollars are invested in wind generation in the region, of which 50% goes to Brazil and the remainder is distributed between the other markets. Mexico had traditionally ranked second until a few years ago, when political decisions caused it to fall to last place. Therefore, there is no shortage of renewable energy projects in Latin America to

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achieve the 2030 and 2050 goals. However, GWEC has identified extraordinary barriers to investment in some markets from the point of view of projects that are unable to find sufficient agility from a procedural perspective in order to obtain licenses, authorizations, and permissions, as well as difficulties in access to the electrical grid. In some cases, due to the lack of the necessary infrastructure. A financing mechanism should also be formulated that takes into account a much greater flexibility from the point of view of energy deliveries, that is, that merchant projects may be able to finance them with much greater agility. By using innovative financing instruments, public administrations may be able to reduce risks through all blended financing arrangements. Mr. Fiestas stated that a 15-year long-term contract does not necessarily have to be a requirement for financing a project, since sometimes such a contract can be extremely complicated or inconvenient for a particular electrical system.

Ms. Isabel Beltran indicated that GEAPP focuses on issues related to universal access and energy transition, particularly fostering an environment that facilitates the attraction of private investment. Philanthropy's success hinges in part on the ability to leverage philanthropic capital to attract and leverage resources from the private sector. Consequently, GEAPP aims to fill in those gaps which international financial banking and the private sector are not able to provide.

Ms. Carlos Isaac Pérez Meja spoke about Costa Rica's efforts to attract investments in the decarbonization of its energy sector. Since decarbonization costs are extremely high and the public sector cannot solve them on its own, efforts should be concentrated on breaking bottlenecks and collaborating with the private sector. The issuance of the decarbonization bond is one initiative that will enable private stakeholders to mobilize their resources quickly. During periodic evaluations of the regulation and licensing requirements of the energy sector, Costa Rica ensures that the appropriate incentives are in place to promote the development of the environment and the energy sector.



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Technical Assistance Sessions

The aim of the Technical Assistance sessions was to provide consultation on the project development within one-hour bilateral meetings with project proponents and evaluate project readiness and relevance for the Climate Investment Platform (CIP) and Energy Transition Accelerator Financing Platform (ETAFF) support. The sessions witnessed active participation, with proponents keenly seeking advice on aspects such as sustainable design practices, navigating regulatory landscapes, and securing long-term financing.

Technical Assistance sessions were included in the forum Agenda for the first time during the Latin American Energy Transition investment Forum and received positive feedback, with several participants identifying clear next steps for their projects, such as enhancing environmental impact assessments and refining financial models. One project proponent from Brazil stated, 'This session provided us with crucial insights into risk management strategies, which will significantly aid our project's development.'

Day 2: Energy Transition Project Facilitation

SESSION III: Financiers' Perspective: Access to Energy Transition Finance

The panel session III was focused on financiers' experiences in the origination and appraisal of renewable energy projects in the Latin American region and discussed what developers could do to prevent costly mistakes that might adversely affect project valuation and bankability.

The session was moderated by Mr. Ahmed Badr, Director, Project Facilitation and Support, IRENA and brought together high-level panellists from development agencies and banks, and the private sector. Panellists consisted of:

- **Siemens** – Mr. Eliacid Heredia Pizarro, Executive Director of Latin America
- **InterAmerican Development Bank** - Ms. Natacha Marzolf, Principal, Energy Division
- **Central American Bank for Economic Integration** - Mr. Fernando Fanconi, Energy Specialist
- **Development Bank of Latin America (CAF)** - Mr. Fernando Cubillos, Manager of New Business
- **FONPLATA Development Bank** - Ms. Carolina Vera, Head of Portfolio Quality and Performance
- **World Bank** - Ms. Lucia Spinelli, Senior Energy Specialist

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The session included two rounds of questions to the panelists. The first round of questions was dedicated to the distinctive features of the Central American renewable energy finance market and specific solutions offered by the institutions.

Ms. Natacha Marzolf, Principal, Energy Division, Inter-American Development Bank (IDB), presented the structure of IDB and the solutions offered by the bank, in particular, policy-based lending. Policy-based lending is a powerful tool, and IDB assists countries in developing a regulatory framework to enable private investments in the country's energy system.

Ms. Lucia Spinelli, Senior Energy Specialist, The World Bank, emphasized that Latin American region has made much progress in terms of renewable energy development. The realities on the continent are different across countries. Accordingly, the risks (institutional, country risk, geopolitical, etc.) and their importance vary per country. At the same time, reasons for developing renewable energy might be different per country, ranging from emission reductions to energy independence. The ideal tool will depend on the country's situation. The World Bank Group works closely with countries to identify different bottlenecks. The geopolitical risks are currently being a driver of the energy transition.

Ms. Carolina Vera, Head of Portfolio Quality and Performance, FONPLATA Development Bank, mentioned that FONPLATA supports countries offering more convenient financial conditions for mitigation and adaptation projects and is not involved in policy and regulatory framework development. FONPLATA also supports countries' investment plans. For this, the first step is to raise awareness, and FONPLATA has a portfolio of different mid- and small size projects, across energy, water management and other sectors. A

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special fund provides preferential rates for green projects to reduce CO2 emissions. The projects should correspond to the following main criteria: relation with SDG, socio-economic assessment testing feasibility and environmental studies.

Mr. Fernando Fanconi, Energy Specialist, Central American Bank for Economic Integration (CABEI), stated that since its founding, CABEI has invested USD 7B into infrastructure, transmission, and policy development instruments. One third of 18 GW of renewable energy capacity in the region involved CABEI's financing. Policy development and social development are very important to the institution. CABEI has seen significant progress and strengthened frameworks across the region. It has been identified that the required annual investment for the LATAM region amounts to USD 290B of which 73% is to be provided by the private sector. Multilateral development banks can help in identifying and managing risk. While the private sector is efficient in rolling out projects, the public sector might be better at managing risks at the beginning of the projects. Green hydrogen will be very important.

Mr. Fernando Cubillos, Manager of New Business, Development Bank of Latin America (CAF), indicated that since 2012 and up to this year, CAF sees an impressive evolution that is more optimistic than thought. Cost decreased while available capital and consumer appetite to transition to clean energy increased during this period. Still, a higher level of integration and penetration of renewable energies is needed. CAF shared 3 challenges:

- i. Transmission: In many countries (except Uruguay), transmission is lagging. While storage technologies will partly reduce the transmission issues, these alone will not suffice.
- ii. The capacity of the planning, decision making and permitting is lagging, this is a problem of efficiency in the regulatory framework. In volatile environments with changing governments, public sector has less ability to put forward this long-term strategy.
- iii. Bankability: Investments are very capital intense. Need to try commercial risk to be mitigated by increasing ambition to the lowest cost.

Mr. Eliacid Heredia Pizarro, Executive Director of Latin America, Siemens, noted that Siemens is known for its technology branch, however, Siemens Finance is involved in investing in the continent as one of the top financiers in Latin America. He shared 3 observations and highlighted Siemens activities:

- i. Appetite of private sector: Latin American market is in a favorable moment from geopolitical view and disruption of supply chain. To encourage investments, a transparent market for the private sector is important.
- ii. Development of transmission plays a crucial role.
- iii. Risk management should be addressed more collaboratively including efforts from governments, development banks, private developers. For Siemens Finance, not only offtake arrangements such as PPA are crucial. Siemens has an advantage, understanding much about technology.

The second round of questions discussed the future of renewable energy finance and how to enhance projects' bankability.

Ms. Natacha Marzolf, Inter-American Development Bank (IDB) mentioned that IDB puts a strong emphasis on co-financing, and tries to mobilize resources from other financiers, including national commitments from countries such as Korea, Japan, UAE (ADFD). Additionally, IDB works closely with IRENA, through the

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ETAF platform. This helps IDB to leverage higher (and often concessional) funding. As an example, IDB secured USD 400M from Green Climate Fund (including grants). IDBs value added is partnership with countries and governments.

Ms. Lucia Spinelli, The World Bank, listed three key elements needed to be taken into account when speaking about projects' bankability: transmission, permitting, lessons learnt from other countries. An acceleration of the development is needed, projects need to be identified and put in practice. For this, the whole process needs to be secured, this requires transparency on energy planning, including technology and locations from governments.

According to Ms. Carolina Vera, FONPLATA Development Bank, the challenge for development banks is to make the approval process less bureaucratic. Complementarity between development banks is crucial.

Mr. Fernando Cubillos, Development Bank of Latin America (CAF), stated that the development banks are the only players involved during the whole life cycle of the renewable energy project development. The development banks must leverage their long-term role supporting developers on one side and the governments on the other side, ensuring the sustainability of the projects.

Mr. Eliacid Heredia Pizarro, Siemens, emphasized the value contribution of multilateral development banks' involvement in a project financing. For Siemens, this is a guarantee that early phases of development have been conducted in a transparent way.

Fernando Fanconi, CABEL, explained how CABEL sees a role of development banks in supporting countries. Facilitating blended finance should become a key aspect of the banks, with attention to bringing concessional resources where relevant. It is up to the development banks to mitigate and share the risks involved.

SESSION IV: Developers' Perspective: Developing and Implementing Energy Transition Projects

The panel session IV featured developers' experiences across the deployment of energy transition related projects. It also examined some of the key challenges and opportunities developers face and provided the opportunity to share best practices and examples of the successful implementation of renewable energy projects.

The session was moderated by Mr. Erick Ruiz-Araya, Deputy Director, Project Facilitation and Support, IRENA and brought together high-level panellists from the public and private sector. Panellists consisted of:

- **Costa Rica** - Mr. Carlos Avila Arquin, Vice-Minister, Ministry of Transport and Public Infrastructure
- **ZUMA Energía** - Mr. Ramon Salcedo, Managing Director (Mexico)
- **Siete Energy** - Mr. Alfredo Garcia, Managing Director (Mexico)
- **DAM Energy** - Mr. Ismail Santos, CEO (Brazil)
- **ASMARTSOL** - Mr. Alfredo Alvear, CEO (Ecuador)

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Mr Ramo Salcedo (ZUMA Energia) categorised the challenges into 4 groups: i) Regulation – with changes in the regulatory framework and regional differences hampering scale up of renewables ii) Social component - a lack of local involvement often blocking deployment iii) Not all developers have the same capacity to attract financing and iv) Technological capabilities – the LATAM region is competing with EU and USA for skilled labour and technology.

Vice Minister Carlos Avila Arquin (Costa Rica MoT) highlighted that forums like the Latin American Energy Transition Investment Forum allow for cooperation and learning through experience, discussing strategies and policy changes. Cooperation should also extend to commercial and development banks, and intergovernmental organizations like IRENA. As an example, Costa Rica decided to stall exploration for oil resources, focusing on exploitation of its national renewable resources. With a higher share of renewables, now Costa Rica is further looking to accelerate its transition, including E-mobility. The Ministry has found a partner in IRENA to put this forward.

There are many opportunities for collaboration with local communities to maximize the positive impact of the project, from the start of the project, such as promoting education. This involves cooperation on developing infrastructure in areas where roads, electric structures and public services are not there. Success of these alliances requires a long-term, collaborative approach looking for long lasting positive impacts. On the Brazilian market, a combination of high renewable potential keeps the development costs down, allowing for sharing of profits with local communities. In one project, a council of partners was put together, municipalities received 3% of the gross project revenue, making the project more appealing in

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an isolated area. The funds were allocated to the community which chose to use the funding to enhance schools in the area.

When asked about the emerging trends in the LATAM region, Mr. Alfredo Alvear identified i) innovation in solar PV, creating more efficient panels and ii) integration of artificial intelligence, including maintenance optimization as key evolutions. As a suggestion for change, he listed need to i) assess risk in broader terms, ii) development of renewable energy industry chambers, as has been done for the Oil&Gas sector and iii) supportive policies where small developers team up with larger ones as the result of a tender process requirements.

When asked about the regulatory framework challenges, Alfredo Garcia (Siete energy), expressed that the permitting process is too complex and often involves different levels (local and national).

Talking about the environmental impact of large infrastructure projects, Mr. Ramon Salcedo (ZUMA), considered the need to include the social dimension. Fortunately, banks have made sure that ESIA and mitigation measure documents are given importance. The whole investment community and decision-making board needs to read those documents. Important to have mechanisms to share the benefits. For ZUMA, this does not necessarily imply sharing of revenues or profit. However, part of the funds needs to stay in the community. This can take on different shapes, at ZUMA, the focus is on i) education ii) health care and iii) environmental aspects and iv) constant communication. ZUMA has a focal point per community. A conflict resolution mechanism could be of value, to be documented for later auditing (by external or company itself).

Regarding proposed actions for multilateral development banks, Vice Minister Carlos Avila Arquin (Costa Rica) stressed that high-impact projects deserve better credit conditions, including lower rates, considering that they are non-profit proposals. For all projects, the financing process is very rigid and strict, with elaborate documentation required. Banks often do not change their ways, private and multilateral banks need to have a more novel and flexible mindset, in particular for the projects which do not have a commercial dimension. Mr. Alfredo Alvear (Asmartol) added that the intense rules and procedures increase the development costs of projects. Permitting procedure can take way longer than the actual construction. In Latin America there is overregulation. As a result, smaller projects often stay on paper. Raising capital is very complex, a liquid guarantee could be an instrument to mitigate this. Every country should have an association of electricity generation, to collaborate and guide the government.

Project Exhibition and Financial Matchmaking Sessions

The event was focused on connecting public and private project proponents from the Latin American region with potential financial partners for the purpose of promoting an engagement with the final objective of identifying suitable financial products as per the project needs. The format of the event allowed for interaction between developers and financiers in two settings: a room dedicated for one-on-one closed-door private meetings and an exhibition area highlighting additional projects from the region to enable networking with a diverse group of stakeholders.

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The project exhibition presented a total of 21 projects from the region, with an aggregated installed capacity of more than 1.2 GW and an aggregated total project cost of around USD 2.6 billion including such renewable energy technologies as solar PV and battery storage, wind, hydropower, biomass and biogas, e-mobility.



List of projects participated in the exhibition session:

Project Name/Description	Developer	Country	Technology	Size of Project
Solar plant for Aguaje oil and cacao/chocolate production	PROFONANPE	Peru	Solar PV + battery storage	32.8 kWp
Pontal wind farm project in Porto Alegre	SIETE ENERGY, SA DE CV	Brazil	Wind	117 MW
Malargüe multipurpose hydropower plant	EMESA	Argentina	Hydropower	0.5 MW
Piauí hybrid energy generation park	DAM ENERGY EIRELI	Brazil	Solar-wind hybrid	421.5 MW (Wind 265.5MW and Solar 156MW)
Passo do Farinheiro	DAM ENERGY EIRELI	Brazil	Hydropower	2.54 MW
Santa Cecília	DAM ENERGY EIRELI	Brazil	Hydropower	5 MW
Cerro Grande	DAM ENERGY EIRELI	Brazil	Hydropower	4 MW
Alvera I solar plant	ASMARTSOL	Ecuador	Solar PV	4 MW
Municipal waste-to-energy gasification plant	Coopeguanacaste, R.L.	Costa Rica	Solid Biomass	9 MW
Electro mobility of Costa Rica's Great Metro Area	National Bank of Costa Rica	Costa Rica	E-transportation	311 buses

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Dovales biogas plant	DOVALES SA/Mercados Renovables SRL	Argentina	Biogas	0.6 MW
Usina P&M Tandil Usicom biogas plant	USICOM SA/Mercados Renovables SRL	Argentina	Biogas	1 MW
Community scale hydropower project	ATDER-BL & APRODELBO (NGO)	Nicaragua	Hydropower	1.7 MW
Hydroelectric power station - Tingo 1	Sieteenergy/ENERG ORET S.A.C	Peru	Hydropower	355 MW
Uspallata hydropower plant	EMESA	Argentina	Hydropower	167 MW
Río Mendoza inferior hydropower plant	EMESA	Argentina	Hydropower	25 MW
El Baqueano hydropower plant	EMESA	Argentina	Hydropower	116 MW
Acelhuate river biogas power plant	Executive Hydroelectric Commission of Lempa River	El Salvador	Biogas	5.43 MW
Distributed solar farms	EVOLTI	Colombia	Solar PV	20 MW
Intelligent solar biopanel	Greenfluidics	Mexico	Solar PV	0.2 MW
Building-integrated photovoltaics	HD Photovoltaics	Argentina	Solar PV	13.5 kW

The exhibition yielded productive discussions and facilitated networking between participants.

The bilateral meetings room provided an opportunity for interested financiers to pre-book meetings with project proponents and have more in-depth discussions on the projects. A total number of bilateral matchmaking meetings organized was 20 with 13 meetings conducted on the ground, and 7 meetings organized in a virtual format. The aggregated installed capacity of the participated in the bilateral meetings projects totalled 1 GW with an aggregated project cost of around USD 1.9 billion.

List of projects participated in the matchmaking:

Project Name/Description	Developer	Country	Technology	Size of Project
Pontal wind farm project in Porto Alegre	SIETE ENERGY, SA DE CV	Brazil	Wind	117 MW

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Piauí hybrid energy generation park	DAM ENERGY EIRELI	Brazil	Solar-wind hybrid	421.5 MW (Wind 265.5MW and Solar 156MW)
Passo do Farinheiro	DAM ENERGY EIRELI	Brazil	Hydropower	2.54 MW
Santa Cecília	DAM ENERGY EIRELI	Brazil	Hydropower	5 MW
Cerro Grande	DAM ENERGY EIRELI	Brazil	Hydropower	4 MW
Alvera I solar plant	ASMARTSOL	Ecuador	Solar PV	4 MW
Municipal waste-to-energy gasification plant	Coopeguanacaste, R.L.	Costa Rica	Solid Biomass	9 MW
Electro mobility of Costa Rica's Great Metro Area	National Bank of Costa Rica	Costa Rica	E-transportation	311 buses
Hydroelectric power station - Tingo 1	Sieteenergy/ENERG ORET S.A.C	Peru	Hydropower	355 MW
Uspallata hydropower plant	EMESA	Argentina	Hydropower	167 MW
Acelhuate river biogas power plant	Executive Hydroelectric Commission of Lempa River	El Salvador	Biogas	5.43 MW



A survey was conducted after the bilateral matchmaking session. The financiers expressed interest in further engaging with the developers to explore possibilities of a partnership or funding/support of the projects. Projects from Costa Rica, El Salvador, Brazil, and Argentina gained the most interest from the financiers.

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Youth-led start-ups

As part of IRENA's commitment to youth engagement and thanks to the invaluable support received by GEAPP, three youth-led start-ups from the region showcased their innovative renewable energy projects at a project exhibition session. These promising start-ups were selected from the first cohort of the [IRENA NewGen Renewable Energy Accelerator Programme](#), a flagship initiative aimed at nurturing and empowering young talent active in the energy transition, with the specific objective of connecting the projects with potential financial partners. As part of the assistance provided by IRENA, a project information sheet and presentation were developed and used to present the projects to financiers attending the exhibition. Along with the project exhibition the start-up representatives were also invited to take part in the project finance training held on the Pre-Forum day.

The three NewGen start-ups invited to participate in the investment forum included [EVOLTI](#) from Colombia, [Greenfluidics](#) from Mexico, and [HD Photovoltaics](#) from Argentina (see additional details above). The aggregated installed capacity of the three selected projects was 20.2 MW with an aggregated project cost of USD 22.1 million.

IRENA's commitment extends beyond this initial platform and engagement and will continue to provide technical assistance to the participating youth-led start-ups in the NewGen programme to accelerate their development and help them to secure finance for their projects.

Annex 1. Detailed Agenda

Pre-Forum Day: Project Finance Training Tuesday, 7 November 2023	
Part A: Introduction to IRENA's Project Facilitation Tools	
09:00 – 09:15	Climate Investment Platform (CIP)
09:15 – 09:30	Energy Transition Accelerator Financing Platform (ETAF)
09:30 – 10:00	Review of IRENA's Project Assessment Criteria and PID
Part B: Rudiments of Project Finance	
10:00 – 11:00	Introduction and Concepts
11:00 – 12:00	Contracts
12:00 – 13:00	Risks
13:00 – 14:00	Lunch
14:00 – 15:00	Financial Structuring

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15:00 – 16:00	Loan Agreement
16:00 – 17:00	Discussions and Examples
17:00 – 17:30	Wrap-up

Day 1: High Level Energy Transitions Dialogue Wednesday, 8 November 2023	
08:30 – 09:00	<p style="text-align: center;">Joint Opening of the Latin America Energy Transition Investment Forum and Ministerial Dialogue</p> <p><u>Keynote</u></p> <ul style="list-style-type: none"> - H.E. Mrs Elisa Facio, Minister of Industry, Energy and Mining <p><u>Welcoming remarks:</u></p> <ul style="list-style-type: none"> - Mr Francesco La Camera, Director-General, IRENA - Mr Andrés Rebolledo, Executive Secretary, OLADE - Mr Ariel Yépez, Manager Energy and Infrastructure Sector, IDB.
09:00 – 11:00	LIII OLADE Ministerial Meeting
11:00 – 13:30	<p style="text-align: center;">Latin America Energy Transition Investment Forum Ministerial Dialogue on Promoting Energy Transition Investments and Facilitating Finance in the Region Presented by IRENA, IDB and OLADE</p> <p>Latin America boasts a wealth of renewable energy resources, yet it remains with some of the lowest levels of investments for the development of these technologies; facilitating financing remains a challenge in the region and clearing the existing hurdles can governments harness this potential and serve as a catalyst for governments in their ardent pursuit of a sustainable and resilient energy transition.</p> <p>This high-level dialogue will take place in the context of OLADE Ministerial meeting, offering Ministers with a platform to share their perspectives on the urgent need to activate investments towards energy transition-related technologies. A scene-setting presentation addressing the current state of financing the energy transition in Latin America will be followed by an open discussion by Ministers and other stakeholders, allowing them to engage about the pressing need to promote investments in technologies related to the transition and facilitating the necessary financial mechanisms to support an opportune and effective transition.</p> <p>The session will be further enhanced by an update on the progress of the Renewables in Latin America and the Caribbean (RELAC) initiative, allowing its member countries to gain insights of the current state and future of this ambitious endeavour.</p>

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	<ul style="list-style-type: none"> - Scene Setting Presentation “Financing the Energy Transition in Latin America and the Caribbean” – Mr Ricardo Gorini, Head Renewable Energy Transition Roadmaps (REMAP), Innovation and Technology Centre IRENA (15 min) - Round table discussion with Ministers, observers and high-level representatives from key partners – moderated by Ms. Isabel Beltran, Managing Director, Latin America & the Caribbean, Global Energy Alliance for People and Planet (GEAPP) - <p><u>Guiding questions for the roundtable discussion:</u></p> <ul style="list-style-type: none"> ○ <i>In order to enhance the deployment of energy transition technologies across Latin America, what policies, regulations, and financial frameworks are needed?</i> ○ <i>What can IRENA do to accelerate energy transition-related investments by Development Banks, Financial Institutions, and Private Sector Project Developers?</i> ○ <i>How can financiers/international organizations support the mobilization of financial resources to energy transition in Latin America? Financing for Renewable Energy projects has been lagging in Latin America. What are the key barriers for funding to become more fluid in the region?</i> ○ <i>Are there additional aspects of national energy strategies developed towards 2030 and 2050 that could be affected and have a negative impact on the renewable energy investments moving forward? How can these threats be addressed? How does policy and regulation further influence financial decision-making in favour of renewable energy and other energy transition technologies?</i> ○ <i>What incentives can governments offer to developers and private sector in order to redirect investments in fossil fuels towards energy-transition- related technologies and infrastructure? What are the main obstacles currently impeding the phasing out of subsidies that facilitate fossil-fuel investments?</i> ○ <i>How can public investments go into infrastructure and assets that support the integration of renewables into the energy system?</i> ○ <i>What measures are being considered or undertaken in your country to move forward with regional energy integration and what are the main challenges that hinder its development.?</i> <ul style="list-style-type: none"> - Presentation: Increasing Investments in the RELAC context.
<p>13:30 – 14:30</p>	<p>Lunch</p>

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14:30 – 16:00

SESSION I: High-Level Panel Discussion on Creating Enabling Conditions Conducive to Energy Transition Investments in Latin America

This session will discuss enabling policy, regulatory and institutional frameworks that can help drive the investment needed for sustainable energy transitions, such as, regional and national commitments to raise ambitions, measures that eliminate market distortions and disincentivize new investments in fossil fuel technologies and policy instruments that mitigate risks and facilitate access to finance.

In current times where the need for energy transition has never been more pressing, this discussion aims to address the complex challenges and opportunities that shape the investment landscape in Latin America. The discussion delves into the critical role of policy coherence, regulation, public-private partnerships, and international collaboration in fostering an environment where sustainable energy investments can flourish.

Moderator: Mr Gurbuz Gonul, Director, Country Engagement and Partnerships, IRENA

Panellists:

- **Uruguay** – H.E. Mrs Elisa Facio, Minister of Industry, Energy and Mining
- **CAF** – Mr Jorge Arbache, Vice President, Private Sector
- **Acciona Energía** – Mr Miguel Arrarás, General Director for South America
- **United States of America** – Mr José Fernández, Under Secretary for Economic Growth, Energy, and Environment, Department of State
- **UNDP** – Mr Alfonso Fernández de Castro, Uruguay Resident Representative

Guiding questions for the session:

- *Which are the enabling policies that would help eliminate market distortions and disincentivize new investments in fossil fuel technologies?*
- *Which policies and measures to support the deployment of renewables and support their integration into the power and wider energy systems are being taking in your country?*
- *Public financing coupled with international collaboration are critical to achieve a just and inclusive energy transition. Which public financing policies are the most relevant to attract private capital towards developing critical energy infrastructure that facilitate an accelerated uptake of renewable technologies?*
- *As there is an increased reluctance from governments to offer sovereign guarantees as a mitigation instrument for climate-related projects, what other options are available for governments to secure funding?*
- *In what ways has the region utilized policies such as national commitments to increase ambitions or measures designed to eliminate market distortions and disincentivize new investments in fossil fuel technologies to reduce risks and facilitate access to financing?*

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16:00 – 16:30	Coffee Break
16:30 – 18:00	<p>SESSION II: High-Level Panel Discussion on Innovative Financing for Boosting Energy Transition Investments in the Region</p> <p>High level discussion will focus on innovative financing practices from and outside the region that can help accelerate energy transition investments. The discussion will also examine mechanisms of aggregating demand and corresponding procurement solutions that can help lower investment costs specifically for decentralized renewable energy systems.</p> <p>The aim of the session is to provide a spotlight on innovative financing strategies that have the potential to expedite investments in the energy transition, a critical imperative for sustainable development and climate mitigation. The discussion will foster an environment where innovative financing practices can flourish, propelling the region towards a greener, more sustainable, and energy-secure future.</p> <p><u>Keynote Remarks:</u> Mr Henry Gonzalez, Deputy Executive Director, GCF</p> <p><u>Moderator:</u> Mr Marcelino Madrigal, Chief of the Energy Division, IDB</p> <p><u>Panellists:</u></p> <ul style="list-style-type: none"> - Dominican Republic – Mr Rafael Orlando Gómez Del Giudice, Vice Minister of Energy - Cuba – Ms Tatiana Amarán Bogachova, Vice Minister of Energy and Mines - Costa Rica – Mr Carlos Isaac Pérez Mejía, Vice Minister of Strategic Management, Ministry of Environment and Energy - Caribbean Climate-Smart Accelerator - Mrs Racquel Moses, CEO. - Global Wind Energy Council (GWEC) – Mr Ramón Fiestas, President Latin America - Global Energy Alliance for People and Planet (GEAPP) – Ms. Isabel Beltran, Managing Director, Latin America & the Caribbean <p><u>Guiding questions for the session:</u></p> <ul style="list-style-type: none"> ○ What is your country/institution doing to facilitate new forms of innovative financing and promote investments in renewable energy and other relevant sectors? ○ What can be done by countries/institutions to facilitate the financing of new energy sources such as green hydrogen and electric vehicles. ○ <i>Green bonds can help attract institutional investors and channel private capital in the renewable energy sector. What policy and regulation changes can be revised to attract institutional capital to invest in these of instruments?</i> ○ <i>Mobilisation of low-cost debt will be critical for deployment of capital-intensive renewable energy projects. What is the outlook for Latin</i>

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	<p><i>American countries in accessing low-cost debt? Are there existing policy barriers that need to be addressed for an increased accessible funding related to renewable energy projects?</i></p> <ul style="list-style-type: none"> ○ <i>What is the role of development banks in helping facilitate the financing of energy projects and contribute to attract private capital?</i> ○ <i>Under which settings can philanthropies contributions help fill the gaps left by governments and support the livelihoods and well-being of relatively poor populations without relying on fossil fuels.</i>
<p>Day 2: Deep-dive Sessions Thursday, 9 November 2023</p>	
<p>09:00 – 10:30</p>	<p>SESSION III: Financiers’ Perspective: Access to Energy Transition Finance</p> <p>This session provides financiers with an opportunity to share their experiences in the origination and appraisal of renewable energy projects. The session will also discuss what developers can do to prevent costly mistakes that may adversely affect project valuation and bankability.</p> <p><u>Moderator:</u> Mr. Ahmed Badr, Director, Project Facilitation and Support, IRENA</p> <p><u>Panellists:</u></p> <ul style="list-style-type: none"> - Siemens - Mr Eliacid Heredia Pizarro, Executive Director of Latin America - InterAmerican Development Bank - Ms. Natacha Marzolf, Principal, Energy Division - Central American Bank for Economic Integration - Mr. Fernando Fanconi, Energy Specialist, - Development Bank of Latin America (CAF) - Mr. Fernando Cubillos, Manager of New Business - FONPLATA Development Bank - Ms. Carolina Vera, Head of Portfolio Quality and Performance - World Bank - Ms. Lucia Spinelli, Senior Energy Specialist
<p>10:30 – 11:00</p>	<p>Coffee Break</p>
<p>11:00 – 12:30</p>	<p>SESSION IV: Developers’ Perspective: Developing and Implementing Energy Transition Projects</p> <p>This session will focus on developers’ experiences across the deployment of energy transition related projects. It will also examine some of the key challenges and opportunities developers face and provide the opportunity to share best practices and examples of the successful implementation of renewable energy projects.</p> <p><u>Moderator:</u> Mr. Erick Ruiz-Araya, Deputy Director, Project Facilitation and Support, IRENA</p>

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	<p><u>Panellists:</u></p> <ul style="list-style-type: none"> - Costa Rica - Mr. Carlos Avila Arquin, Vice-Minister, Ministry of Transport and Public Infrastructure - ZUMA Energía - Mr. Ramon Salcedo, Managing Director - EMESA Argentina - Mr. Pablo Magistocchi, President - Siete Energy - Mr. Alfredo Garcia, Managing Director - DAM Energy - Mr. Ismail Santos, CEO 		
12:30 – 13:30	Lunch		
13:30 – 17:30	<p>Project Exhibition Area</p> <p>Exhibition area to highlight additional projects from the region and to offer the opportunity to network with a diverse group of stakeholders who aim to advance the energy transition.</p>	13:30 – 17:30	<p>Matchmaking between Project Developers, Investors and Financiers (Facilitated by IRENA)</p> <p>Session focused on connecting public and private project proponents with potential financial and commercial partners for the purpose of promoting an engagement with the final objective of identifying suitable financial products as per the project needs. Projects featured to be a part of the matchmaking event will be screened by IRENA to ensure they are sufficiently advanced and suitable for the event.</p> <p>The format of the session will allow for both pre-booked bilateral meetings between projects and financiers, in addition to an exhibition style room where project information will be on display for the perusal of invited financiers. Developers and financiers will have access to basic information of each other at least 1 week before the event.</p>

Annex 2. Presentation “Financing the energy transition in Latin America and the Caribbean”

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LATIN AMERICA
ENERGY TRANSITION
INVESTMENT FORUM



Financiación de la transición energética en América Latina y el Caribe

Dr. Ricardo Gorini, IRENA

Miércoles, 8 de noviembre 2023

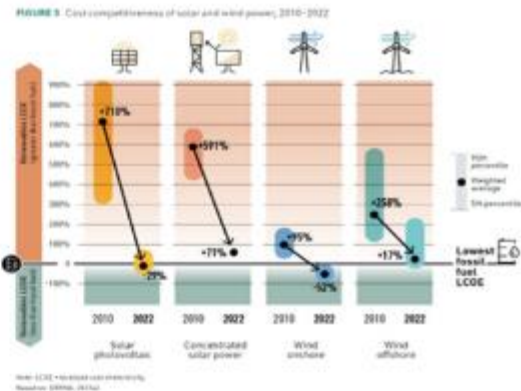
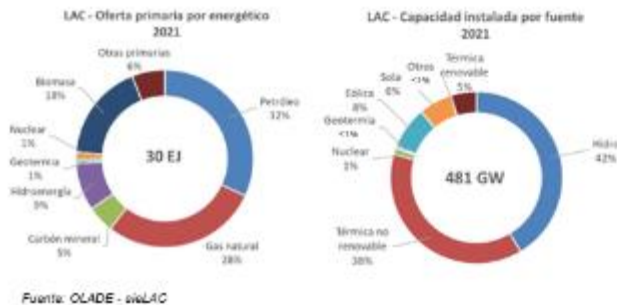


América Latina y el Caribe

Región con abundancia de renovables y competitividad en costos



- La oferta primaria de la región es diversificada, aún **65% combustibles fósiles**.
- En **generación eléctrica** se cuenta con una **participación alta de renovables (ca. 60%)**.
- La **energía renovable en la región es una de las más competitivas** del mundo.
- Hay **abundancia** de recursos energéticos.

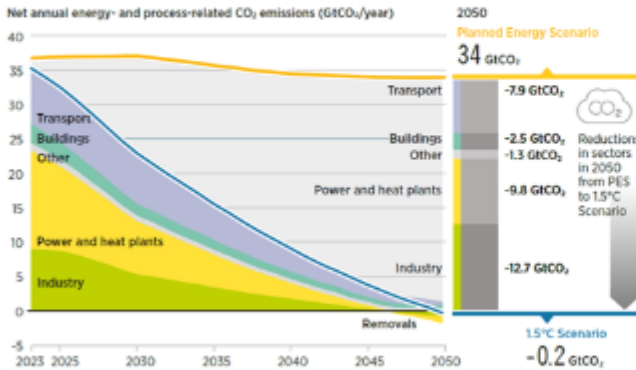


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WETO: Perspectiva global de transición energética Esfuerzos sustanciales en los sectores más allá de los planes existentes



FIGURE 1.4 Estimated trends in global CO₂ emissions under the Planned Energy Scenario and 1.5°C Scenario, 2023-2050



- Reducción de manera acelerada de las emisiones en las próximas décadas hacia el 2050, logrando el cero-neto.
- Todos los sectores de consumo de energía y los agentes pasarán por transformaciones.
- La forma como producimos energía y consumimos los servicios energéticos cambiaría dramáticamente.
- Más energía renovable, más eficiencia y resiliencia.

WETO: Perspectiva global de transición energética Nuevas oportunidades en varios distintos mercados



- El aumento de la electrificación es una de las tendencias dominantes, junto con eficiencia energética.
- La generación renovable superaría el 90% en 2050, y la energía solar fotovoltaica y la eólica dominarían el crecimiento.
- La bioenergía necesitaría aumentar 4 veces a 2050 vs 2020.
- La producción de hidrógeno limpio como mercado promisorio para apoyar la descarbonización de los sectores más complejos ("hard-to-abate sectors").
- Se crearían nuevas cadenas de valor y se reorganizarían la producción y el comercio global.

TABLE 1.1 Key performance indicators for achieving the 1.5°C Scenario compared with the Planned Energy Scenario in 2010 and 2050

			Recent years		2030		2050	
			2020	PES	1.5°C Scenario	PES	1.5°C Scenario	
KPI 01 RENEWABLES (POWER)	Electricity generation (TWh/yr)	Global	1 403	30 104	37 218	33 118	32 140	
		SDG	4 217	14 388	22 281	20 071	19 527	
KPI 02 RENEWABLES (DIRECT USE)	Renewable energy share in electricity generation (%)	Global	33%	46%	60%	73%	81%	
		SDG	33%	43%	58%	54%	67%	
KPI 03 ENERGY EFFICIENCY	Renewable energy share in TPEC (%)	Global	16%	23%	33%	37%	52%	
		SDG	16%	22%	30%	32%	47%	
KPI 04 ELECTRIFICATION IN THE INDUSTRIAL AND BUILDINGS SECTORS	Modern use of bioenergy (EJ)	Global	21	30	52	41	61	
		SDG	19	26	36	33	40	
KPI 05 CLEAN HYDROGEN AND OTHERS	Energy intensity improvement rate (%)	Global	1.7%	1.8%	1.3%	1.0%	1.8%	
		SDG	2.1%	2.1%	1.8%	2.3%	1.7%	
KPI 06 CO ₂ , BIOGAS AND OTHERS	Electrification rate in TPEC (%)	Global	23%	28%	29%	28%	51%	
		SDG	24%	30%	38%	37%	58%	
KPI 05 CLEAN HYDROGEN AND OTHERS	Production of clean hydrogen (Mt)	Global	0.7 Mt/yr	2	15	21	121	
		SDG	0.3 Mt/yr	2	34	30	171	
KPI 06 CO ₂ , BIOGAS AND OTHERS	CO ₂ captured from CCS, BECCS and other removal measures (Gt)	Global	0.08 GtCO ₂ /yr	0.1	2.2	0.5	3.0	
		SDG	0.08 GtCO ₂ /yr	0.1	2.1	0.4	4.9	

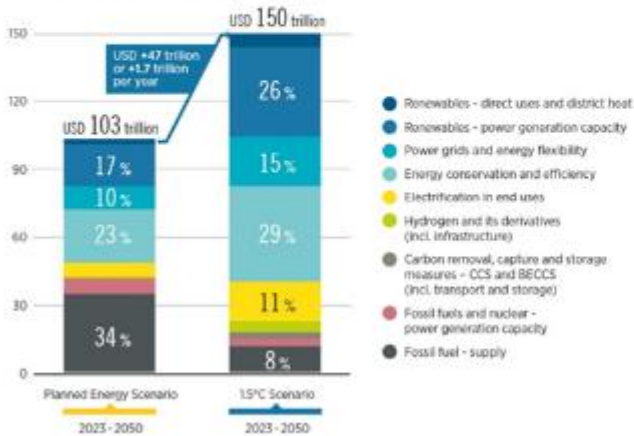
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WETO: Perspectiva global de transición energética Inversión enfocada en renovables, eficiencia energética y electrificación



FIGURE 3.1 Global investment by technological avenue: Planned Energy Scenario and 1.5°C Scenario, 2023-2050

Cumulative energy sector investments, 2023-2050 (USD trillion)



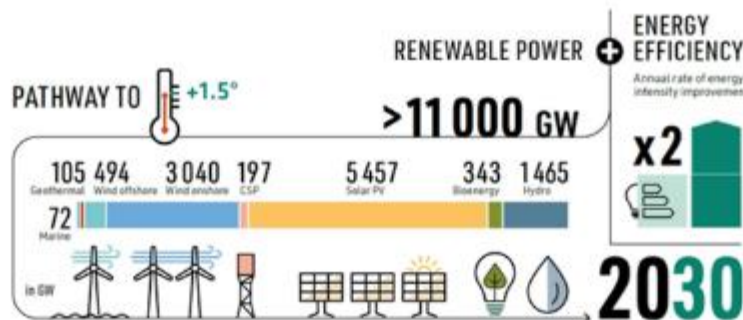
Notes: BECCS = bioenergy, carbon capture and storage; CCS = carbon capture and storage.

- Aumento de las inversiones en energía e infraestructura para la transición energética.
- El **portfolio** de inversión **cambia** significativamente.
- **Más** inversión en renovables y **menos** en fósiles.

WETO: Perspectiva global a corto plazo Triple capacidad instalada a base de renovables a 2030



- A 2030, se requiere que la **capacidad instalada renovable global triplique** (> 11 TW), al mismo tiempo que se **dupliquen los esfuerzos en eficiencia energética**.
- Inversión promedio anual en expansión de generación renovable de 1.3 [tri]billones de dólares (vs ~500 billones a 2022)



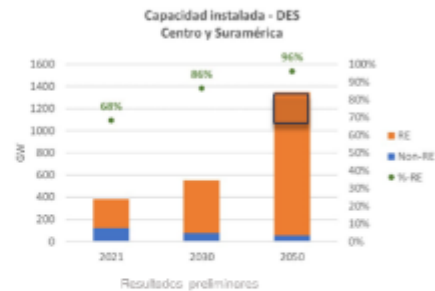
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RETO: Centro y Suramérica

Transición energética mediante electrificación, generación renovable y bioenergía



- La **bioenergía y otras renovables** constituirían ca. un tercio del consumo energético final al 2050.
- La **participación de electricidad se duplicaría** en el 2050.
- La región podría ser **líder global en renovabilidad del sistema eléctrico**.



KPI	Indicadores	Histórico	2030		2050	
		2020	PES	1.5-S	PES	1.5-S
Renovables (usos directos)	Participación de bioenergía en TFEC (%)	21%	22%	20%	22%	31%
	Participación de otras RE en TFEC (%)	0.3%	0.4%	0.6%	0.5%	2.0%
Intensidad energética	Variación de TFEC vs año base (%)	-	+21%	+9%	+70%	+18%
Electrificación	Participación de electricidad en TFEC (%)	20%	21%	27%	21%	43%
Hidrógeno limpio	Participación de H ₂ limpio en TFEC (%)	0.0%	0.0%	0.5%	0.0%	0.8%

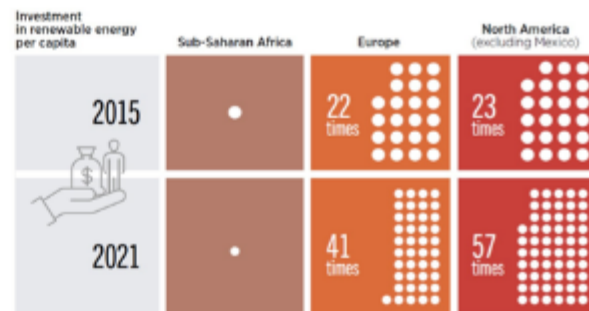
Resultados preliminares

RETO: Centro y Suramérica

La atracción de inversión es clave para la región



- **Inversión en el sector energético y eléctrico:** expansión de la bioenergía, incluso SAF, aumento de proyectos de generación renovable, hidrógeno limpio
- **Inversión en infraestructura:** expansión de la red, carga inteligente, *hubs* y polos de producción
- **Inversión en reindustrialización y nuevas cadenas de valor:** minerales críticos y acabados, baterías, vehículos eléctricos
- **Medidas de atracción de inversión:** macroeconómicas, gobernanza, reducción del riesgo ("*de-risking*"), cooperación internacional, fondos públicos y finanzas climáticas



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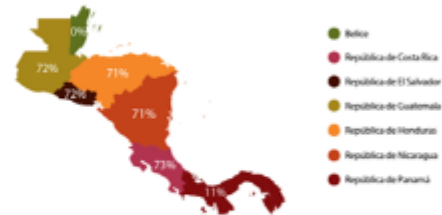
LAC: Integración regional

Transición energética como elemento catalizador – Caso Centroamérica



- **Mayor despliegue de energías renovables** (participación de 86% → 90%)
- **Reducción de emisiones** (8.9 MtCO₂/año → 2.6 MtCO₂/año)
- Soluciones de flexibilidad **reducen vertido de energías renovables** (7 TWh → 1.5 TWh) y **evitan pérdida de carga**
- **Sistema robusto** incluso con baja disponibilidad hídrica
- **Disminución del costo marginal y los costos totales del sistema**

Figura 31: Reducción del precio marginal del sistema en el escenario de mayor interconexión en virtud del DES en 2050



Nota: el precio marginal del sistema se refiere al precio de la tecnología/central eléctrica que tendría que aumentar la generación si aumentara la demanda. Esta mapa se proporciona únicamente con fines ilustrativos. Los límites y nombres que se muestran no implican la expresión de ninguna opinión por parte de IRENA sobre el estado de cualquier región, país, territorio, ciudad o zona ni de sus autoridades, ni en relación con la delimitación de sus fronteras o límites.

LAC: Integración Regional

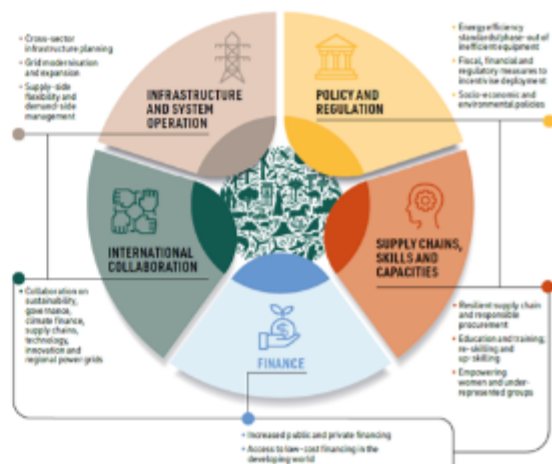
Coordinación para la transición energética



- **Visión regional estratégica** para la transición energética y el desarrollo regional.
- Refuerzo del rol de las **instituciones regionales**
- **Planificación energética participativa e integrada** a nivel regional.
- Expansión/creación de un **mercado de energía regional**
- Refuerzo e implementación de **planes de interconexión de la infraestructura energética**
- **Armonización de la regulación y operación** de los sistemas energéticos.
- **Desarrollo de la tecnología** en la región
- **Planificación de los distintos hubs de exportación** polos de **producción verde**, el proceso de **reindustrialización regional**.

FIGURE 6

KEY ENABLERS: TRIPLING RENEWABLE POWER & DOUBLING ENERGY EFFICIENCY



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Annex 3. Survey Results for the Financial Matchmaking and Project Training Sessions

1. Financial Matchmaking

Number of bilateral discussions organized: 20 (13 meetings were conducted on the ground, 7 meetings were organized in a virtual format).

The list of financial institutions, participated in the matchmaking session included multilateral development financial institutions, banks, private companies:

- Inter-American Development Bank
- Central American Bank for Economic Integration
- Asian Infrastructure Investment Bank
- Catalytic Finance
- ImpactA Global
- Capital Energy
- Zuma Energía

List of project developers, participated in the matchmaking session:

- SIETE ENERGY
- DAM ENERGY EIRELI
- ASMARTSOL
- Coopeguanacaste, R.L.
- National Bank of Costa Rica
- Executive Hydroelectric Commission of Lempa River
- EMESA

General feedback from financiers:

Financiers expressed interest in further engaging with the developers to explore possibilities of a partnership or funding/support of the projects.

General feedback from developers:

Developers indicated that the matchmaking session provided a good opportunity for networking. Matchmaking sessions should be organized taking into account other events and sessions happening at the same time. Scheduling the event at a time not overlapping with other important events would help attract more financiers to the exhibition and bilateral meetings rooms.

The following projects received the most interest from the financiers:

- Municipal waste-to-energy gasification plant - Coopeguanacaste, R.L. - Costa Rica - 9 MW

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- Electro mobility of Costa Rica's Great Metro Area - National Bank of Costa Rica - Costa Rica - 311 buses
- Acelhuate river biogas power plant - Executive Hydroelectric Commission of Lempa River - El Salvador - 5.43 MW
- Pontal wind farm project in Porto Alegre - SIETE ENERGY - Brazil - 117 MW
- Piauí hybrid energy generation park - DAM ENERGY EIRELI - Brazil - 421.5 MW
- Uspallata hydropower plant - EMESA - Argentina - 167 MW

The preliminary interest in further interaction was expressed by the following financial institutions:

Central American Bank for Economic Integration, Catalytic Finance, Capital Energy, ImpactA Global.

2. Project Finance Training

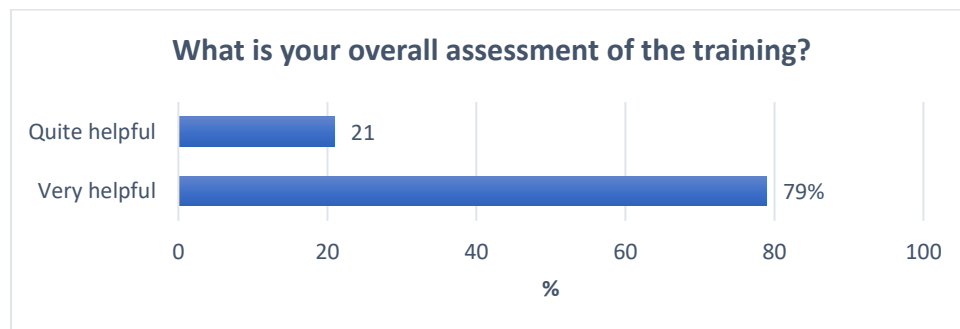
Number of participants: 66.

Responses received: 28,8 %.

Feedback statistics:

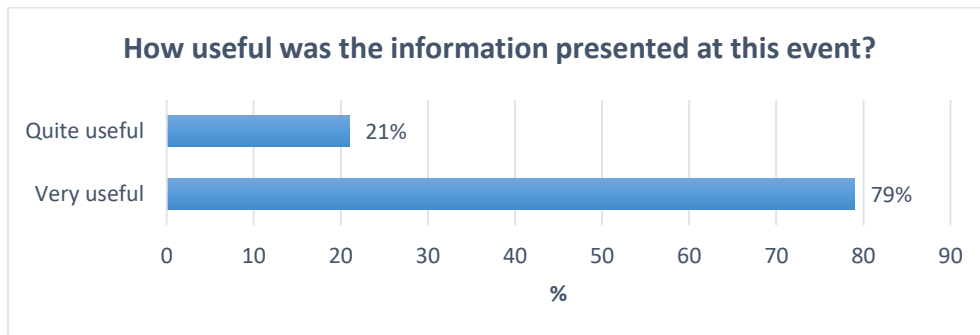
100% of the respondents indicated that they would be able to use the skills and knowledge gained at the project training and that they would be interested in attending such type of events in the future.

All the respondents positively assessed the training:

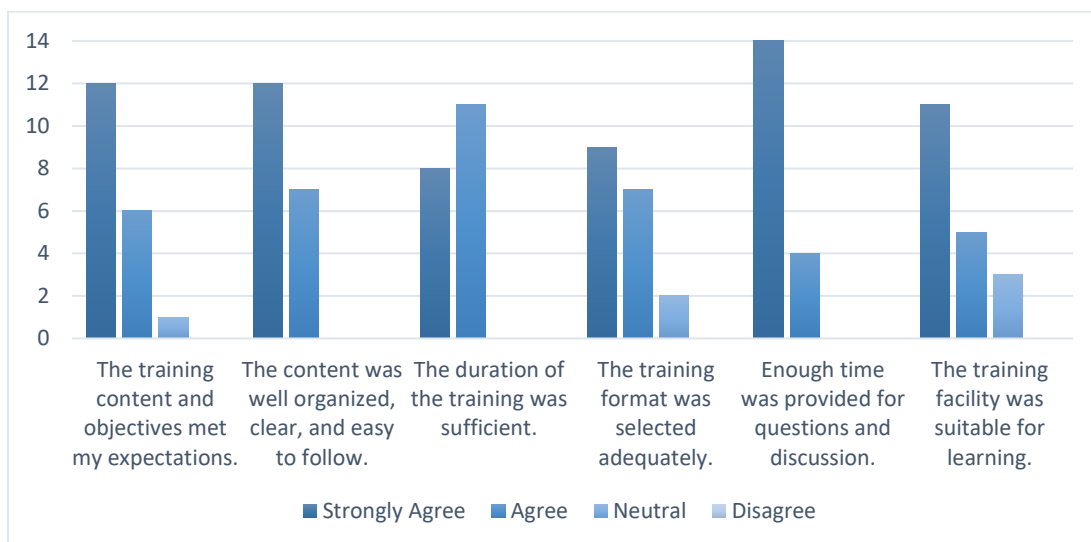


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All the respondents found the information presented at the training useful:



The training content and the way it was organized and presented met the expectations of the respondents. The participants emphasized there was enough time provided for questions and discussion, due to the interactive format of the event. In terms of the training facility, the participants indicated it could be useful to have desks to be able to make any necessary notes.



Regarding the training aspects which could be improved the participants suggested the following:

- More time should be dedicated to discussion of specific projects.
- More practical cases and examples.
- Additional time could be allocated for Q&A in order to better internalize concepts.
- A more in-depth discussion of certain topics is recommended.
- Easy access to the training material.
- Available in advance detailed training agenda.
- A video recording of the event could be beneficial.
- A more comfortable room with desks is needed.

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Among the topics the participants would like to see covered during the future events they listed:

- Format, templates, and examples of prefeasibility, feasibility studies for different renewable energy technologies.
- Practical examples of project submission and assessment for the CIP and ETAF platforms.
- Organizations offering financing and different funding programs.
- Financing of new technologies, innovation, and development.
- Access to financing for innovative startups.
- Carbon markets and how to access them with practical tools.
- Lessons learnt from real business cases.
- Combination of renewable energy and agriculture.
- Green hydrogen.