

Buenos Aires, September 17-24, 2021

#### LATIN AMERICAN ENERGY MATRIX: REGIONAL OVERVIEW AND FUTURE DEVELOPMENTS

Alfonso Blanco OLADE's Executive Secretary

#### **2019 LAC Energy Balance Summary**



Source: LAC Energy Outlook 2020





#### **HDI and Electrification rate**

Energy poverty can be presented through the Human Development Index (HDI) compared to residential electricity consumption per capita. It is clear that higher levels of household consumption correspond to a higher level of human development.



Currently, more than 97% of the region's population has access to electricity and other modern energy sources.

Approximately 18.2 million inhabitants do not have access to electricity.



LAC Electrification rate by subregions

Source: LAC Energy Outlook 2020





# **Total Primary Energy Supply: World & LAC**



### Final energy consumption by source



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#### **Renewability Index in LAC**

Conventional thermal generation still has an important participation in the electricity generation matrix.

The region has more than **26%** of renewable energy with respect to **total energy supply** and approximately **29%** of renewable energy with respect to **primary energy supply**, which is the highest percentage in the energy matrix compared to the rest of the world. However, during the last decades it did not incorporate renewable energies at the same rate as the increase in electricity demand. In order to meet this demand, the region has had to incorporate technologies that use fossil fuels.



Source: http://sielac.olade.org/



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### Installed power generation capacity





## **Electricity generation in the world and in LAC**



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### **Evolution of power generation in LAC**



Source: http://sielac.olade.org/





### **RELAC** Initiative

In September 2019, Colombia led the regional initiative called Renewable Energy in Latin America and the Caribbean (RELAC), whose objective is to increase the participation of renewable energies in the electricity generation matrix to achieve a goal of 70% by 2030. Increasing renewable energies will prioritize unconventional renewable energies to achieve this goal. Currently, 10 countries have joined this initiative.



On September 11, 2020, Colombia, Costa Rica and Chile, as co-leading countries of this initiative, organized a webinar on the experiences and perspectives in relation to the proposed goal.

OLADE, together with other international organizations such as the IDB, IRENA, LEDS LAC and WWF, support this initiative to which other countries in the region are in the process of joining.



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#### Strategy for an even more renewable region



OLADE, through a regional diagnosis, proposes a possible strategy that allows countries to increase their ambition in relation to the introduction of renewable generation and for cooperation organizations to have a unified regional agenda to promote this process.

The study had 4 main findings in relation to the incorporation of renewable energies in the region: Latin America and the Caribbean shows successful examples of decarbonization of the electricity matrix; however, in general terms, today there are significant difficulties in moving towards renewables; this is given in a very complex economic context; but despite the above, Latin America continues to be a very desirable region for developers and investors.





#### FORECAST ALC: POWER GENERATION INSTALLED CAPACITY AND POWER GENERATION IN LAC

1,000 837 800 710 ┌ 611 MD 600 524 455 400 200 0 2020 2025 2030 2035 2040 Year • TOTAL Hvdro ■ Natural gas ■ Diesel-Fuel oil ■ Coal and coke Biomass Geothermal Wind Solar Nuclear

Power generation installed capacity forecast - LAC



Power generation forecast - LAC

🔳 Hydro 📕 Natural gas 🔳 Diesel-Fuel oil 🔳 Coal and coke 📕 Biomass 📕 Geothermal 📕 Wind 📁 Solar 🔳 Nuclear 🔹 TOTAL

Source: OLADE, own elaboration.





#### FORECAST ALC: TOTAL ENERGY SUPPLY AND FINAL ENERGY CONSUMPTION



■ Oil and derivatives ■ Natural gas ■ Coal and coke ■ Nuclear ■ Hydroenergy ■ Biomass ■ Other renewables ● TOTAL



Source: OLADE, own elaboration.





#### **Strategy for an even more renewable region - Conclusions**



• It is not possible to define the situation in Latin America and the Caribbean in relation to the incorporation of renewables in a single synthesis, because in reality there is a great variety of very different situations.

• With very limited exceptions, Latin America no longer requires pilot projects, subsidies, or support to project developers to demonstrate the feasibility of introducing renewable energy.

There are relevant barriers that impede the advancement of renewable energies.

• The common objective of all the actions identified is to improve state capacities to design public policies that maximize the common benefit and to successfully conduct the transformative process.

- The instruments must be based on a systemic conception of public policy.
- Assistance should be highly focused on solving the specific problems detected in the region and, more specifically, in each country.
- The assistance required should have a specific approach, although globally integrated, for each of the actors to whom it is directed.







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# THANK YOU

ALFONSO BLANCO