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REN21 Academy Session:

**Energy Outlook of Latin America and the Caribbean 2020**

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# ENERGY OUTLOOK OF LATIN AMERICA AND THE CARIBBEAN 2020

A just transition to renewables in North America, Latin America and the Caribbean

Andrés Schuschny

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OLADE

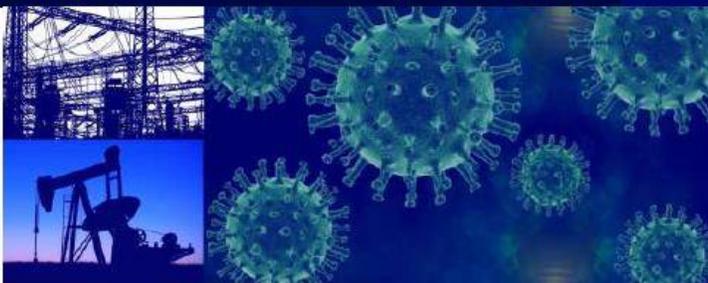
November, 24<sup>th</sup> 2020

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How is the Latin American and the Caribbean Energy Sector acting to confront the COVID-19 pandemic?



# How is the Latin America and the Caribbean Energy Sector acting to confront the Covid-19 Pandemic?

<http://biblioteca.olade.org/opac-tmpl/Documentos/old0450.pdf>

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# Impact analysis of the COVID-19 pandemic on the Energy Sector of Latin America and the Caribbean

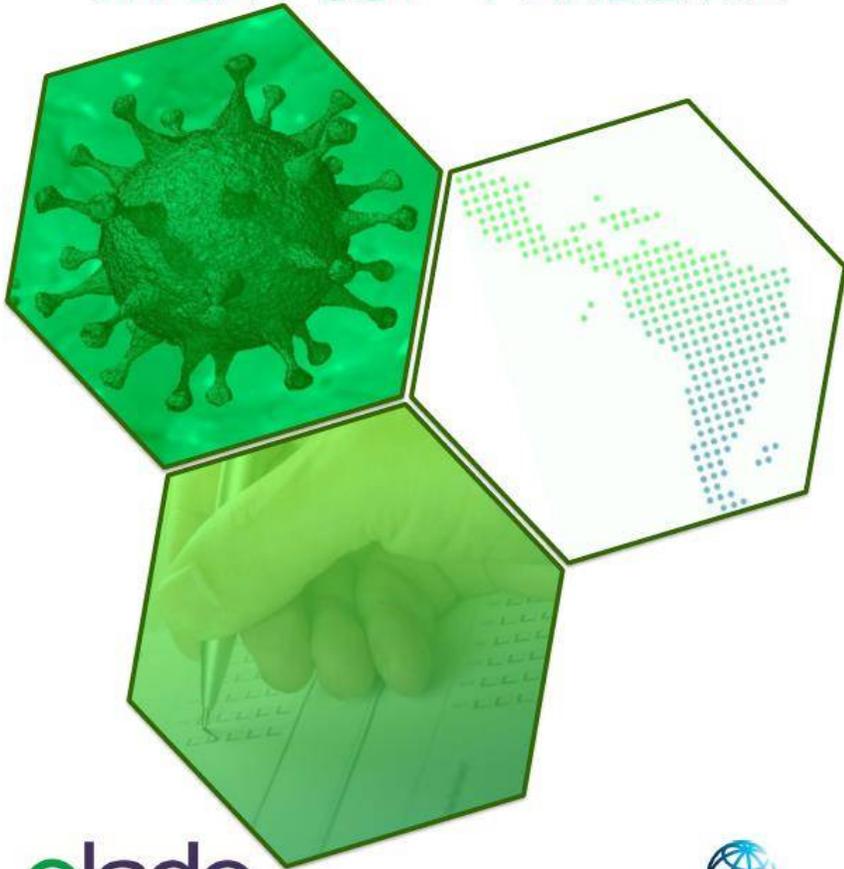
<http://bit.ly/ImpactosCovid>

May 2020



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**BARÓMETRO DE LA ENERGÍA**  
DE AMÉRICA LATINA Y EL CARIBE 2020  
LOS DESAFÍOS DEL SECTOR ENERGÉTICO  
EN LA POST - PANDEMIA



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# Energy Barometer of Latin America and the Caribbean 2020: The challenges of the energy sector in the post-pandemic

<http://barometro.olade.org>

(Spanish version)

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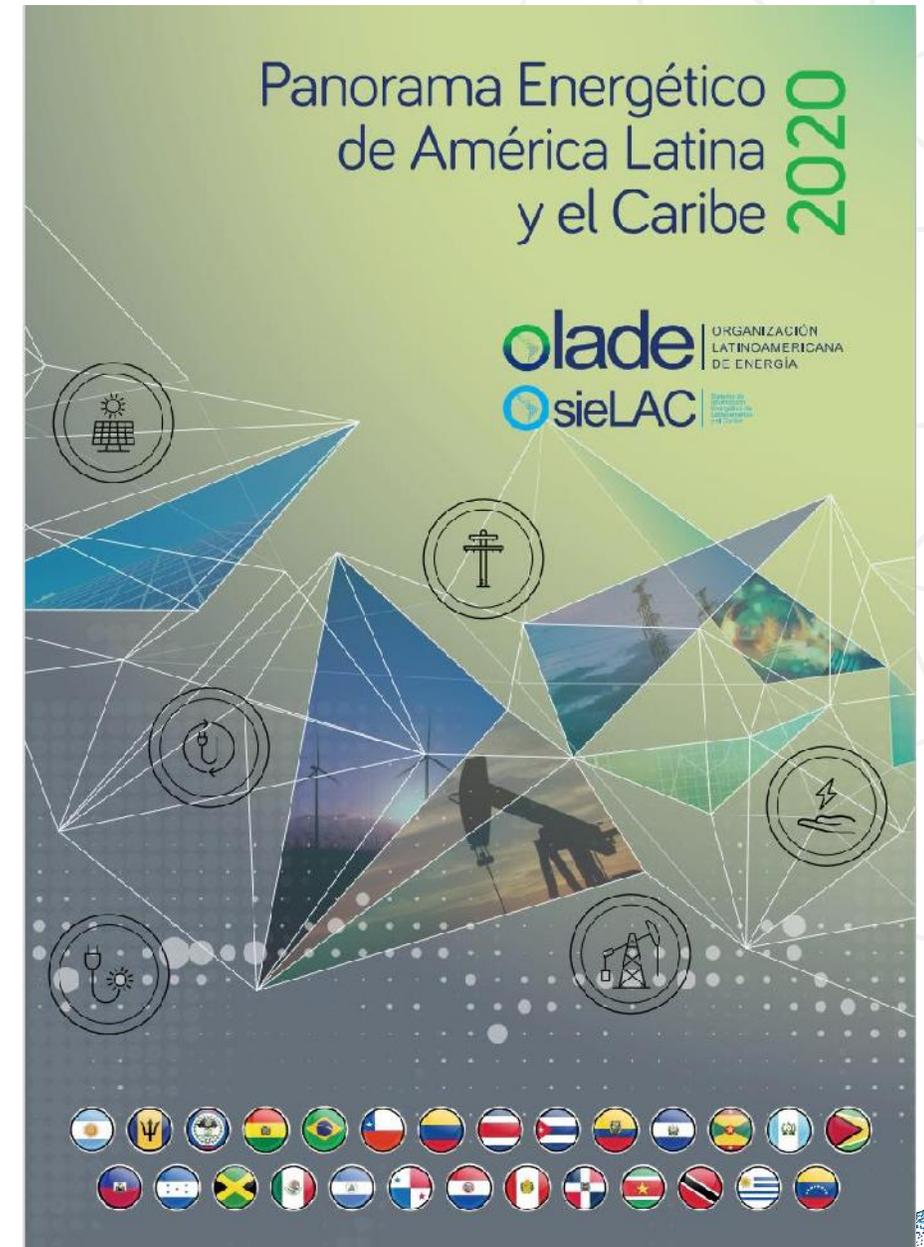
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# Energy Outlook of Latin America and the Caribbean 2020

<https://bit.ly/Panorama2k20>

(Spanish low resolution version -

English version to be published soon)



# Effect of the Pandemic on the Energy Sector of Latin America and the Caribbean: *Objective and methodology*

## Objective

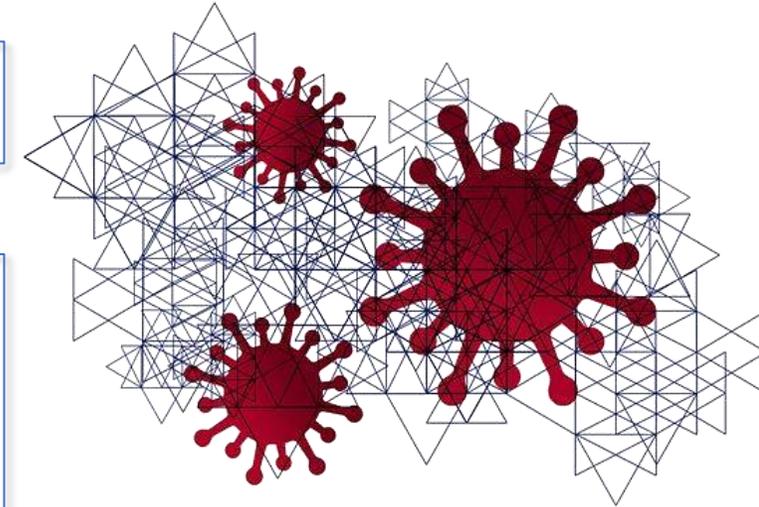
Analyze the effects of the Covid-19 pandemic on the development of the LAC energy sector, for a timespan 2020-2040.

## Methodology

Prepare and compare a forecast energy development scenario for the 2018-2040 period, considering the effects of the Covid-19 pandemic on energy demand and supply, with a reference scenario for the same projection period, based on to energy development policies and plans, established before the pandemic.

The study was carried out for the LAC region, divided into 4 subregions and 2 countries analyzed individually:

- Brazil
- Mexico
- Central America (Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama)
- Andean Zone (Bolivia, Colombia, Ecuador, Peru and Venezuela)
- Southern Cone (Argentina, Chile, Paraguay and Uruguay)
- The Caribbean (Barbados, Cuba, Grenada, Guyana, Haiti, Jamaica, Dominican Republic, Suriname and Trinidad & Tobago).



## Computational tool

Simulation and Analysis Model of the Energy Matrix(SAME – OLADE).



# Premises of the energy scenarios (2018-2040)

## Reference scenario (BAU)

Corresponds to demand and supply forecasts made before the Pandemic (policies and expansion plans in progress).

Premises:

- Implementation of energy efficiency programs
- Greater penetration of electricity in end uses.
- Substitution of liquid fuels of fossil origin for natural gas.
- Substitution of firewood consumption by modern energy sources.
- Penetration of biofuels in the transport sector.
- Greater penetration of renewable energy sources in the electricity generation matrix.
- Greater penetration of natural gas in the electricity generation matrix, displacing other fossil fuels.

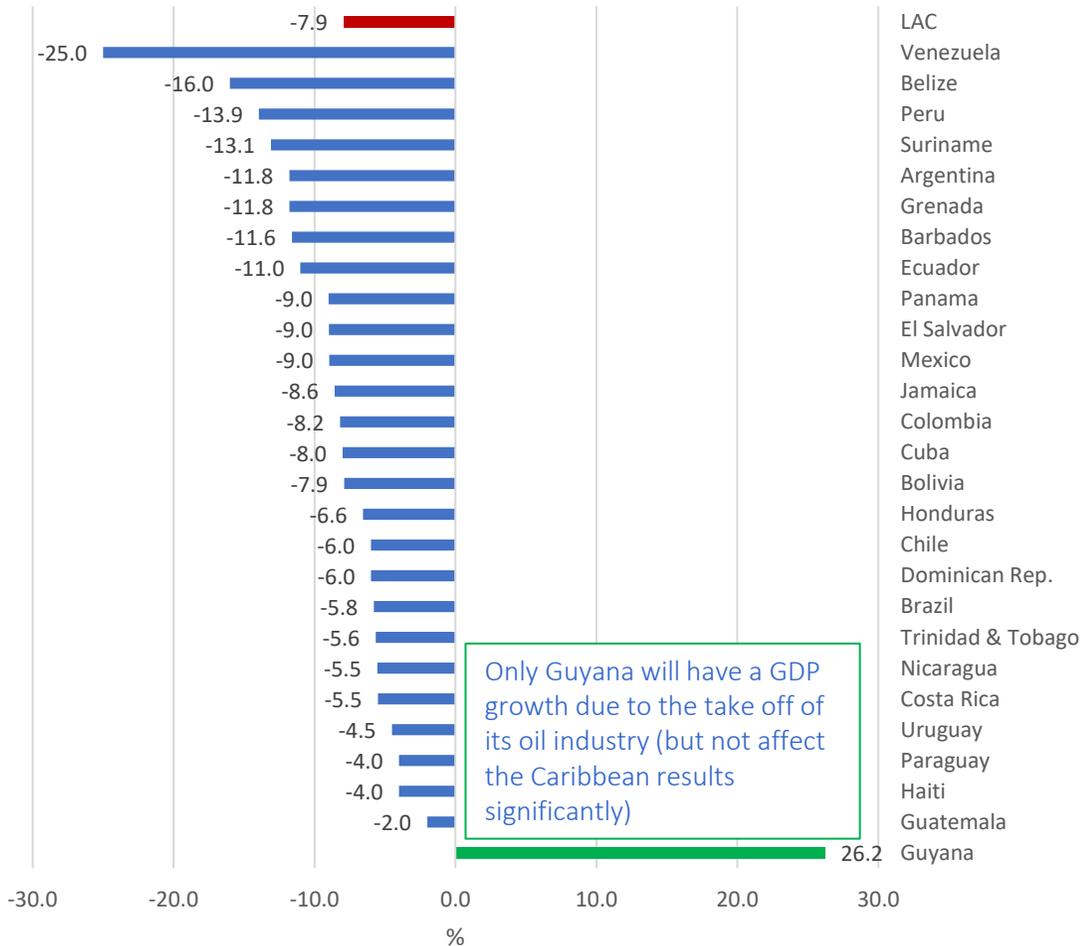
## COVID-19 scenario

It incorporates the effects of the pandemic on the demand and supply of energy, correlating GDP and energy consumption.

- IMF GDP Projection (WEO 2020, Oct) for the period 2019 - 2025 were used.
- From 2025 onwards, the latest projected GDP variation rates were held constant.
- Final energy consumption was projected, using linear logarithmic correlation functions between this consumption and the nominal GDP of each subregion.
- For the participation of energy consumption by sectors and sources, the percentage structure projected in the BAU scenario was taken, but considering for the years 2020 and 2021, an increase in the participation of the residential sector.

# Projection GDP at constant prices changes

% of GDP variation 2019-2020

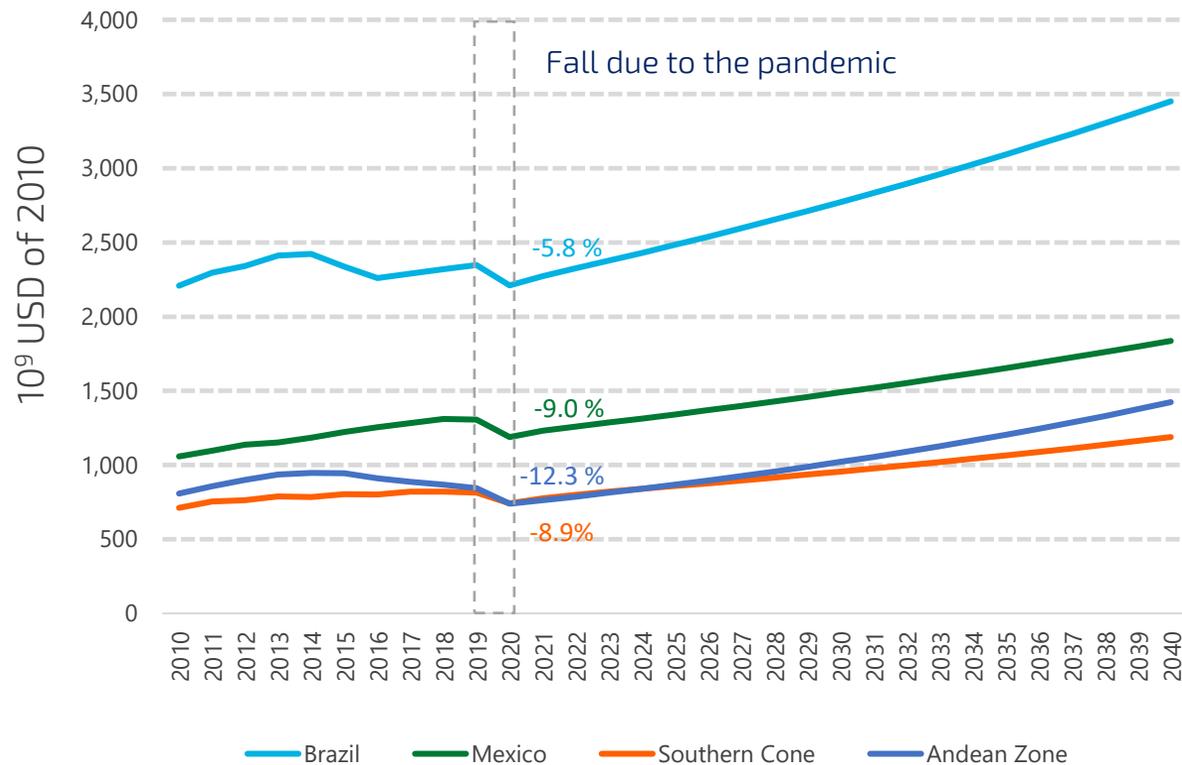


Only Guyana will have a GDP growth due to the take off of its oil industry (but not affect the Caribbean results significantly)

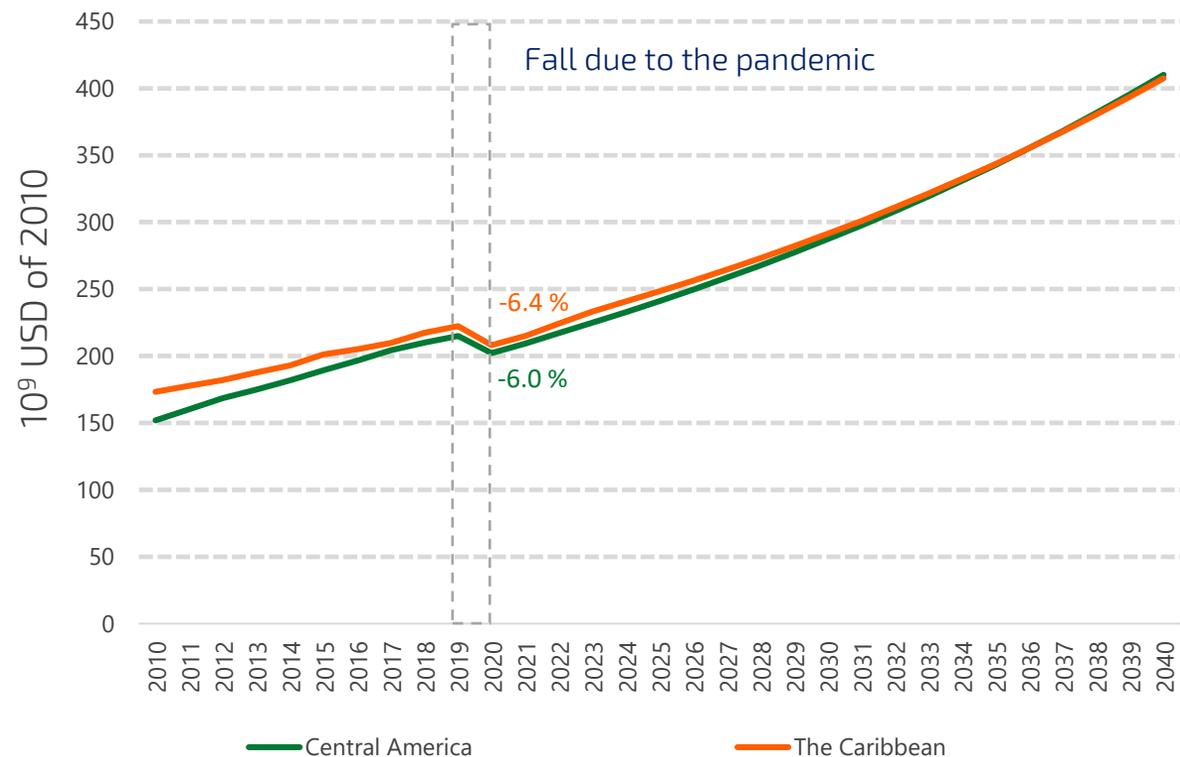
	2019-2020 (%)	2020-2021 (%)	2021-2022 (%)	2022-2023 (%)	2023-2024 (%)	2024-2025 (%)
Argentina	-11.8	4.9	2.5	2.3	2.1	1.7
Barbados	-11.6	7.4	3.9	1.8	1.8	1.8
Belize	-16.0	8.0	5.0	3.0	2.0	2.0
Bolivia	-7.9	5.6	4.3	4.0	3.7	3.7
Brazil	-5.8	2.8	2.3	2.2	2.2	2.2
Chile	-6.0	4.5	3.2	2.9	2.7	2.5
Colombia	-8.2	4.0	3.7	3.8	3.8	3.7
Costa Rica	-5.5	2.3	3.4	3.0	3.1	3.2
Cuba	-8.0	2.1	2.1	2.1	2.1	2.1
Ecuador	-11.0	4.8	1.3	1.7	2.0	2.3
El Salvador	-9.0	4.0	3.2	2.8	2.5	2.2
Grenada	-11.8	3.0	5.1	5.0	3.4	2.7
Guatemala	-2.0	4.0	3.8	3.5	3.3	3.3
Guyana	26.2	8.1	29.5	22.3	2.1	1.1
Haiti	-4.0	1.2	1.0	1.1	1.2	1.4
Honduras	-6.6	4.9	3.3	3.5	3.6	3.7
Jamaica	-8.6	3.6	3.8	2.9	2.5	2.1
Mexico	-9.0	3.5	2.3	2.2	2.1	2.1
Nicaragua	-5.5	-0.5	2.7	2.0	1.8	2.1
Panamá	-9.0	4.0	5.0	5.0	5.0	5.0
Paraguay	-4.0	5.5	5.0	4.2	4.1	4.0
Perú	-13.9	7.3	5.0	4.9	3.9	3.8
Dominican Rep.	-6.0	4.0	5.0	5.0	5.0	5.0
Suriname	-13.1	1.5	2.0	2.8	3.0	2.1
Trinidad & Tobago	-5.6	2.6	4.2	1.8	1.5	1.5
Uruguay	-4.5	4.3	2.5	2.8	2.6	2.4
Venezuela	-25.0	-10.0	-5.0	-5.0	-5.0	-5.0
LAC	-7.9	3.4	2.6	2.6	2.5	2.4

# Projections the GDP at constant prices

Brazil, Mexico, Southern Cone and Andean Zone



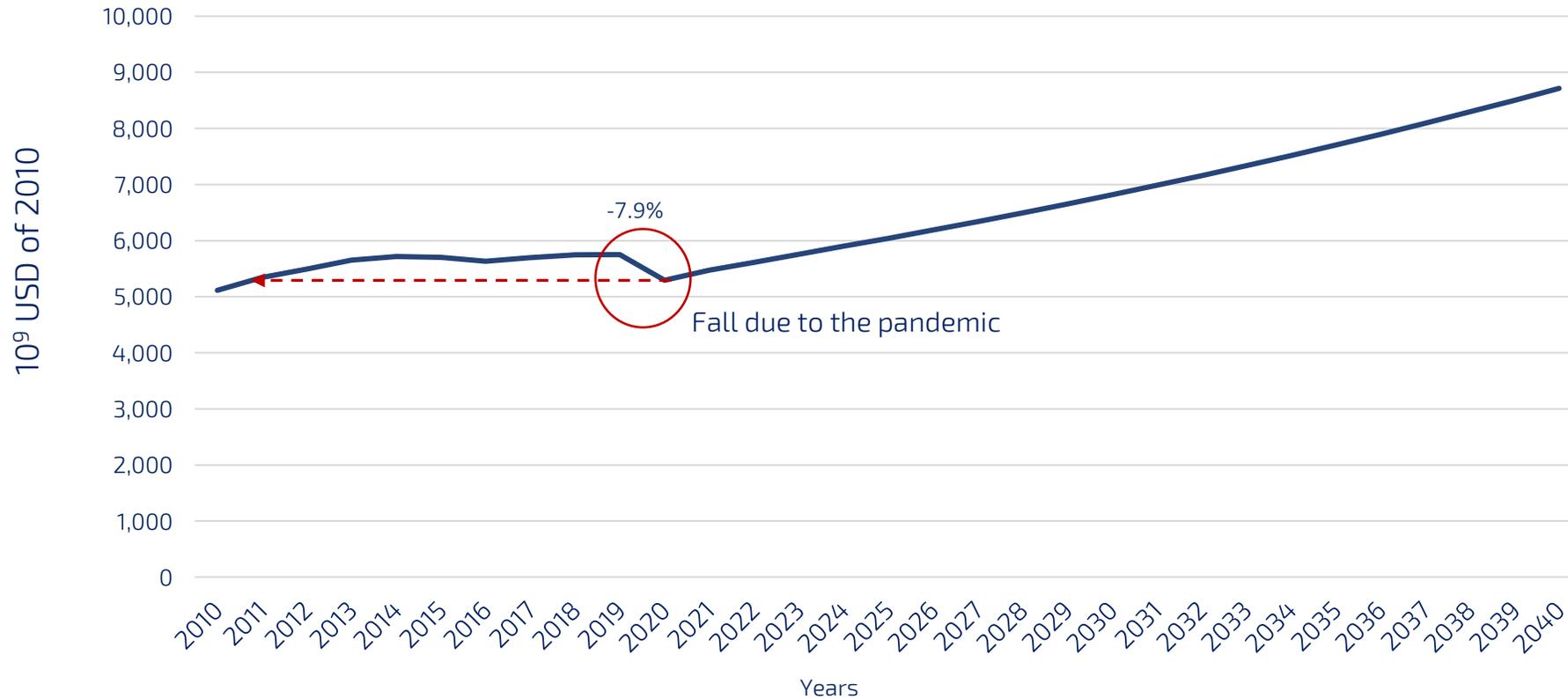
Central America and the Caribbean



Source: Own elaboration based on IMF data.

# Projections of GDP at a constant prices LAC

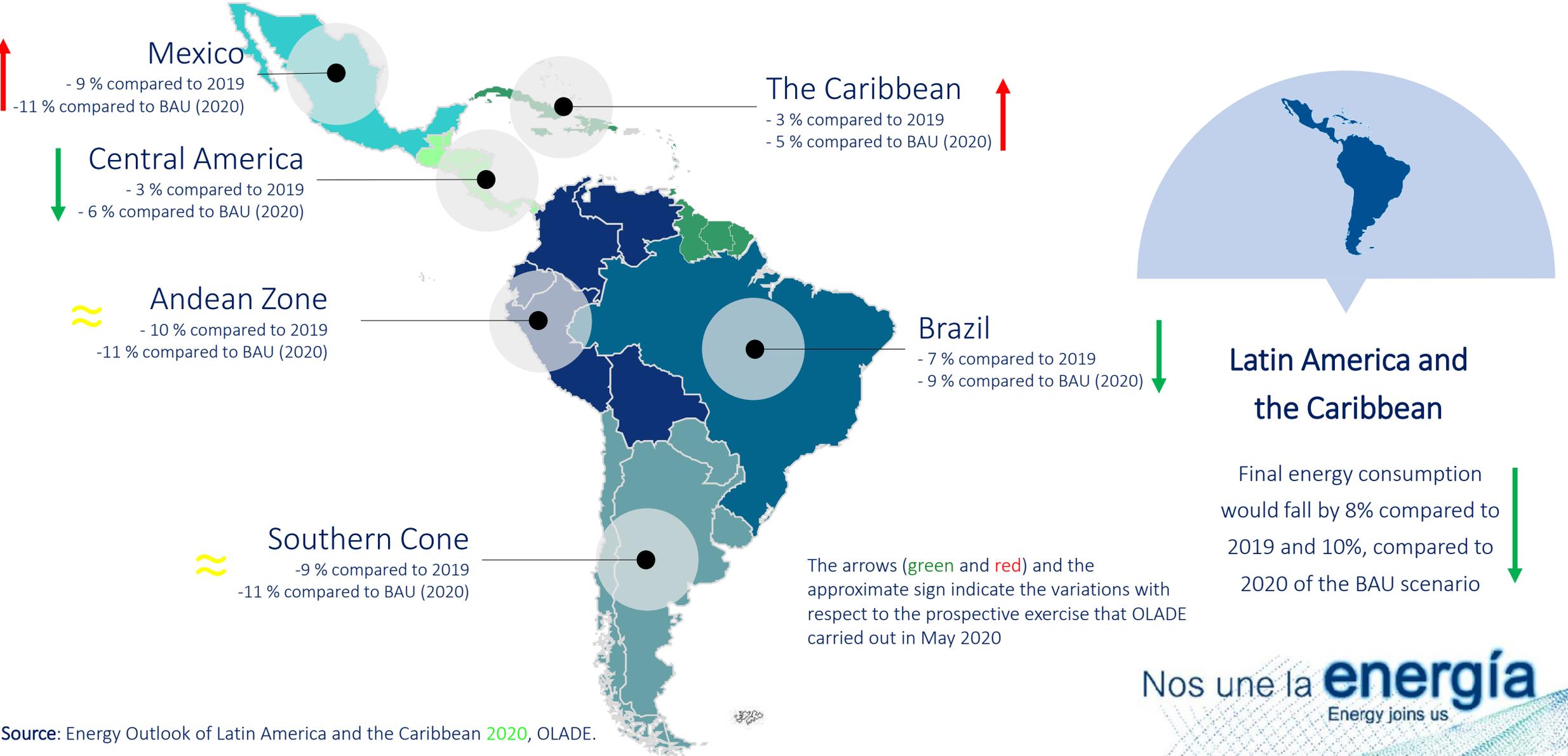
## Latin America and the Caribbean



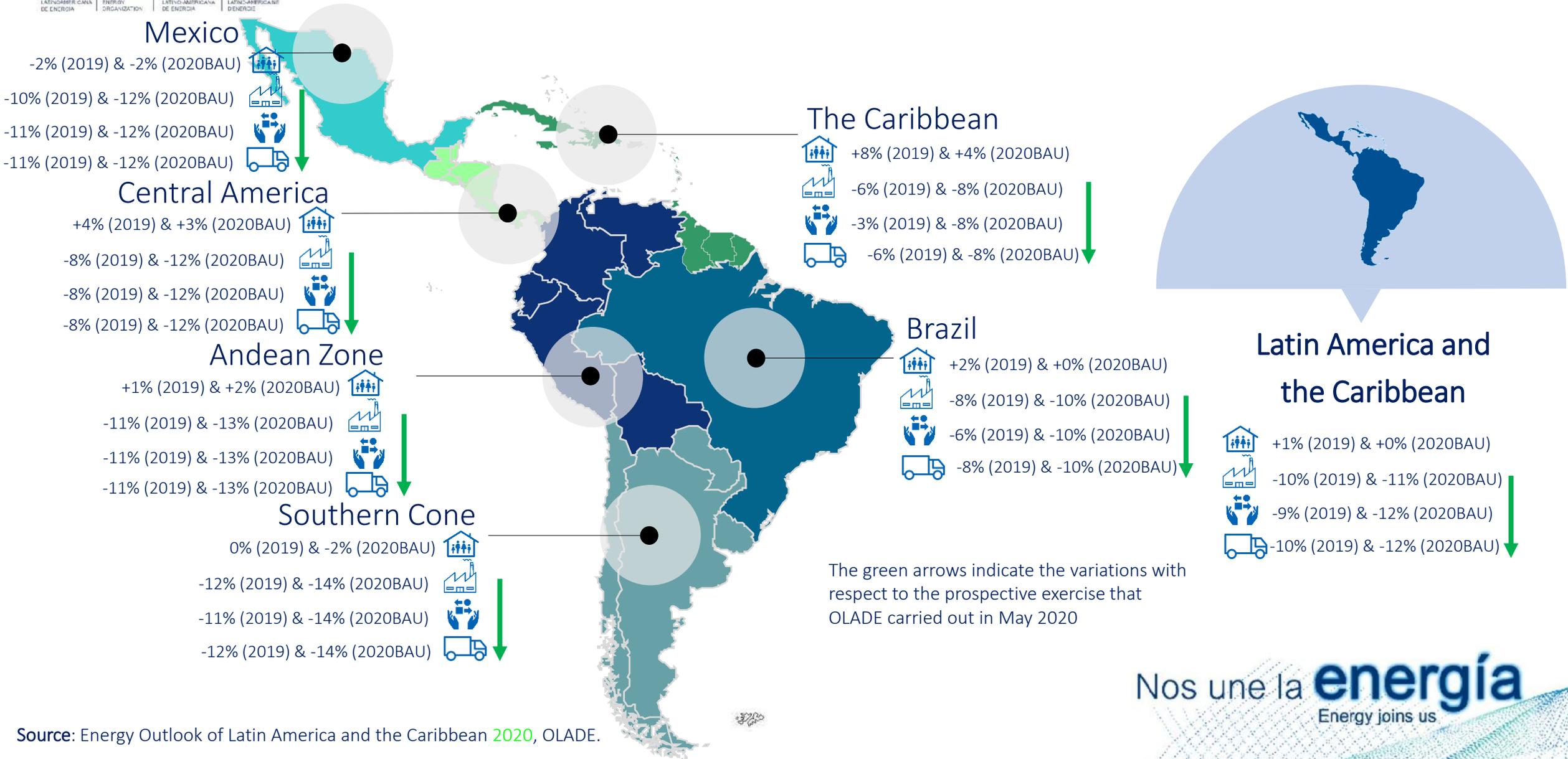
The contraction of LAC's GDP due to the pandemic is equivalent to a setback of around a decade.

Source: Own elaboration based on IMF data.

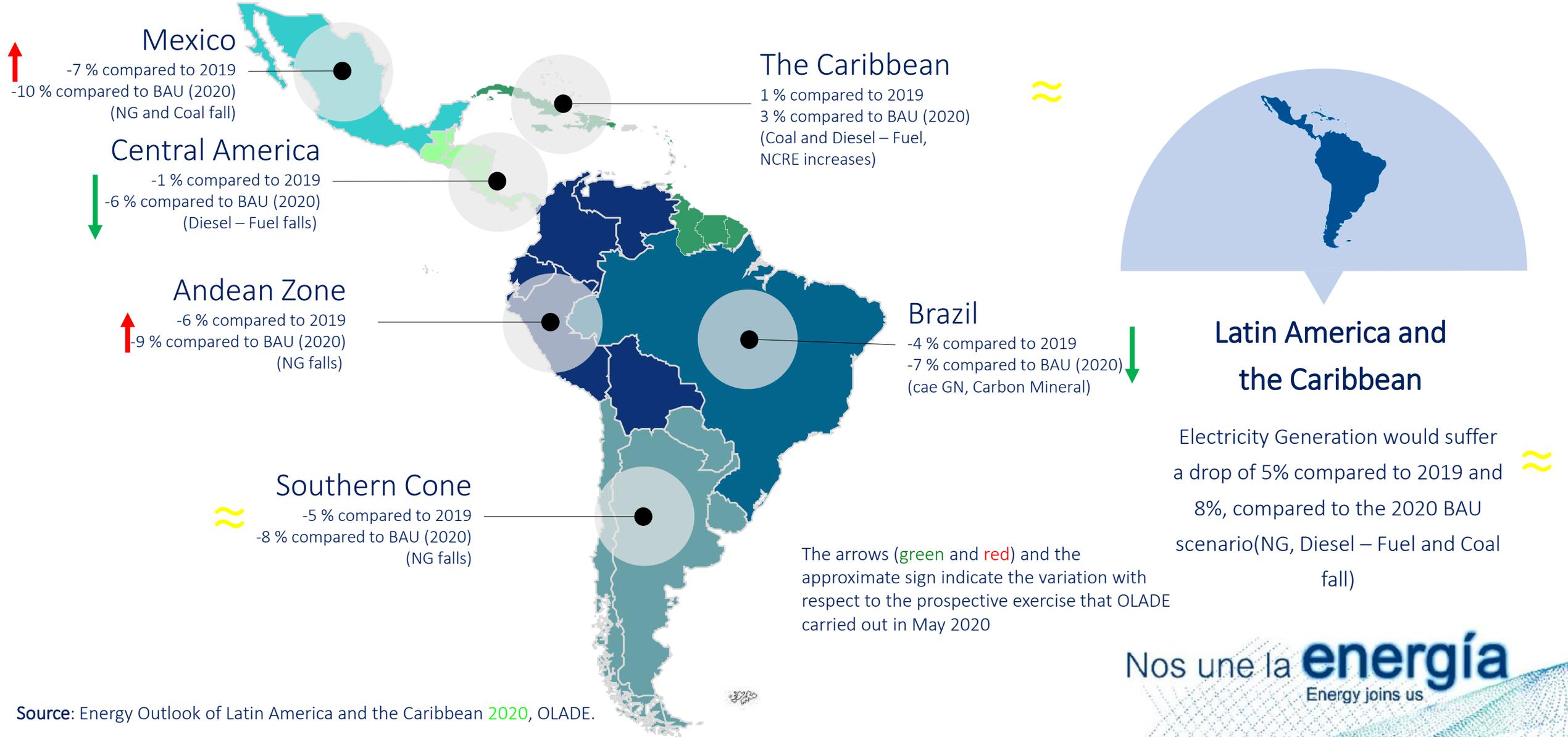
# Projections of the final energy consumption



# Projection of the sectoral energy consumption

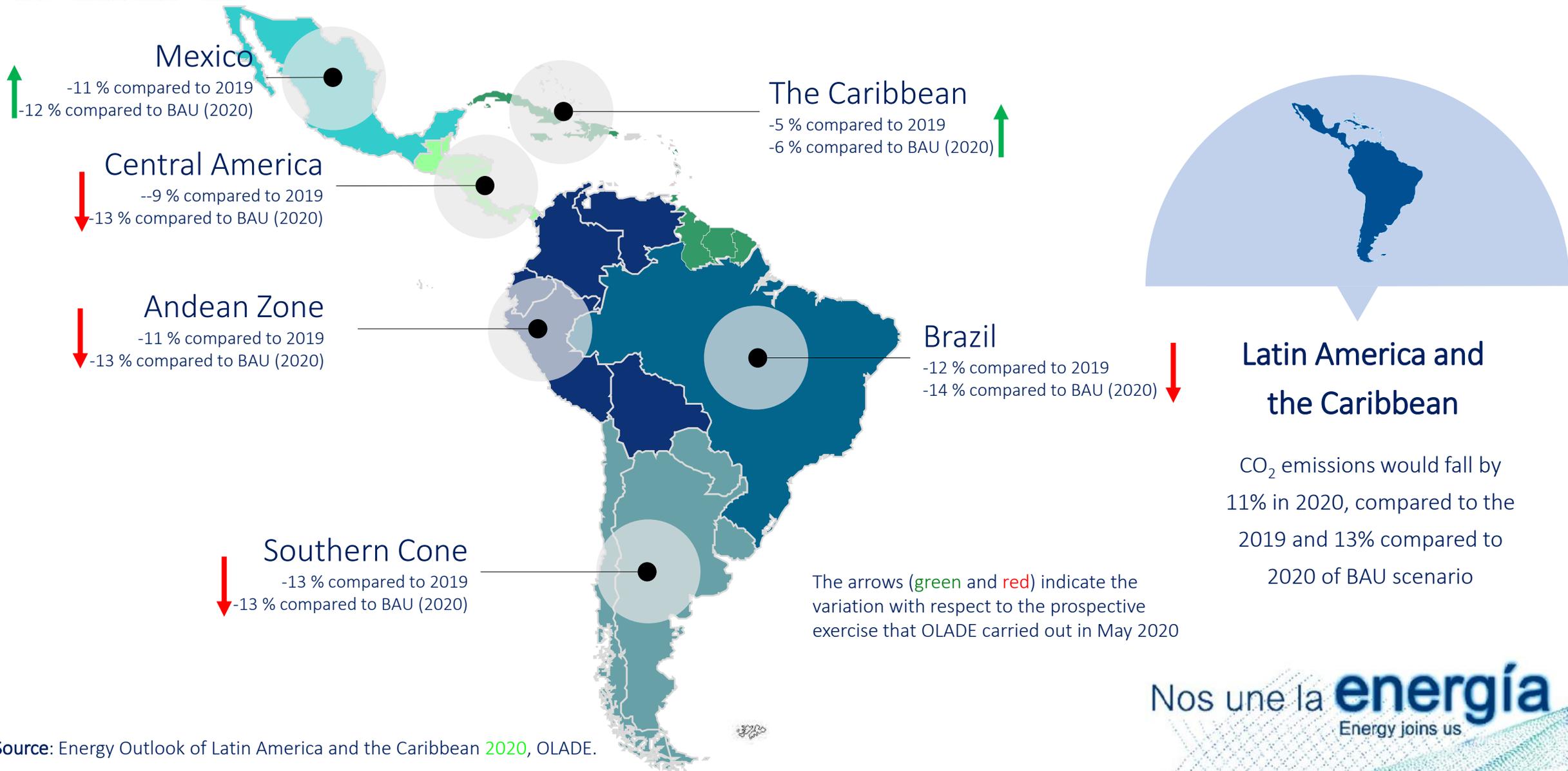


# Projection of the electricity generation



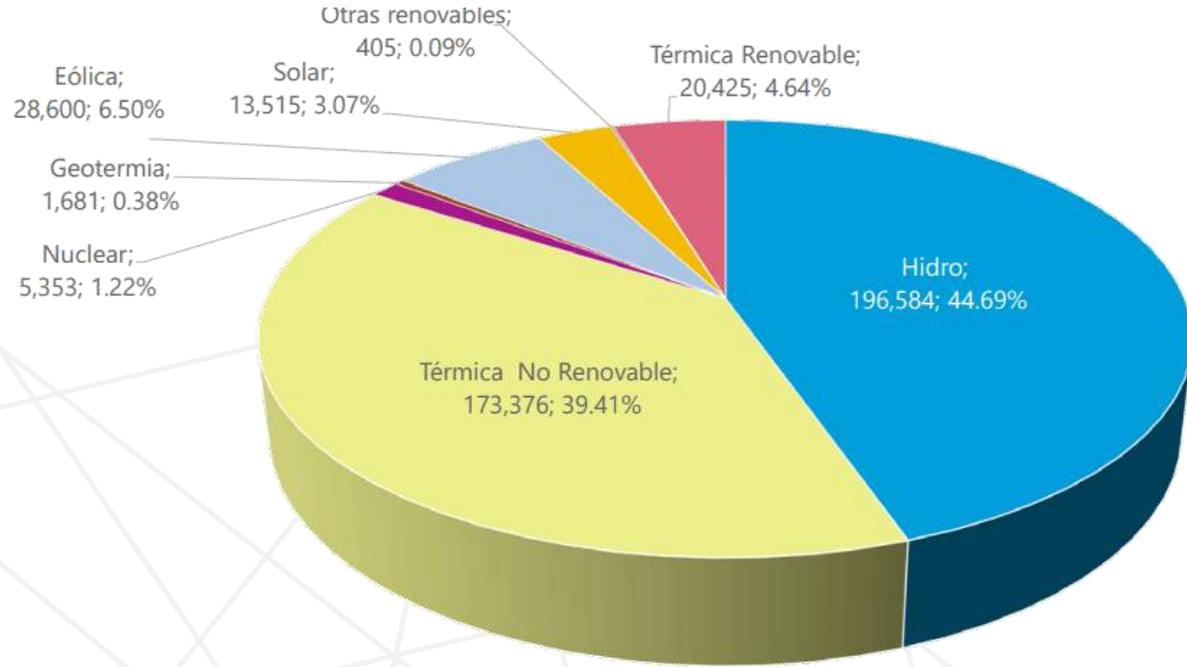
Source: Energy Outlook of Latin America and the Caribbean 2020, OLADE.

# Projection of the CO<sub>2</sub> emissions



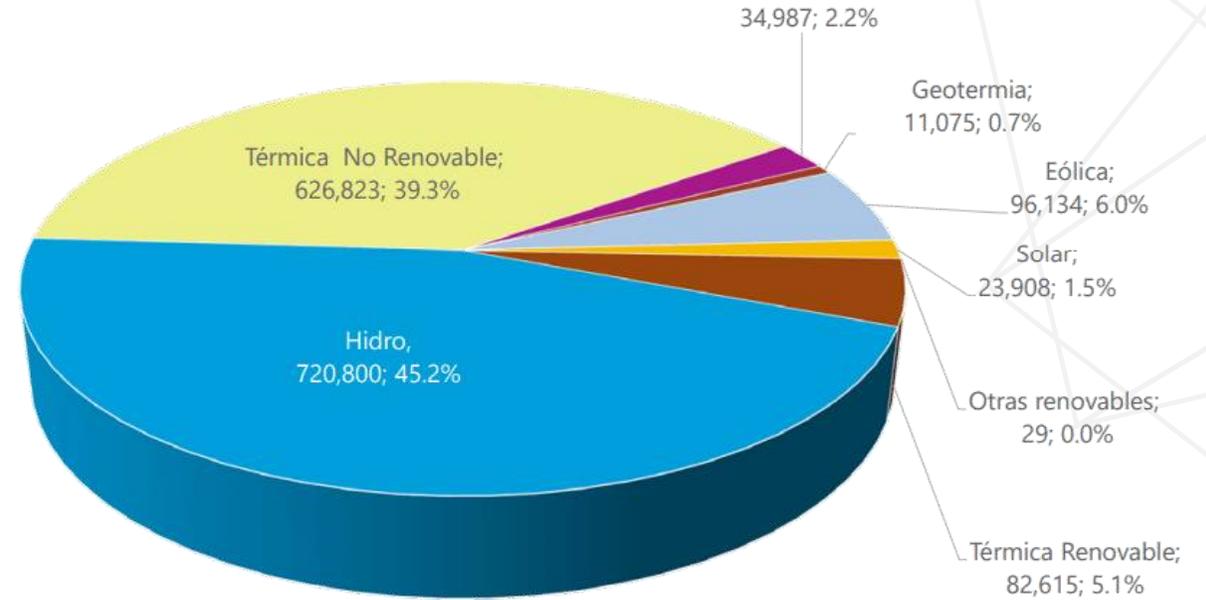
# Latin America and the Caribbean 2019

Installed capacity of Power Generation [MW; %]  
LAC 2019



Renewables: 59.4%

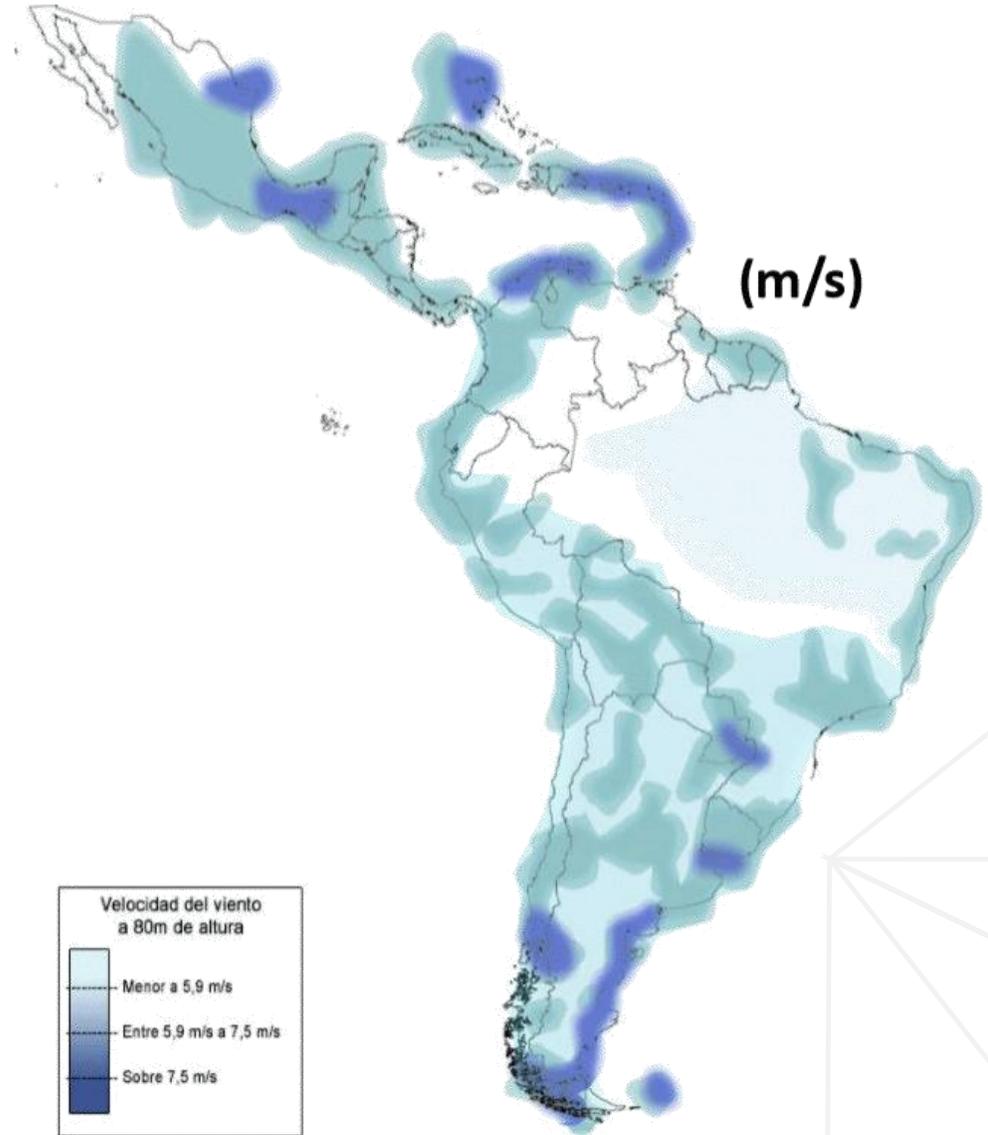
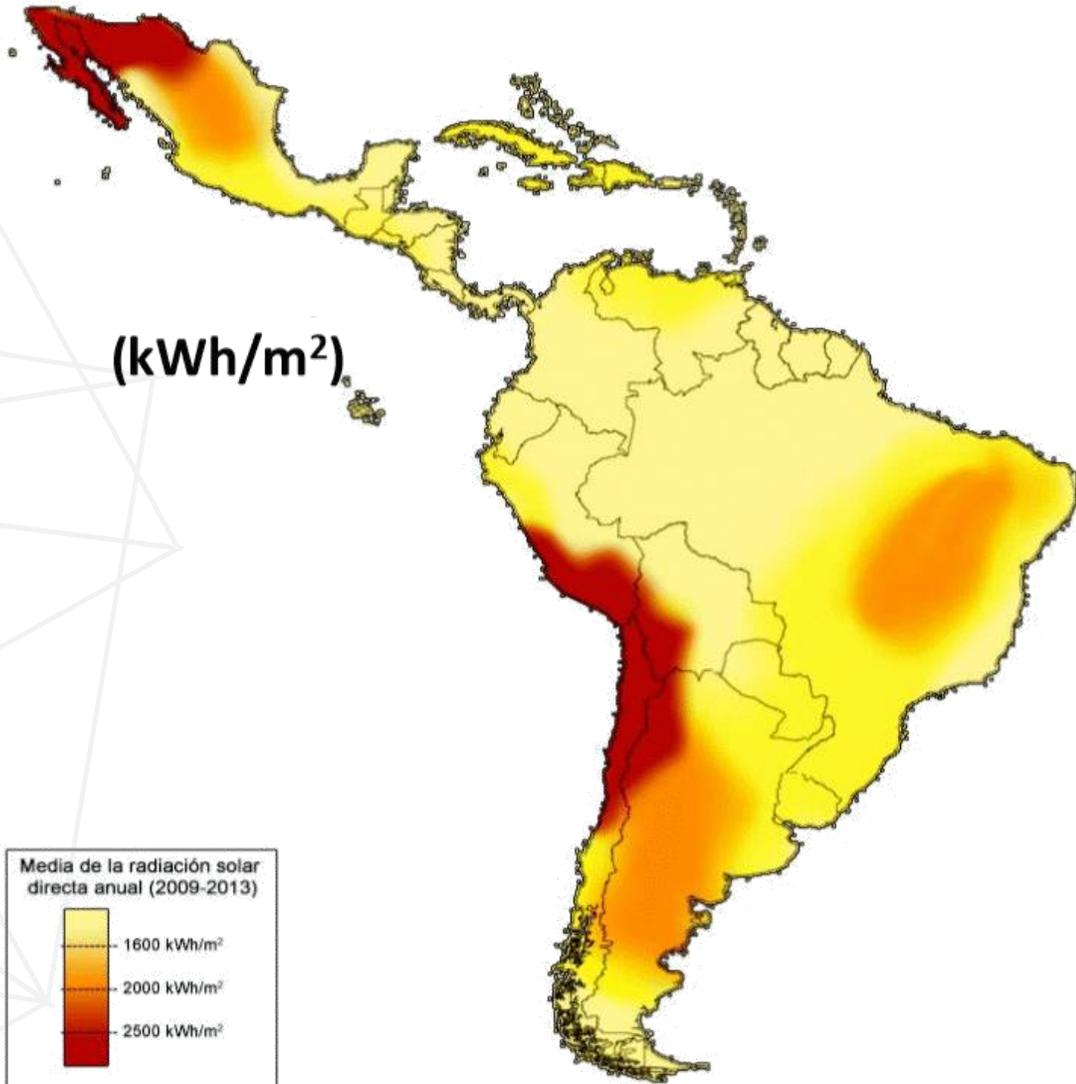
Power Generation [MW; %]  
LAC 2019



Renewables: 58.5%

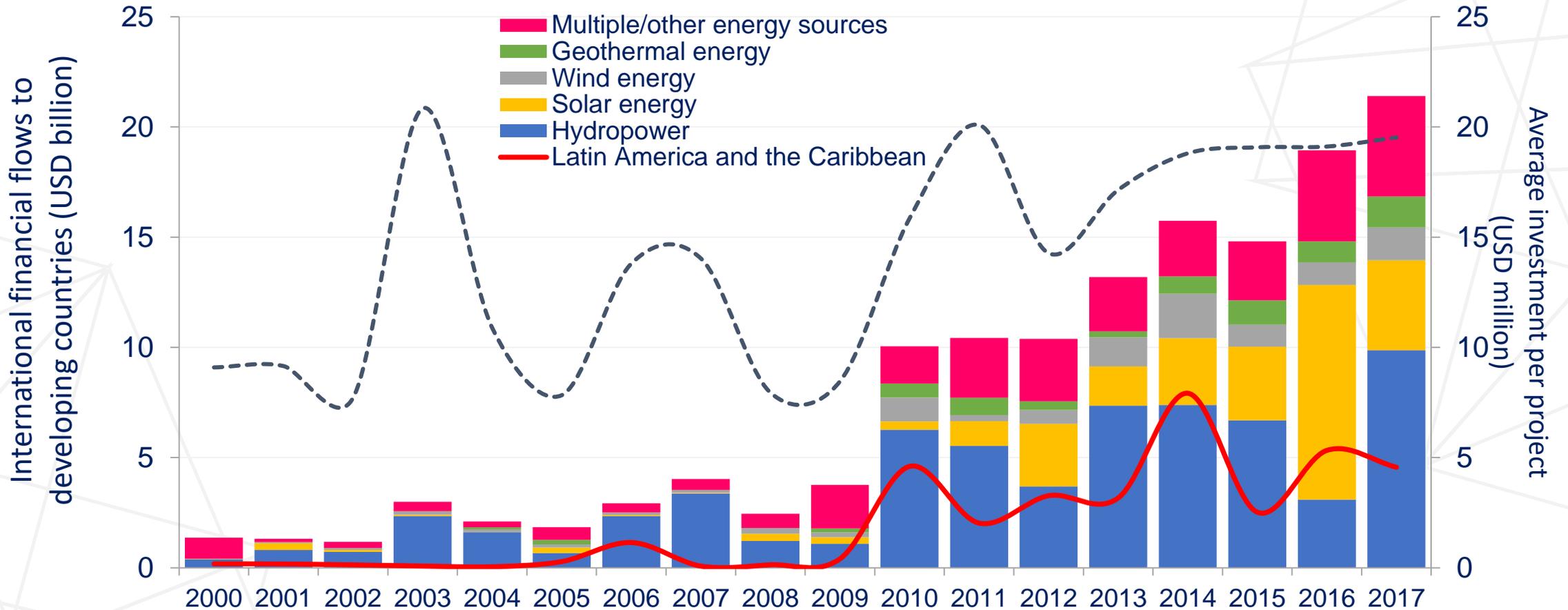
World's Renewable Power Generation  $\approx$  26.8%

# Great solar and wind potentials in LAC



Source: SolarGIS y Journal of Geophysical Research

# International financial flows to developing countries supporting clean and renewable energies

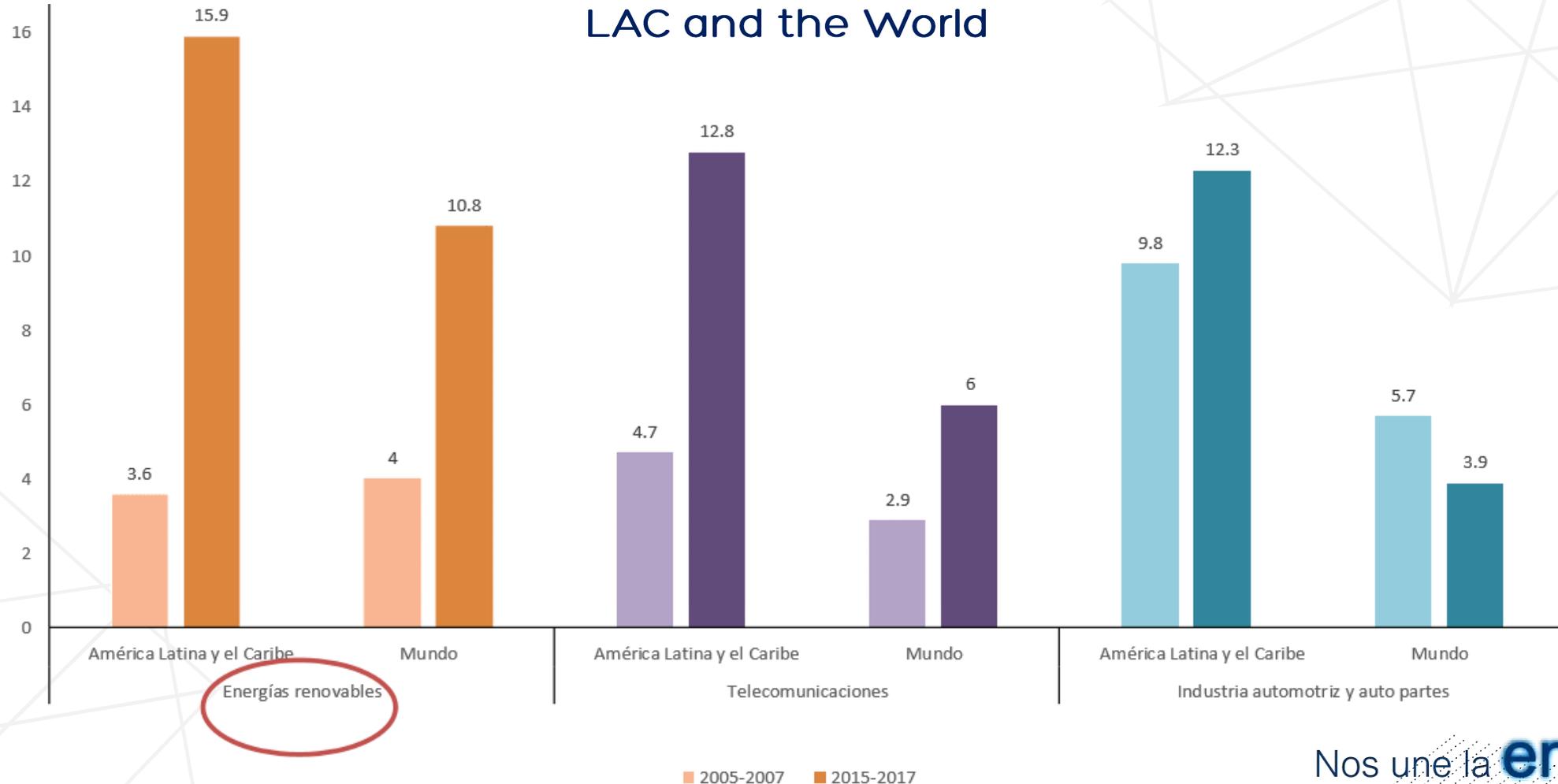


Source: OECD & IRENA (2020), Renewable Energy Public Investments Database

In 2017, hydro power projects received 46% of flows, 19% solar, 7% wind, and 6% geothermal. Latin America and the Caribbean received 21% of the total.

# Growing interest in new business for investments focused on renewable energy

## Share of Foreign Direct Investment (Percentage) LAC and the World



Source: Economic Commission for Latin America and the Caribbean (2018)

- The pandemic affects all sectors of the economy.
- Recovery will not be accelerated enough to return to the pre-pandemic energy consumption levels.
- The contraction in energy consumption is greater in the subregions with economies of greater relative weight, such as Brazil, Mexico, the Andean Zone and the Southern Cone. The Caribbean and Central America will have minor impacts on energy consumption.
- The decrease in electricity demand tends to displace the use of thermal power plants, *in favor of a greater share of renewables*.
- Secondary benefit of the pandemic: the reduction of CO<sub>2</sub> emissions.
- The fragility of supply chains, the reduction of air transport, the difficulties in accessing financing and the complications derived from falling demand could lead to delays in the execution of projects.



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# Thank you

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