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OLADE INTRODUCES NEW ENERGY INFLATION INDICATOR FOR LATIN AMERICA AND THE CARIBBEAN

OLADE Introduces New Energy Inflation Indicator for Latin America and the Caribbean – A Key Tool for Monitoring Energy Prices in the Region

At a crucial time for economic and energy stability, the Latin American Energy Organization (OLADE) has launched the Energy Inflation Indicator for Latin America and the Caribbean (IE-LAC). This new instrument promises to be an important tool for measuring the variation in consumer price index (CPI) of the energy basket at the regional level. Published monthly, the IE-LAC will provide a detailed and up-to-date view of the dynamics of energy prices in the region, assisting policymakers and market participants in making informed decisions.

The rise in energy inflation up to June 2022 was driven by several factors. Among them were the Russia-Ukraine conflict, the rollback of energy subsidies applied during the pandemic, and the post-pandemic economic recovery. These factors led to a significant increase in energy prices globally, impacting all regions, including Latin America and the Caribbean (LAC).

However, by March 2024, the monthly energy inflation in Latin America and the Caribbean had substantially decreased, reaching 0.58%, while the annual rate stood at 1.96%. This data reflects a phase of price stabilization in most regional economies after the upward trend observed between 2021 and early 2022. This stabilization is positive, suggesting that LAC economies are managing price fluctuations better compared to previous periods.

It is interesting to note how energy inflation in LAC has been less pronounced compared to OECD countries. While the annual energy inflation in the OECD peaked at 40.48% in June 2022, in LAC it was only 18.41%. This difference, and the greater resilience to international price shocks, can be attributed to the region's natural coverage provided by the high penetration of renewable energies (65% of electricity generation) and the domestic production of oil, natural gas, and biofuels.

The launch of the IE-LAC by OLADE is a significant step towards better understanding and managing energy prices in LAC. The tool will enable countries in the region to closely monitor energy price fluctuations and make informed decisions to protect their economies and citizens. The lower sensitivity of energy inflation in LAC to international conditions and its dependence on internal policies highlight the importance of continuing to strengthen the region's energy capabilities and autonomy.

LATIN AMERICAN ENERGY ORGANIZATION (OLADE) PRESENTS ITS NEW ENERGY INFLATION INDICATOR FOR LATIN AMERICA AND THE CARIBBEAN (IE-LAC)

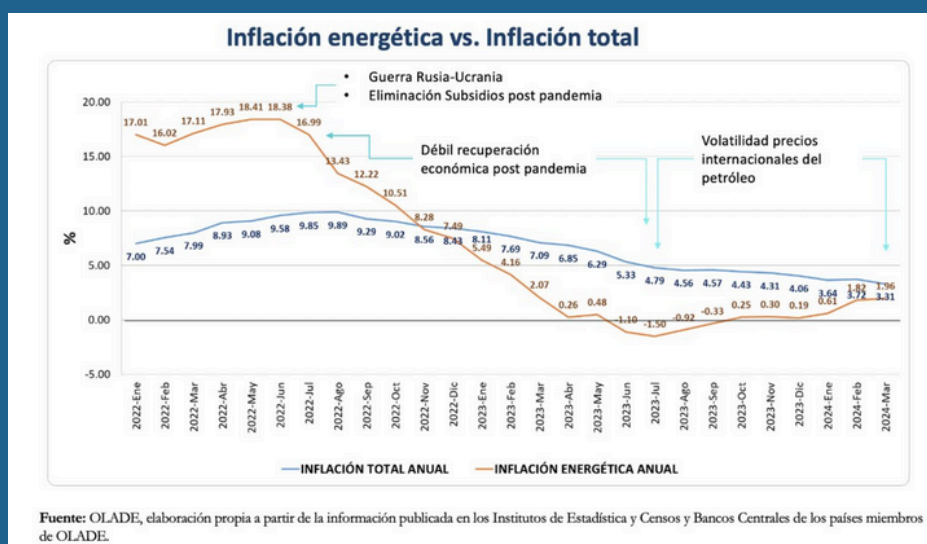


OLADE's Executive Secretary, Andrés Rebolledo, stated that this Indicator will be a very useful tool that will measure the variation of consumer price indexes (CPI) of the energy basket at the regional level and will be published monthly, offering an updated and detailed view of the dynamics of energy prices in our region.

The annual energy inflation of Latin America and the Caribbean (LAC) in March 2024 (compared to March 2023) was 1.96%. This reflects a stage of energy price stabilization in most regional economies, following the upward trend produced between 2021 and early 2022.

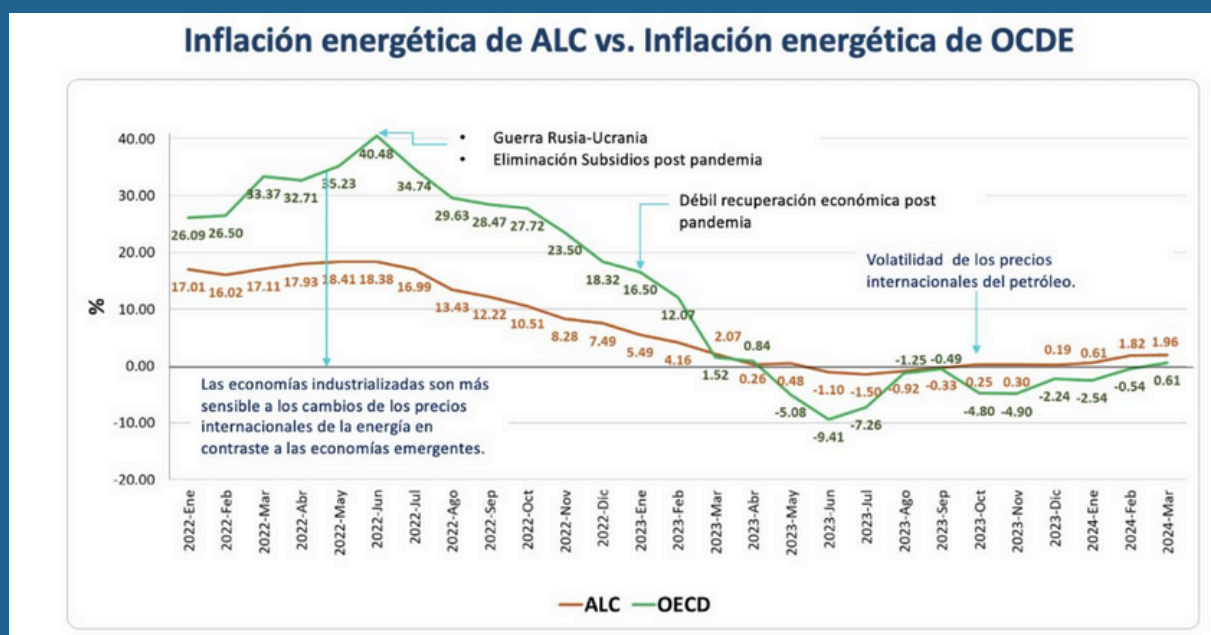
Until June 2022, energy inflation was on the rise as a result of i) the Russia-Ukraine conflict, ii) several economies beginning to dismantle the subsidies previously applied during the Pandemic, and iii) the post-pandemic economic recovery.

The moderate growth presented by the indicator during the second half of 2023 and the beginning of 2024 reflects the relation between fuel prices in many countries and the international price of oil, which has been volatile, but upward during most of that period.



On the other hand, the peak of energy inflation in OECD countries was reached in June 2022, when there was an annual variation of 40.48% in the price index. In fact, the percentage of GDP spent on final energy consumption in 2022 increased twice as much as in 2021.

Then, since June 2022, the sharp fall in energy inflation in OECD countries is striking. This is due to the lower demand of 15% due to the economic slowdown in this group of countries and the effort to gradually eliminate the EU's dependence on fossil fuels and thus limit the volatility of gas and electricity prices. In fact, after this persistent fall, only in March 2024, OECD energy inflation was positive at 0.61%.



Source: OLADE, own elaboration based on the information published in the Institutes of Statistics and Censuses and Central Banks of the OLADE member countries and information published by OECD.

Rebolledo said that “it is interesting to note that the rise in energy inflation in OECD countries has been much more pronounced than in LAC, therefore, price indices in LAC were less sensitive to the effects of the Russia-Ukraine war”

He also pointed out that this reflects that “our region has been more resilient to international price shocks, as we have a natural buffer due to the high penetration of renewable energy (65% of electricity generation) and our own production of oil, natural gas and biofuels”.

In short, energy inflation in LAC is less sensitive to the international situation than in OECD countries and, consequently, relatively more dependent on each country's domestic policies.

OLADE presents study on the impact of climate change on energy infrastructure in latin america and the caribbean

In the case of photovoltaic power plants, above a threshold of 25°C, if the temperature rises by 1°C, energy production decreases by 0.66%.

The Latin American Energy Organization (OLADE), in collaboration with the Spanish Agency for International Development Cooperation (AECID) and Fundación Tecnalia, presents studies on the impact of climate change on regional energy infrastructure.

While the region contributes only 8% of global CO₂e emissions, its energy sector is highly sensitive to the effects of climate change.

The Study highlights the importance of Increasing the resilience of the energy sector in Latin America and the Caribbean to climate change, through an analysis of the risks and vulnerability of infrastructure and the determination of the changes that must be implemented in the planning and operation of systems.

The vulnerability and risk of energy infrastructure to various climatic variables is analyzed; from changes in temperature to extreme events such as storms and strong winds. The results revealed that sensitivity and vulnerability vary according to the type of technology and geographical location.

The conclusions of the Study underline the importance of integrating climate risk assessment into the design and operation of energy facilities. In addition, proposed adaptation measures are highlighted, such as the use of more heat-resistant technologies, land use management to reduce erosion, and the implementation of improved prediction systems for extreme weather events.

Regarding the impact on different technologies, some conclusions stand out:

- For photovoltaic power plants, if the temperature rises 1°C, above a threshold of 25°C, energy production decreases by 0.66%.
- For transmission lines, above a threshold of 20°C, if the temperature rises by 1°C, the energy transported falls by 0.4%.
- In hydroelectric power plants, if the flow rate decreases by 1%, energy production also falls by 1%.



- In natural gas transport through pipelines, temperature increases can compromise pipeline integrity, reduce transmission capacity and create safety issues in case of unsuitable compressor stations at high temperatures.
- For agroenergy (biofuel) farms, changes in temperature could affect feedstock productivity and corresponding energy production, depending on the type of crop.

Therefore, it is essential to prioritize climate resilience in energy policies. Investment should be made in more robust and flexible infrastructure, as well as in the diversification of energy sources to reduce dependence on resources susceptible to climate fluctuations.

Finally, given that the regional energy matrix is highly dependent on direct sources such as hydropower, the report highlights the urgency of anticipating and mitigating climate risks to avoid potential energy crises and protect the sustainability and economic stability of the region in the decades to come.

AGENDA OLADE – GUATEMALA: MOMENTUM TOWARDS SUSTAINABLE ENERGY FOR LATIN AMERICA AND THE CARIBBEAN



In a series of strategic meetings, the Executive Secretary of the Latin American Energy Organization (OLADE), Andrés Rebolledo, along with the Director of Integration, Access, and Energy Security, Gloria Alvarenga, carried out an intensive work agenda in Guatemala.

The first meeting was with the Vice Minister of Foreign Affairs of Guatemala, María Luisa Ramírez, where they addressed regional energy challenges and the crucial role OLADE plays in energy cooperation and development in Latin America and the Caribbean.

Subsequently, the Executive Secretary of OLADE met with the President of Guatemala, Bernardo Arévalo, to discuss regional energy agenda topics and explore areas of collaboration between OLADE and the new Guatemalan government.

On another front, a meeting was held with the Minister of Energy and Mines, Víctor Hugo Ventura, with the objective of strengthening cooperation in the energy sector. Accompanying the minister were the Vice Minister in charge of the Energy Area, Fernando Castro, the Director General of Energy, Rony Jucup, and Rubén Maldonado of International Cooperation. The officials explored the possibility of strengthening cooperation specifically in the energy sector, agreeing to enhance Guatemala's entry into the Methane Alliance and to conduct a long-term energy planning study.

As part of the agenda, Andrés Rebolledo participated with a keynote speech on energy transitions in Latin America and the Caribbean during the C2: Green Cement & Concrete 2050 Congress, organized by the Inter-American Cement Federation – FICEM. He highlighted the region's wealth in energy resources, noting that Latin America and the Caribbean possess 31% renewable energy, more than double the world average. He also emphasized the great potential of 676 GW of renewable energy, of which only 29% is utilized. He underscored the importance of decarbonization and the key role of green hydrogen in the region's energy future.

The visit also included a tour of the facilities of INDEGUATEMALA, a company engaged in the generation, transportation, and commercialization of electric energy, where they observed its solar panel infrastructure.

OLADE's agenda in Guatemala focused on strengthening regional cooperation in the energy sector, exploring opportunities for joint development, and promoting a transition towards a more sustainable energy future for Latin America and the Caribbean.



VICE MINISTERS OF ENERGY MEET TO PROMOTE ELECTRIC INTEGRATION IN SOUTH AMERICA

The Vice Ministers of Energy from the twelve South American nations met on May 10, 2024, at the headquarters of the Latin American Energy Organization (OLADE), within the framework of the Brasília Consensus (CB). This integration initiative aims to strengthen ties between neighboring countries and project South America's voice on the global stage.

The countries that are part of the CB; Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, and Venezuela, gathered in Quito and committed to promoting cooperation and integration in various areas of the energy sector, with a special focus on the electricity market.

During this First Meeting of Vice Ministers of Energy, the countries discussed based on the South American Electric Interconnection Study prepared by OLADE. The representatives of the countries indicated their priorities, challenges, and opportunities regarding energy integration and the need to advance in regional planning. The importance of interconnection and regional integration was highlighted to ensure the flexibility and reliability of supply during the energy transition, as well as to manage the variability of renewable sources such as wind and solar energy.

Ambassador Constanza Figueroa, National Coordinator of Chile, the country holding the Pro Tempore Secretariat of the CB, emphasized the importance of advancing in the regional energy transition and strengthening South America's capacity to attract investments in the clean energy sector.

Luis Felipe Andrés Ramón, Undersecretary of Energy of Chile, underlined the importance of the meeting to optimize the use of natural resources, diversify energy sources, and strengthen energy security.

OLADE's Executive Secretary, Andrés Rebolledo, highlighted that "it is an honor for OLADE to be able to play the role of technical support in this process and that it is very significant that these first steps are in the energy area, where Latin America and the Caribbean have enormous potential in terms of complementarity."

Additionally, on this occasion, a Dialogue of the Vice Ministers with representatives of the business sector was held to address the challenges and opportunities of electric integration in the region.

G20: DISCUSSES THE FUTURE OF ENERGY PLANNING IN LATIN AMERICA AND THE CARIBBEAN



During a parallel event of the G20 Brazil, held in Belo Horizonte (MG) this past Wednesday, May 28, international specialists participated in a debate on the future of energy planning in Latin America and the Caribbean. The discussion was promoted by the Latin American Energy Organization (OLADE).

The central theme of the meeting was "Energy planning as a key tool for energy transitions." The objective was to explore how regional and coordinated energy planning can drive fair and inclusive energy transitions in Latin America and the Caribbean, emphasizing the need for a dedicated forum on these issues.

"The second phase of energy transition typically refers to the evolution of societal energy systems towards sustainability, resilience, and reduced environmental impact. In this phase, energy transitions involve the integration of renewable energies, decarbonization of sectors with challenging emission reductions, new energy storage solutions and energy vectors, as well as efforts in circular economy and sustainable practices," said Guido Maulini, Chief of Staff of the Executive Secretary of OLADE. Representing the Ministry of Mines and Energy (MME), Gustavo Masili, Director of Information, Studies, and Energy Efficiency, underscored the importance of a just energy transition with social inclusion and sustainability. "The energy transition must align with broader sustainability goals, promoting equal opportunities in decision-making, equitable distribution of energy resources, minimizing employment impacts, and mitigating environmental impacts," he reflected.

The debate featured contributions from representatives of the Development Bank of Latin America (CAF), the International Renewable Energy Agency (IRENA), the International Atomic Energy Agency (IAEA), and the International Energy Agency (IEA).

PEM (PROTON EXCHANGE MEMBRANE) ELECTROLYZERS ARE CONSIDERED THE ALTERNATIVE FOR PRODUCING GREEN HYDROGEN AT LOWER COSTS IN THE LONG TERM

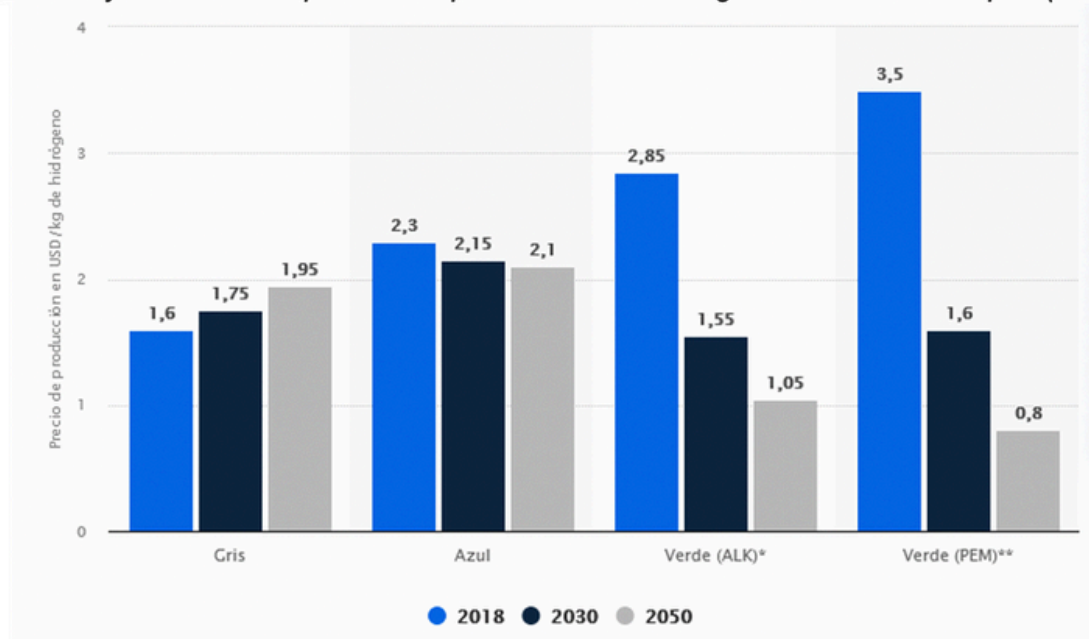
Green hydrogen is hydrogen separated from water molecules through electrolysis using electricity from renewable sources. Currently, hydrogen produced by this method is the most expensive compared to hydrogen produced from methane without carbon capture (grey hydrogen) and with carbon capture (blue hydrogen).

In green hydrogen production, two main types of electrolyzers are currently used, distinguished by the type of electrolyte they contain: alkaline electrolyzers (ALK) and proton exchange membrane (PEM) electrolyzers.

ALK electrolyzers are the most widely used in industrial applications due to their low cost and high efficiency. However, they are susceptible to rapid degradation of their components. PEM electrolyzers, on the other hand, offer high efficiency, durability, and smaller relative size, but they are still a costly technology due to the use of precious metals such as platinum in their components.

Nevertheless, in the long term, according to projections from the International Energy Agency (IEA), PEM technology is expected to enable hydrogen production at the lowest comparative cost compared to other technologies, as depicted in the following figure."

Figura: Proyección de los precios de producción de hidrógeno de diferentes tipos (US\$/kg)



Fuente: Agencia Internacional de Energía - IEA, 2019