

## Forum: The Urgent Energy Transition process in Mexico: Necessary actions to comply with the Paris Agreement

The Plataforma Mexico Clima y Energía (PMCE acronym in Spanish) in alliance with the Asociación Mexicana de Energía Eólica (AMDEE), Asociación Nacional de Energía Solar (ANES) and non-governmental organizations such as the Iniciativa Climática de México A.C., El Poder del Consumidor, Ethos Public Policy Laboratory, Climate Finance Group of Latin America and the Caribbean, the United Nations Environment Program (UNEP), the Ibero-American University, World Resources Institute Mexico (WRI México) and World Wildlife Fund (WWF México) co-organized the forum “The Urgent Energy Transition process in Mexico: Necessary actions to comply with the Paris Agreement”, which took place on 27 February at 8:30-6:00pm in the Barceló Hotel in Mexico City.

The objective of the forum was to identify the challenges and opportunities to accelerate the energy transition in Mexico in the face of the growing urgency to limit the increase of the global temperature to 1.5°C, based on the provisions of the Paris Agreement. The multi-stakeholder dialogue was structured with four main panel discussions and five simultaneous workshops and included more than 200 participants from the civil society, academia, researchers as well as representatives of the government.

### Main insights:

- By 2050 the National Electricity System in Mexico should be 100% constituted by renewables as they are an effective alternative that promote environmental preservation and social wellbeing. Also, Mexico has a high renewable energy potential and will count with the proper economic and technical context to guarantee the strong participation of renewables in the energy mix.
- A series of policies and instruments are needed to guarantee synergies between energy and climate governmental agenda to guarantee compliance to Paris Agreement.
- Addressing climate change is a renewed opportunity for economic growth in Mexico that enhances the creation of new economic sectors, manufacturing processes and innovations, therefore, energy transition process should move forward, however at the same time the social aspect of the energy transition should have a central role in the energy planning.

## Executive synthesis

Master of Ceremonies: Liliana Estrada, Financing Group for Latin America and the Caribbean (GFLAC)

### Opening Address

The opening address was given by Katya Puga, the undersecretary of Planning and Environmental Policy in SEMARNAT; Leticia Merino of SUSMA-UNAM and Manuel Martínez of Frente por las Renovables (Front for Renewables). Their principal messages were:

- SEMARNAT recognized that it is urgent to generate synergies between environmental and energy policy to limit the increase in global temperature to 1.5°C. To achieve this in Mexico mitigation actions must be transversal and include the industrial and transport sectors. Moreover, economic, fiscal, and market instruments need to be strengthened to drive a reduction in emissions and actions that accelerate adaptation to climate change need to be increased. SEMARNAT assumes the commitment to carry the forum's agenda into the planning instruments that will define national mitigation and adaptation policy.
- SUSMAI emphasized that the forum is strategic to generate energy options that have the least impact on quality of life and ecosystems in Mexico, considering the impacts currently generated by the country's high dependence on fossil fuels.
- The Frente por las Renovables explained that through renewable energies one can reach the energy sector's decarbonization goal by 2050. However, the growth rate of renewable energy in Mexico is behind the global average, despite its great environmental, social and economic benefits.

### Panel 1: Strengthening actions to achieve the Paris Agreement

**Speakers:** Jorge Islas, IER- UNAM. **Comments by** Sandra Guzmán, SEMARNAT; Fernando Aragón, COLMEX y Tabaré Arroyo, WWF Mexico.

Jorge Islas stated that climate change is manifesting itself with multiple serious evidences. The data indicates that the last three years have been the world's hottest. In this sense, the IPCC's 1.5°C Special Report warns the experts and the international community about the certainty of exceeding the average temperature if GHG emissions are not drastically reduced. To not exceed 1.5°C it is necessary to reduce by 2030 the equivalent of 45% of the emissions of year 2000 levels and reach a "net zero" of the emissions by 2050. Current data shows that the global level has exceeded 410ppm and should not exceed 450ppm to maintain the increase in global temperature by 1.5°C. However, in Mexico the current scenario continues to show an extreme dependence on energy consumption; the electricity sector shows a high consumption of natural gas and even an increase in coal. Given these outlooks, the conclusions of the specialists highlighted:

- In Mexico, the current scenario leads to a trajectory of 2°C or more. The gasification process must end and the use of coal must be eradicated, since they are not in accordance with the fight against climate change.
- The adequate implementation of renewable energies would be synonymous with 1) sovereignty and energy autonomy, 2) creation of jobs, 3) sustainable development and social welfare, 4) technological development and innovation, 5) combating climate change, 6) combating poverty, 7) human resilience.
- A deep and rapid decarbonization of the energy system requires creating the conditions to encourage massive investments from the public and private sectors.
- Mexico's commitments are currently concentrated at the country level and more efforts must be made at the federal and at the local levels. It also requires a constructive dialogue between all actors and changes related to the capacities of public and private institutions and civil society organizations.

## Panel 2: The international experience of the energy transition

Moderator: Vanessa Pérez Cirera, WWF Mexico.

With the participation of Alex Berland from BEIS, United Kingdom; Philipp Hauser of Agora Energiewende, Germany; Fei Ming of UC Davis, China, and Cecilia Aguillón of the Institute of the Americas, USA. The panelists discussed the policies implemented in their respective countries and states to accelerate an energy transition based on renewable energies that allows, on the one hand, an energy transformation under principles of social justice and, on the other hand, advances in the fulfillment of international climate commitments. In this regard, the specialists highlighted:

- In the United Kingdom, a robust legal and institutional framework has favoured market conditions that allow the competition of different technologies in a context of equality. This has provided guarantees and investment certainty to those interested in participating in renewable energy projects and the reduction of emissions.
- The energy transition and attention to climate change have been viewed as opportunities for economic growth in Germany because they have motivated the creation of new economic sectors, manufacturing processes and innovations that have reduced energy consumption and have increased energy efficiency.
- The Chinese government has sought to eradicate the inertial tendency of the past in order to move from an economy dependent on fossil fuels towards a low carbon economy. Since 2015, it has accelerated the formulation of energy transition strategies, financing of renewable energies and intersectoral work.
- In the state of California, despite the decisions by the US government, local and subnational actors have stood out due to their formulation of climate and energy agendas; the participation of the local community in public services and distributed generation projects has been strengthened.

In conclusion, it is necessary to promote a narrative that positions climate change as an opportunity where decarbonization is seen as the most economical and environmentally efficient option for economic sectors in Mexico. Additionally, achieving a successful energy transition in the country requires promoting the legal and institutional adjustments that guarantee social participation and the certainty of investment in renewable energy projects. The experience of other countries and local governments shows that coordination and dialogue between different levels of government and economic sectors is possible to accelerate climate action and the energy transition.

## Panel 3: Latin America experience of the energy transition

Jorge Villarreal of the Iniciativa Climática de México, William Wills of the Climate Center of Brazil and Enrique Maurtua of FARN Argentina, members of Climate Transparency, talked about the Latin American experience in the energy transition and the important gap that exists between emissions trends of the three countries with respect to the commitments made in the Paris Agreement. A series of country policy papers ([Argentina](#), [Brazil](#), Mexico) as well as a joint synthesis paper entitled "[Accelerating the Energy Transition in Latin America](#)" served as a basis for further discussions. During panel 3, it was highlighted that:

- The term "Climate transparency" does not only refer to clarifying the methodologies and calculations behind the decrease and emissions ceilings. It also involves making transparent how and who makes decisions in public policy processes. The Mexican government is in the process of increasing the share of natural gas and curbing the participation of renewable energies. If this trend is not reversed, the country's climate commitments will not be achieved.
- Brazil needs to implement energy efficiency policies and review its economic policies to produce and export products that have more added value. Brazil's climate commitments were met because the level of ambition was very low – the country's climate commitments are far from reaching the 1.5°C target.
- Although interest in renewable energies has increased in Argentina, there are several challenges. These included the prevalence of fossil fuel subsidies, external debts, high interest rates and poor investment conditions. Argentina will comply with its energy commitments through non-conventional renewable energies (such as nuclear and hydroelectric plants), which represent very high social costs.

They agreed that Climate Transparency provides a space for dialogue among G20 countries (including Argentina, Brazil and Mexico), to discuss how to move forward on climate change. Likewise, the specialists recognized that there are great challenges for the energy transition in Latin America and, although they emphasized the urgency of accelerating the energy transition, the discussion cannot only be limited to economic and technological considerations; the energy transition and the formulation of ambitious climate policies must consider the social and economic context of each country.

#### Panel 4: The future of the National Electricity System (NES): How will NES look in 2050?

After a discussion on how the National Electricity System should be viewed, Daniel Chacón of the Iniciativa Climática de México and Jesús Antonio del Río of UNAM's Institute of Renewable Energies, concluded:

- The Mexican Electricity System must establish a renewable energy matrix that leads Mexico to comply with the Paris Agreement and positions the country on the temperature trajectory recommended by the IPCC, between 2 and 1.5°C. An electricity matrix based on renewables has several benefits, including: (i) savings of 365,000 million pesos in 15 years; (ii) it does not produce stranded assets; (iii) decreases the national or imported gas requirements, and (iv) positions Mexico on the right path to address the effects of climate change. However, a set of inter and intra sectoral policies is required to achieve this.
- To empower citizens, it is necessary to provide adequate information and a regulatory framework that encourages the use of renewable energies. The integration of renewable energies will lead to a scenario of social welfare, responsible consumption and democratize access to energy. In parallel, the energy transition goals and climate change commitments will be achieved.

#### Conclusions of the parallel workshops

During the event, five specialized workshops took place that discussed subjects relevant in the context of the current energy transition and climate change commitments. The conclusions were the following:

##### Workshop No. 1. The social aspect of the energy transition

- Energy poverty is understood as the inability to satisfy energy necessities. We must move from “access to electricity” to a needs-based satisfaction approach. 15% of homes do not have a light bulb in their main rooms and 32% of households do not have refrigerators.
- Photovoltaic solar energy is a sustainable option to eradicate energy poverty in Mexico and address the climate emergency. However, it is necessary to use social sciences to study the conflicts that arise from energy projects, so that the socio-spatial dimension can have a central role in energy planning.

##### Workshop No. 2. Co-benefits

- Renewables have positive externalities such as job creation, economic spillovers, which result in a greater social benefit compared to the use of other technologies.
- In Germany, decarbonization is accepted mainly because of its co-benefits. Jobs that depend on fossil fuels are lost, but jobs are earned in the renewable and energy efficiency sector, with a net balance in favor of 18,000 jobs generated over those lost.
- Project 18 of the current government proposes the installation of 36 GW from 2018 to 2024; a faster implementation than in previous projections. A non-transition results in large infrastructure and environmental liabilities.
- Currently, there are 41 solar power plants (3,000 MW) that generate more than 50,000 jobs, including indirect, professional services, construction, metal, wiring, investor.

##### Workshop No. 3. Carbon Budget

- Given the uncertainty of the methodology for estimating the carbon budget, countries assume mitigation responsibilities according to their interests. There is a risk of being permissive and not having a higher level of ambition.
- It is important to evaluate how to communicate the relevance of the carbon budget to society; Climate change is a topic that is far from a person's common problems and is perceived as a purely legislative issue.

The carbon budget is a method that can help to define national and sectoral goals. It allows the identification of sectors that have the greatest potential to reduce emissions. However, the carbon budget needs to be accompanied by a series of policies to define more ambitious goals.

#### Workshop No. 4. Electricity market.

- It is necessary to move from an approach, in which the user is a simple consumer to an approach, in which the user is aware of and understands the energy options presented by the new model and then adopts any of these options (distributed generation, contracts between public and private, etc.).
- The first market barrier is the lack of market understanding and complexity. Understanding is a matter of time, people must understand the lexicon and get used to the language. Complexity is solved with the creativity of suppliers and generators to develop financial and non-financial schemes that simplify contracts for customers.
- The schism of the price of renewable energies must be kept in perspective. In general, Germany went from 440 Euros per MWh to 20 Euros per MWh. Therefore, in what context does it make no sense to accelerate the energy transition? Why, despite the low prices of renewable energies, is the transformation is not happening?
- The conversation around renewable energies must also focus on issues such as the intermittency of renewable energies and the average availability of thermal energies. In this sense, the greatest contribution of all the participants in the sector is to contribute data and have objective conversations.

#### Workshop No. 5. National Electricity System Planning

- The National Electricity System Development Programme (PRODESEN), even with its deficiencies, has been an effort of a great value for the analysis of the National Electric System.
- Several aspects with potential for improvement have been identified: look for consistency with the plans beyond 15 years; incorporate environmental and social aspects, not only economic ones; develop different analyzes according to temporality (short, medium, long and very long term); and finally, incorporate the technical knowledge.
- It is necessary to develop capacities so that planners understand the limitations and potentials of using models. Not using the models is to walk towards populist solutions, but to use them without knowledge is a very high risk.

#### Event Convened by





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