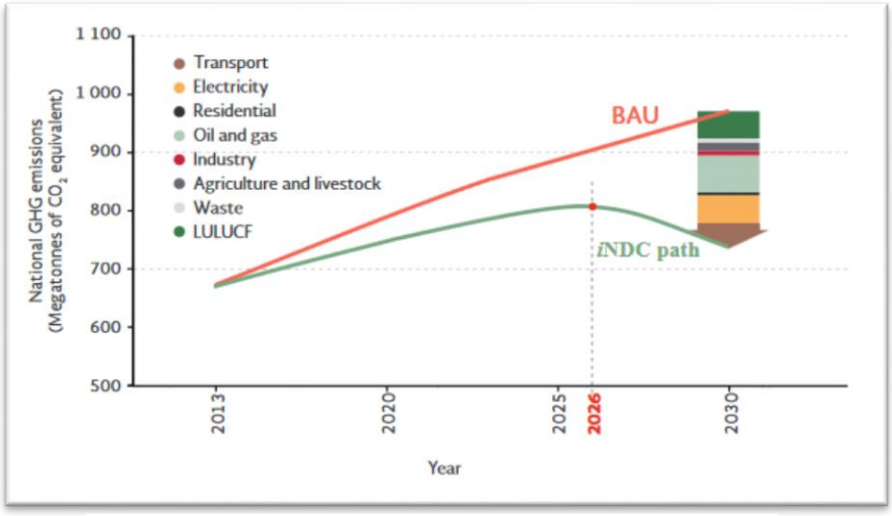
Mexican Energy Pathways Initiative / Iniciativa Rutas Energéticas Mexicanas

The Mexican Energy Pathways Initiative / Iniciativa Rutas Energéticas Mexicanas (MEPI/IREM) is a collaborative, multidisciplinary, and multisector effort to improve and expand the data and analysis needed by decision makers and researchers in Mexico and abroad to enable Mexico to more rapidly and effectively meet its clean energy goals.

As a global leader in the field with a long history of collaboration with Mexico, Berkeley Lab is well positioned to serve as a focal point for clean energy research. Through collaboration with the Mexican government and academic and private sector institutions, Berkeley Lab's Mexico Energy Initiative leverages broad scientific and policy making expertise, particularly in core areas of policy development, scientific exchange, institutional capacity building and energy efficiency program implementation.



National emissions of greenhouse gases in Mexico under the baseline scenario (BAU) and INDC mitigation unconditional goals, 2013-2030.

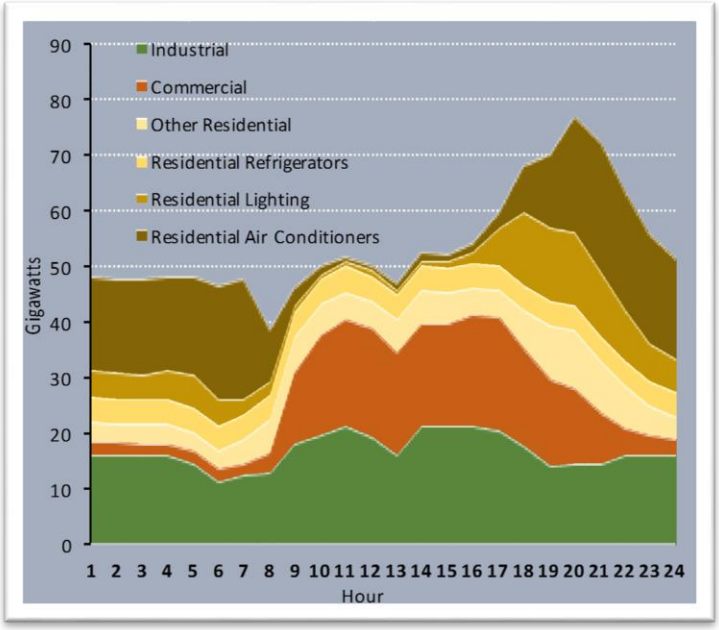
Points of Interaction

MEPI/IREM can impact Mexican clean energy data analysis and policy development through the following channels:

- Emissions Reduction Commitments (NDCs) – Mexico's Paris Agreement NDC calls for 22% unconditional reduction in greenhouse gas emissions by 2030, but provides few details about ways to achieve them. MEPI/IREM can help identify core data and existing gaps, specific barriers and the most fruitful paths forward.
- Mexican Energy Transition Strategy – As part of Mexico's Energy Transition Law, SENER issued a strategy document outlining targets and actions to reduce energy consumption, including a 1.9% annual reduction in energy intensity through 2030 and 2.9% thereafter. MEPI/IREM can both propose and evaluate specific policies and strategies with the best chance of meeting or exceeding these targets.
- Long-Term Planning – The long-term energy outlook for Mexico depends on careful forecasting of demographic and economic trends, including technological advances in electricity generation and usage. MEPI/IREM can help map out probable trends and scenarios, and identify high-impact investment areas.

Research Approach

The researchers in Berkeley Lab's International Energy Analysis Department are experts in developing highly tailored models to inform policymakers of the likely trajectory of energy demand, as well as models which reveal the best options for high impact energy reduction and decarbonization policies. Two of the primary models developed by Berkeley Lab are the China 2050 Demand Resources Energy Analysis Model (DREAM) covering energy use and production in China, and the Bottom Up Energy Analysis System (BUENAS), a global equipment efficiency model for buildings and industry. These models and others have provided policy makers across the globe with key insights that have helped to shape large scale clean energy policies and strategies including IPCC reports, China's 12th 5-year energy plan, pre-negotiations to the Paris Agreement, the Clean Energy Ministerial Initiative, and Global Energy Assessment, among others.



Berkeley Lab analysis of projected 2030 hourly electricity load for Indonesia, a large, rapidly developing economy like Mexico.

Research Topics

The following is a small selection of the wide variety of studies that are possible within MEPI/IREM:

- Sector / Technology Studies – What are the most attractive technologies for "leapfrogging" in Mexico? What are the best strategies for addressing the central role in space cooling in energy demand? What is the baseline trend for efficiency at the sector and technology level?
- Cross-Sector Studies – What are the greatest opportunities for energy savings where sectors meet, such as power and the electrification of vehicles? What is the interaction between efficiency and the power sector, such as load reduction on the integration of renewable energy in Mexico?
- Raising the Profile of Energy Efficiency – How does the International Energy Agency's estimate of nearly 50% of climate mitigation from energy efficiency track with Mexico's energy reduction targets? How much is possible within each sector, and where are there misallocations in energy use across sectors?

Mexican Partner Institutions

- Secretaría Nacional de Energía (SENER)
- Comisión Nacional para el Uso Eficiente de la Energía (CONUEE)
- UNAM-Instituto de Energías Renovables (UNAM-IER)
- UNAM-Facultad de Ingeniería (UNAM-FI)
- Instituto Nacional para Electricidad y Energías Limpias (INEEL)
- Instituto Tecnológico y de Estudios Superiores de Monterrey (TdM)
- Instituto Nacional de Ecología y Cambio Climático (INECC)
- Centro Mario Molina (CMM)
- Centro de Investigación y Docencia Económicas (CIDE)

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