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May 2026

Mexico's Electrification Last Mile May Finally be within Reach

BLUF: After long resisting a formal commitment, in 2025, Mexico adopted a national mandate to achieve universal electrification by 2030. Three notable shifts indicate this commitment may succeed: a move to electrify remote communities with (1) small and low-cost tech, (2) an independent financing scheme, and (3) implementation led by utilities and the private sector rather than the central government.

Why it matters: Although universal electrification is often seen as a goal for low-income countries, 58 middle-income countries — including Mexico — have yet to achieve it. As of 2024, Mexico has reached 99.7% electrification, yet over 470,000 residents across 13,000 communities still lack access. These are the hardest to reach communities, requiring solutions that go beyond grid expansion to build systems that can be sustainably financed, operated, and maintained in remote areas. Mexico's renewed approach, which builds on prior electrification reforms, offers a lesson for other middle-income countries tackling the "last mile" of energy poverty.

In 2025, Mexico committed to fighting energy poverty.

For decades, Mexican governments of all political persuasions avoided formal energy poverty commitments. In 2025, however, the country passed legislation that:

- **Adopted an expansive definition of energy poverty** beyond connection as "*The situation when a house cannot satisfy one or more basic energy needs, like water heating, cooling, and refrigeration of food, and lighting, due to income or social deprivation,*" requiring the government to assess energy use and define consumption thresholds.
- **Integrated energy poverty priorities into the electrification service fund**, allowing investments of ~400 million USD (8 billion MXP) a year to support both off-grid service and energy poverty interventions beyond electricity, such as clean wood-based cookstoves, power systems for public buildings with high demand for AC (i.e., schools or hospitals).
- **Committed to achieving universal access to electricity by 2030**, through grid interconnection or distributed renewable energy, as the basis to fulfill future goals on consumption thresholds.

Three reforms signal Mexico may finally achieve universal access to electricity

Mexico's recent success in reducing poverty is the preamble to the current mandate focused on energy poverty. Between 2018-2024, the country reduced multidimensional poverty by 11.7 million people and extreme poverty by 1.7 million. Though universal access to

electricity remained unachieved, there was also progress on clean cooking. These three changes, however, signal universal access may be within reach:

1. **Adopted smaller systems to reduce technology cost and reach more communities.** Until 2015, the country had deployed community-scale electricity systems in remote areas matching urban service levels, which required significant investment in microgrids and storage capable of sustaining supply for up to two days without solar radiation. By 2017, the approach shifted toward a more modest model: smaller, 1 kW systems combining PV and storage — sufficient for lighting and charging basic appliances such as cell phones and small refrigerators. This approach reserved larger systems for community facilities like schools and health centers. This accelerated household access to some power source, reserving the challenge of energy consumption to future upgrades and interventions, which could potentially develop in the form of minigrids.
2. **Developed a more sustainable financing scheme independent of government revenue or foreign aid.** Prior to 2010, remote electrification projects relied on a social investment fund with multiple competing objectives administered by the Department of Social Development. In 2014, as part of a wholesale liberalization reform, the government created the Universal Electricity Service Fund. The fund is financed through surplus fees collected to cover technical losses, effectively spreading the cost of universal electrification across wholesale market participants rather than adding a fee at the consumer level. Funds can only be used when specific projects are identified and costed; absent that, funds are returned to contributors, as occurred until 2023. The recent universal electrification legislation renames the fund the Universal Energy Service Fund and expands eligible investments to energy poverty projects beyond electricity.
3. **Shifted electrification delivery to those best equipped to execute — the utility and private sector.** Before 2018, off-grid electrification mainly relied on government-identified communities and centrally managed bidding processes. In December 2018, the government brought in the national utility to identify target communities, design projects, and manage procurement and supervision. The utility scaled up its internal capabilities and rapidly conducted field surveys for off-grid community needs across the country. States and local governments, the National Indigenous Institute, and communities also helped identify locations requiring electrification. The utility then ran large-scale competitive tenders, allowing private companies to specialize in procurement, system integration, and installation — helping create a new robust market of installers.

Mexico has a credible path to providing universal access to electricity. Can they deliver?

Achieving universal electrification in Mexico is now officially on the government's to-do list by 2030. While Mexico's grid and electricity reforms have delivered for nearly all, half a million people still remain out of reach. Since 2014, the government has shifted to lower-cost energy technologies, established an independent financing mechanism for remote electrification, and increasingly leveraged the capabilities of utilities and the private sector. Together, these reforms have built a strong foundation for achieving universal access to electricity. However, remote electrification is expensive, and communities will

grow in size and demand for power and services. Therefore, the ultimate test for eradicating energy poverty will be sufficient, reliably delivered, affordable power.

Endnotes

1. INEGI. 2025. Comunicado de Prensa: Pobreza Multidimensional. https://www.inegi.org.mx/contenidos/saladeprensa/boletines/2025/pm/pm2025_08.pdf
2. SENER. 2025. Plan de Desarrollo del Sector Eléctrico, p. 19. https://www.gob.mx/cms/uploads/attachment/file/1042890/PLADESE_cap_1.pdf
3. World Bank Indicator. (2023) https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS