

MEXICO AND THE 21ST CENTURY POWER PARTNERSHIP

Paving the Way to a Cleaner, Smarter, and More Resilient Power System

Mission and Objectives

The 21st Century Power Partnership's program in Mexico (21CPP Mexico) is carried out in cooperation with government and local stakeholders and draws upon 21CPP's international community of power system expertise. The overall goal of this program is to support Mexico's power system transformation by accelerating the transition to a reliable, financially robust, and low-carbon system. 21CPP Mexico activities focus on achieving positive outcomes for all participants by addressing critical questions and challenges facing policy makers, regulators, and system operators as they implement Mexico's strategy to promote clean technologies. In support, 21CPP Mexico taps into deep networks of expertise and professional connections.

The primary objectives of the initial phase (2014–2017) of the 21CPP Mexico program included:

- **Accelerate "next generation" power system planning** by supporting regional and national power system roadmaps and modeling, grid expansion planning in priority renewable energy zones, policy to support distributed generation, and comparison of power system planning tools.
- **Provide operational support for grid integration**, including technical assistance on grid operational practices for renewable energy integration.
- **Expand distributed generation and smart grid deployment** by enhancing regulation and public policies, implementing smart grid roadmap recommendations, and modeling various solar PV scenarios.

- **Assist implementation of Mexico's energy reform directives** including the long-term auction process, distributed energy, energy efficiency and smart grid technologies, wholesale market monitoring, and improved data management.

Objectives for the next phase (2018–2021) of the 21CPP Mexico program include:

- **Deepen subnational assistance** by providing capacity building and analysis to increase deployment of renewable energy projects and enactment state-level policies and strategies for energy transitions.
- **Assess social impacts** to better understand barriers and issues that policy makers and developers should include in analyses of high potential renewable energy zones and future auctions.
- **Provide transition assistance** to facilitate the shift to the upcoming administration by documenting and maintaining records, tools and models from the first phase of assistance and building capacity within the new administration.

Structure

21CPP Mexico is sponsored by the Children's Investment Fund Foundation (CIFF), which acts as an advisor for all 21CPP Mexico activities, and the U.S. Department of Energy. The government of Mexico coordinates all 21CPP Mexico activities through the Undersecretary of Planning and Energy Transition. As the operating agent,

About the 21st Century Power Partnership

The 21st Century Power Partnership is a multilateral effort of the Clean Energy Ministerial and serves as a platform for public-private collaboration to advance integrated policy, regulatory, financial, and technical solutions for the large-scale deployment of clean energy generation in combination with deep energy efficiency and smart grid solutions.

the U.S. Department of Energy's National Renewable Energy Laboratory (NREL) and its institutional affiliate, the Joint Institute for Strategic Energy Analysis (JISEA), direct the activities of 21CPP Mexico in consultation with the government of Mexico.

Stakeholder Engagement

A Steering Group, composed of public and private organizations, academia, NGOs and other international donor programs, provides input on the 21CPP annual program, sets the direction of its activities, and supports program implementation. The group includes the Deputy Secretariat for Energy Planning and Transition and the Deputy

Secretariat for Electricity from the Ministry of Energy (SENER), Energy Regulatory Commission (CRE), Federal Electricity Commission (CFE), National Center for Energy Control (CENACE), Ministry of Finance (SHCP), Ministry of Economy (SE), Mexican clean energy private sector companies, academia, NGOs, international donors, NREL, JISEA, and CIFF.

The 21CPP held its steering committee meeting in April 2018 to inform the 2018 workplan. At this meeting, SENER announced with the Latin American Energy Organization (OLADE) a new CEM campaign for distributed generation and a regional 21CPP work stream for Latin America.

2017–2018 Activities

Technical Studies

- Support for national long-term power system planning including roadmap development and scoping of modeling efforts in conjunction with CENACE, SENER, and others.
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- Evaluation of regional and national solar and wind scenario studies with technical support from SENER, CENACE, and CFE.
- Assessment of distributed generation penetration scenarios based on conservative, moderate and high growth expectations.
- Analysis of regional Renewable Energy Zone (REZ) processes necessary for Mexico's expansion of transmission in high potential zones.

Energy Reform Support

- Providing assistance to improve the Atlas for Clean Energy Zones as well as renewable energy priority zones for transmission expansion and future auctions.

Staff Exchanges

- CENACE and international system operators participated in workshops hosted by UVIG on forecasting

and modeling practices to enhance electricity network operation with high penetration of renewables, use of energy storage and demand control solutions, and integration of wide-area monitoring for real-time operation.

- CRE hosted an exchange for regulators to analyze grid expansion planning tools and improve CRE's understanding of storage technologies and compensation methodologies for demand response programs.
- Facilitated a distributed generation study tour with SENER, CRE, CENACE and CFE to learn about the value of technical studies and options in creating distributed generation policies and regulation.

Multilateral Peer-to-Peer Workshops

- Supporting multilateral workshops on best practices for developing distributed generation public policies, demand response compensation mechanisms, storage technologies and their applications for integrating renewable energy, and modeling variable renewable energy for grid expansion planning.

Thought Leadership Reports

- Co-authoring reports on smart grid programs in Mexico, distributed generation public policies, and demand response programs.

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NREL/FS-6A50-71574 | May 2018
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Front page photo: iStock 16542720