

TRANSFORMING POWER SYSTEMS THROUGH GLOBAL COLLABORATION

Ambitious and integrated policy and regulatory frameworks are crucial to transforming and modernizing power systems. The 21st Century Power Partnership—a multilateral initiative of the Clean Energy Ministerial—augments national reform efforts with technical excellence deployed through a flexible range of international knowledge-sharing and research activities.

Structure

The 21st Century Power Partnership (the Power Partnership) aims to accelerate the transition to clean, efficient, reliable, and cost-effective power systems. The initiative engages in a broad range of research and technical assistance activities to support bilateral and multilateral collaboration that accelerates the diffusion of high-impact policy and regulatory strategies. The Power Partnership connects governmental, nonprofit, and industry stakeholders to share experiences, accelerate learning, and expand the visibility of power system transformation efforts around the world.

Why a Power Partnership?

In 21st century power systems, electricity from heterogeneous sources will be delivered through smart, efficient networks and balanced by a variety of flexibility options, such as demand response, storage, and smart electric vehicle (EV) charging. Developing such systems will require new global partnerships focused on technical excellence, targeted innovation, and smart policy and regulations, supported by sustained financial and political investment and ambitious public-private sector collaboration. The Power Partnership builds upon technology-specific efforts from across the various Clean Energy Ministerial (CEM) initiatives and coordinates targeted engagements to support participating member countries.

Activities and Projects

The Power Partnership exchanges knowledge, good practices, and innovations with clean power system transformation measures across CEM countries and stakeholders at all levels and combines this with in-depth technical assistance with partners in China, India, Mexico, and South Africa. Brazil is the newest member of the 21CPP and a program of work is still under development.

Brazil



As the newest member of the 21CPP, teams in Brazil and the operating agent are currently prioritizing needs, developing workplans and engaging in fundraising.



China

In partnership with the China National Energy Administration, the China National Renewable Energy Center, State Grid Energy Research Institute, and others, the 21st Century Power Partnership supports China's renewable energy integration and energy system transition.



India

In partnership with the Indian Ministry of Power, U.S. Department of Energy, Power Grid Corporation of India, Ltd.

(PGCIL), USAID, and Power System Operation Corporation Ltd. (POSOCO), the 21st Century Power Partnership contributes to the development of India's national Renewable Energy Roadmap, shares experiences managing variable renewable energy on the grid, and collaborates on efforts to model the power system with high penetrations of variable renewable energy.

Mexico



In partnership with the Children's Investment Fund Foundation, the Mexico Ministry of Energy (SENER), the Mexico National Energy Control Center

(CENACE), the Mexico Energy Regulatory Commission (CRE), and the Mexico Federal Electricity Commission (CFE), the 21st Century Power Partnership works to accelerate "next generation" power system planning for 2030, provides operational support for grid integration, evaluates and expands distributed generation and smart grid deployment, and assists with implementation of Mexico's energy reform directives.

South Africa



In partnership with the South African Department of Energy (SADOE), National Energy Regulator of South Africa (NERSA), South African National

Energy Development Institute (SANEDI), Council for Scientific and Industrial Research (CSIR), and Eskom, the

In 2017–2018, the 21st Century Power Partnership worked closely with the International Energy Agency (IEA) to jointly produce *Power System Transformation 2018: Advanced Power Plant Flexibility*. The report is a key deliverable of the Advanced Power Plant Flexibility Campaign, led by Germany and Denmark. The work builds on previous power system transformation reports jointly produced by 21CPP and IEA.

Read the report:

21stcenturypower.org/publications

21st Century Power Partnership supports South Africa's Integrated Resource Plan by promoting next generation modeling practices, shares global experiences on distributed generation regulation, and assists the government of South Africa in building a workforce of power system experts.

Knowledge Development and Expert Networks

The Power Partnership coordinates targeted knowledge and research development, dissemination, and exchange efforts on timely, policy-relevant electricity sector issues such as evolving utility business models, next generation regulatory frameworks, and integrated resource planning. This information is made available through a variety of web forums, published reports, and information databases and tools. Visit 21stcenturypower.org to learn more. The Power Partnership also organizes platforms for multilateral expert consultation and knowledge sharing, including ad-hoc consultations, workshops, roundtables, and cross-national fellowships. For example, the 21st Century Power Partnership regularly facilitates staff exchanges between research institutes for training on modeling, forecasting, and grid integration management. Learn more about the fellowship program: 21stcenturypower.org/fellowship.cfm

Organization, Participants, and Partners

Three coordinated main bodies support the Power Partnership: the Power Partnership Steering Group (PPSG), the Public-Private Leadership Forum (PPLF), and the operating agent. The PPSG develops and guides the Power Partnership program of work. PPSG members include the governments of China, Denmark, Finland, Germany, India, Mexico, Spain, South Africa, the United States*, and representatives of the Children's Investment Fund Foundation. The PPLF coordinates activities with private sector stakeholders and provides input to the annual program of work. As the operating agent, the National Renewable Energy Laboratory (NREL) and the Joint Institute for Strategic Energy Analysis (JISEA) lead the Power Partnership and serve as the liaison to the CEM Secretariat.

*U.S. participation under review

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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 renewable energy in combination with deep energy efficiency and smart grid solutions.

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