



Transforming Power Systems

Ambitious and integrated policy and regulatory frameworks are crucial to achieving power system transformation. The 21st Century Power Partnership—a multilateral effort of the Clean Energy Ministerial—serves as a platform for public-private collaboration to advance integrated solutions for the large-scale deployment of renewable energy in combination with deep energy efficiency and smart grid solutions.

Vision

The 21st Century Power Partnership aims to accelerate the transition to clean, efficient, reliable and cost-effective power systems. Engaging in a broad range of research and technical assistance activities, the Power Partnership supports multilateral collaboration in order to accelerate the diffusion of high-impact policy and regulatory strategies. The Power Partnership seeks to add value to ongoing power system transformation efforts by expanding the network of expertise, accelerating learning and knowledge sharing, and elevating the visibility of national efforts.

Context

In 21st century power systems, electricity from variable renewable 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 Clean Energy Ministerial (CEM) advances such cooperation through various technology-specific efforts. The Power Partnership leverages synergies across these CEM efforts, and coordinates targeted engagements to support participating member countries.

Organization, Participants, and Partners

The Partnership is supported through the coordinated efforts of three main bodies: 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 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 serves as a vehicle for providing input for the annual program of work and for knowledge exchange activities across countries. PPLF members include representatives of Abengoa, Alstom Grid, CISCO, Deutsche Bank, Duke Energy, Electric Power Research Institute, Eskom, IBM, International Copper Association, Impax Asset Management, Itron, Johnson Controls Inc., Korea Energy Management Company, PensionDanmark, Schneider Electric, Shell, and Siemens.

The operating agent assists the PPSG and PPLF in developing and executing the program of work, stakeholder coordination, and administrative activities. The National Renewable Energy Laboratory is the operating agent of the Power Partnership.

Activities

Country Programs

The Power Partnership teams with government agencies, regulators, system operators, technical institutes and other actors in India, Mexico, and South Africa to support power system transformation activities. Country activities are guided by priorities set by the national governments and include assistance with national and regional power sector modeling and roadmaps, strengthening regulations

and enabling policies, improved forecasting and control strategies, and related topics. The partnership enables peer learning and exchange between countries through workshops, webinars, staff exchanges, and other forums.

Knowledge Development and Sharing

The Power Partnership coordinates targeted knowledge development and dissemination efforts across CEM initiatives. The Partnership reviews, researches, and develops case studies of timely, policy-relevant electricity sector issues, such as methodologies for guiding integration planning, regulatory frameworks to expand energy efficiency and smarter grids, and opportunities and challenges among evolving utility business models. The Power Partnership accelerates the dissemination of knowledge through multiple channels including publicly available web forums, thought leadership reports, and information databases. The Power Partnership also develops policy and technical resource libraries that are available to participants.

Organizing Global Networks of Expertise

Transforming the power sector to clean and efficient systems requires expert capacity. To provide such expertise, the Power Partnership organizes platforms for multilateral expert consultation. Such exchanges include grid operator workshops, multi-stakeholder regulatory exchanges, public-private roundtable discussions, and fellowships which support cross-national short-term assignments in peer institutions.