



Advanced Power Plant Flexibility Campaign

Paving the way for cost-effective, large-scale variable renewable energy integration

Overview

Wind and solar power are seeing a rapid increase in many Clean Energy Ministerial (CEM) countries. Accommodating the growing shares of wind and solar power poses novel challenges for power systems, because their output fluctuates with the availability of wind and sunlight. This raises the importance of power system flexibility—the ability of the system to deal with higher levels of variability in the supply/demand balance of electricity. There are four ways to provide this flexibility: grid infrastructure, demand side response, electricity storage, and dispatchable power plants. In particular, dispatchable power plants—including thermal generation—are a key ingredient in a balanced mix of flexible resources.

The Campaign seeks to build strong momentum and commitment from governments and industry to implement solutions that make power generation more flexible. The Campaign is a shared effort between the CEM’s Multilateral Solar and Wind Working Group and 21st Century Power Partnership.

The Opportunity

In many power systems, regulation, market design, and contractual arrangements may encourage an inflexible operation of power plants. As a result, a tremendous amount of technically available flexibility remains unexploited in practice. In addition, there is a considerable body of experience on how to assess power plant flexibility and how to increase technical capabilities cost-effectively; however, many stakeholders are unaware of the tools and solutions for enhanced power plant flexibility, or have difficulty assessing the costs and benefits. The Campaign seeks to bridge this information and transparency gap by facilitating an exchange where policy makers, utilities, manufacturers, and regulators can share experiences and establish best practices for regulatory, technical, and market solutions that enhance power plant flexibility. The Campaign offers opportunities to leverage international experience for enhancing the impact of domestic policies and actions and for improving planning processes.

Make a Commitment

The Advanced Power Plant Flexibility Campaign looks to advance and share best practice between CEM members within power plant flexibility. It also seeks to highlight best practice that can ensure the necessary economic incentives are



Contact

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in place to drive investments in and optimal use of flexible power plants. Public and private sector stakeholders can facilitate this effort in a number of ways:

Example Commitments

- Governments can commit to identify changes in electricity markets and regulations that can unlock more flexibility from existing resources.
- Utilities can commit to assess the flexibility of its assets and determine opportunities for cost-effective operational improvements.
- Power plant operators can commit to share real-life business case examples and best practices to identify key innovative technologies that deliver operational efficiency and improve the bottom line.
- Manufacturers can commit to share insights and experience on the various technical solutions for improved power plant flexibility.
- Association, foundation, or non-profit organizations can commit to raise awareness about the need for power plant flexibility and elevate current efforts aimed at achieving this.
- Associations can commit to inform policy makers and utilities about the policy, regulatory, and market conditions that are most effective at unlocking flexible generation and which research activities should be prioritized.
- Research institutes can commit to analyze the system benefits of increased supply-side flexibility and work with other parties to develop analytical tools to further other efforts under the Campaign.



Be a Part of It

- Join energy ministers from CEM's 25 member governments, along with international partners, on the global stage at the eighth Clean Energy Ministerial (CEM8) meeting in Beijing, China, on June 6–8, 2017, as we launch the Advanced Power Plant Flexibility Campaign to drive awareness and international collaboration.
- Help inform policy that can foster the necessary market platform and market incentives to unlock power plant flexibility.
- Learn about current best practices and how countries are successfully dealing with fluctuations in supply and demand.
- Raise awareness of the benefits of power plant flexibility.
- Be part of delivering energy security and climate and clean energy goals.



About the CEM

The Clean Energy Ministerial (CEM) is a partnership of the world's largest and most forward-leaning economies working together to accelerate the global clean energy transition. Launched in 2010, the CEM pairs the high-level political engagement of energy ministers with sustained initiatives and high-visibility campaigns to provide a powerful combination for accelerating clean energy policy and technology deployment. Learn more at <http://www.cleanenergyministerial.org/>.