

Fact Sheet: International Smart Grid Action Network (ISGAN)

Overview

The International Smart Grid Action Network provides a platform for high-level attention, analysis and action for the development of smarter, cleaner electricity grids around the world.

A sustainable energy future implies a transition to non-emitting sources, including renewable energy sources like solar, wind and hydro, coupled with deep energy efficiency and demand management. The highest growth of renewables today comes from technologies that use electricity as the energy carrier (rather than, liquid fuels). At the same time, global electricity systems are going through a paradigm shift because of aging grid assets and flat or declining demand in many developed economies, rapid growth in the magnitude and complexity of electricity demand in many emerging economies, and a host of related factors.

To address these trends and modernize their electric power networks, many countries are actively integrating a range of advanced energy, information, sensing, communications, and control technologies, collectively known as the “smart grid.” The implementation of smart grids is a key enabler for sustainable energy systems. Effectively deployed and operated, smart grid solutions support large-scale integration of variable renewable power, dynamic management of complex electricity demands, and more efficient and effective operation of the electricity system overall. ISGAN serves as the worldwide government-to-government initiative for sharing information, best practices and competence specifically on smart grids.

Key Activities

As a global “network of practice,” ISGAN aims to identify solutions, enable replication of proven ideas, and support greater national ambition in developing and deploying smart grids. Across seven standing work groups and several ad hoc activities, ISGAN supports international sharing of experience and best practices on the implementation and value of smart grids, cooperative development of further knowledge and tools targeting core areas of aligned interest, and the recognition of excellence in smart grid practice.

At CEM6, ISGAN announced two new partnerships:

1. ISGAN is partnering with the Clean Energy Solutions Center to make smart grid expertise available to a wider global audience through the Solutions Center’s Ask an Expert service. Providing no-cost assistance with smart grid program design to countries around the world, this service will complement the existing clean energy policy assistance offered by the Solutions Center. The service will be available to government agencies and technical institutes supporting governments.
2. ISGAN is partnering with Leonardo Energy to develop a virtual “Training Academy” that will offer free online courses across a range of smart grid topics. The Academy will complement other online courses such as the DSM University, a joint effort of the International Energy Agency (IEA) Demand-Side

Management Implementing Agreement and Leonardo Energy, and the Clean Energy Regulators Initiative, a partnership among the Solutions Center, the 21st Century Power Partnership (21CPP), and Leonardo Energy.

Progress and Accomplishments

ISGAN is striving to translate its knowledge products to better support national-level smart grid decision making, support more joint work and direct peer-to-peer engagement, actively foster the replication of proven ideas in other markets, and improve global workforce capacity. Examples of recent progress include the following:

- Completed the second annual Award of Excellence competition, in partnership with the Global Smart Grid Federation (GSGF), with a 2015 theme of “Excellence in Smart Grids for Renewable Energy Integration.” The winning project and two honorable mentions were announced at CEM6.
- Released a book of cases studies on “Smart and Strong Power T&D Infrastructure,” a discussion paper on interactions between transmission and distribution system operators, and an online “beta” version of its earlier case book on advanced metering infrastructure.
- Hosted successful smart grid webinars in partnership with the Clean Energy Solutions Center on developing a national action plans on smart grids, smart and strong power infrastructure, use of virtual power plants in smart grids, engaging low-income customers through smart grid technologies, and lessons learned from several municipal smart grid projects.
- Co-hosted a successful workshop with 21CPP, the South African Department of Energy and others on “Unleashing Rooftop Photovoltaics” in South Africa, with more than 125 national decision makers, stakeholders and international experts in attendance.
- Advanced joint evaluation of draft testing protocols for advanced communications and control functions of solar photovoltaic inverters with the goal to inform development of future industry standards, regulations, and grid codes and support improved interoperability.

Other Recommendations

To strengthen power systems globally, countries could give enhanced attention to electric power grids (relative to grid “end-points”) and support increased grid “smartness” and flexibility. One path would be to initiate in-country use of proven models, tools, and project designs identified by ISGAN. Another is to support alignment of local and national standards with internationally developed, “future-proofed” interoperability standards through policy, incentives, voluntary codes of conduct, or other appropriate levers available to governments.

Current Participants and Partners

ISGAN was officially established at the second Clean Energy Ministerial in 2011 as an Implementing Agreement under an IEA framework. Participating governments include Australia, Austria, Belgium, Canada, China, Denmark, the European Commission, Finland, France, Germany, India, Ireland, Italy, Japan, Korea, Mexico, the Netherlands, Norway, Russia, Singapore, South Africa, Spain, Sweden, Switzerland, and the United States.

ISGAN is managed by its Executive Committee and supported by its Secretariat at the Korea Smart Grid Institute. ISGAN works closely with the IEA Secretariat, GSGF, 21CPP and several other international partnerships and initiatives. More on ISGAN can be found at www.iea-isgan.org.