Final Communiqué from
Grand Renewable Energy 2018
"How to Accelerate Renewable Energy Integration"

PACIFICO YOKOHAMA, YOKOHAMA, JAPAN, 17 – 22 JUNE 2018

Yokohama, Japan, June 22, 2018

Under the theme *How to Accelerate Renewable Energy Integration*, the 4th edition of the Grand Renewable Energy International Conference was held this week in Yokohama, Japan. The Conference was attended by over 1100 participants, representing 45 countries. Besides Keynote Addresses and Panel Discussions, experts from international organizations and institutions, industry and governments delivered presentations and posters in a broad cross-section of renewable energy issues related to technical, scientific, economic, social and environmental aspects of renewable energy integration in society.

Based on the various presentations and discussions at the Conference, the following fundamental understandings and proposals have been reached to provide directions on how to accelerate renewable energy integration around the world:

- Since the beginning of this conference series in 2006, held every four years in Japan, contributions of renewable energy continue to increase, and the public further recognizes its importance.
- We have observed a continuous growth in renewable energy deployment worldwide, with renewable energy-based power generation now being the dominant new power source installed in the world. In 2017, 70% of total new power generation installed was based on renewable energy sources.
- While continuing to be the subject of innovative research and development, wind and solar photovoltaic (PV) systems have achieved technological maturity and are now cost-competitive with traditional power sources. In some areas in the world, wind and solar PV have become the lowest cost power sources.
- While penetration of variable renewable energy has already exceeded 30% of electricity generation in certain jurisdictions, power systems need to evolve towards more renewable energy-friendly systems to increase flexibility in grid management.
- Importance of energy storage has become widely recognized. Not only pumped hydro storage but also large-scale battery systems are being installed to control the output from variable power sources. Hydrogen and hydrocarbons produced from renewable energy are expected to become significant energy carriers in the future.
- The world continues to meet more of its energy demands through electrification. In this regard, transportation and heating & cooling are sectors where renewable energy can be deployed more widely.
- Continued cost reductions, system friendly policies and well-designed economic rules are crucially important and effective for further deployment of renewable energy for future energy security and sustainability.

The scientific community, industry and governments recognize that we have achieved significant accomplishments in the renewable energy sector. However, based on the above, a lot more needs to be done.

We, the specialists involved in the field of renewable energy technologies and their policies, are committed to continue to contribute in the development of a viable, efficient, safe and secure energy sector throughout the world. The next Grand Renewable Energy 2022 International Conference in Japan will provide an opportunity to assess the work and to share the accomplishments that will be done in the next four years.