

SIDS Lighthouses Initiative: Technical Webinar Series

Transforming Small Island Developing States Power Systems through Variable Renewable Energy

Date: 10th December 2020 • 16:00-18:00 CET • Virtual

Background

Small Island Developing States (SIDS), in spite of facing ongoing challenges associated with heavy dependence on fossil fuels, high energy costs, fragile natural environment that continues to be inundated by natural disasters and limited capacity continues to show strong political commitment and leadership by setting ambitious Nationally Determined Contributions (NDCs) under the Paris Agreement and national targets in their respective national energy policies and roadmaps focusing on renewable energy. This enables SIDS to participate in the global energy transition and take advantage of cost-competitive renewable energy solutions to accelerate the growth of renewable energy. SIDS are focusing on transforming their power systems with the integration of variable renewable energy (VRE) in recognition of the sustainable transition that it offers. Nevertheless, there are numerous technical barriers that arise in the implementation of VRE's which include, among others, the lack of local capacity to plan, operate and maintain the systems, weak institutional infrastructure, heavy dependence on external and remote markets and the inadequate infrastructure that are in place in SIDS.

The International Renewable Energy Agency (IRENA) has established various initiatives in support of SIDS to accelerate their energy transformation by evaluating the impact of short and long-term renewable energy targets in the reliable operation of the electricity grids. These include technical studies, technical advisory, and capacity building programs, in engagement with local and regional organizations, in the broad spectrum of integrating renewable energy technologies. The specific areas include, but are not limited to, technical grid assessment studies, grid operation and management of power systems with high shares of VRE. The studies reveal the technical constraints in the system to integrate VRE and hence recommend solutions to mitigate these challenges considering the system specificities, available resources and ensure a secure and reliable power system operation. Work done in the past include grid assessment studies for the power systems of islands in Antigua and Barbuda, Cook Islands, Dominican Republic, Fiji, Kiribati, Palau, Samoa and Vanuatu. Capacity building activities were conducted in Cuba, Saint Merteen and Tonga. Technical review was also provided to Barbados grid integration studies undertaken by another development partner.

In 2019 IRENA published a guide on “Transforming Small-island Power systems- Technical planning studies for the integration of variable renewables”, to assist in decision making and help to carry out successful technical planning studies for the integration of high shares of VRE into SIDS power systems. Its objective is to provide the reader an understanding of the challenges associated with VRE integration in SIDS. It discusses the VRE integration planning and the technical studies required to analyze and quantify such challenges, including how to carry out these studies and the methodologies to be applied to resolve the identified issues.

At the webinar, IRENA will also launch its new report on “Quality Infrastructure for Smart Mini-grids”, a contribution to the SIDS Lighthouses 2.0 Initiative. This new analysis provides guidelines on how to implement the latest technical standards and quality control measures for smart mini-grids in SIDS and remote locations for increased resiliency of local energy systems.

Objective of the session

This webinar is planned to highlight the key messages in the publication “Transforming small-island power systems” and disseminate the results and recommendation of some of the recent grid assessment studies, which answer key questions like

- What are the key technical studies required to address the implementation of VRE in a SIDS power system?
- What level of VRE can be included in the power system?
- What are the solutions that can be implemented in a small island power system to achieve a higher shares of VRE?

IRENA’s presentation will be complemented by perspectives from selected islands and the partner organisation. In addition, IRENA will present additional work being undertaken to accelerate the energy transition in SIDS through the coordination of the SIDS Lighthouses Initiative.

Agenda (CET time)

Welcoming remarks	
16:00 – 16:15	Roland Roesch , Deputy Director, IRENA Innovation and Technology Centre, IRENA
Scene setting- SIDS Lighthouses Initiative-Supporting Small Island Developing States in Energy Transformation	
16:15 -16:30	Carlo Starace , Associate Programme Officer – Energy Access, IRENA
Member Countries’ perspectives	
16:30- 16:45	Mr. Andre Matthias , Electricity Business Unit Manager Antigua Public Utilities Authority (APUA), Antigua and Barbuda
Key takeaways from the IRENA Publication “Transforming Small islands– Technical planning studies for the integration of variable renewables”	
16:45- 17:00	Gayathri Nair , Associate Programme Officer, Renewable Energy Grid Integration, IRENA
Partner organisations’ perspectives	
17:00-17:15	Jennifer DeCesaro – Director, Recovery and Resilience, U.S. Department of Energy (DOE)
Key Insights from IRENA Grid assessment studies-Antigua and Dominican Republic	
17:15-17:30	Laura Casado , Associate Professional, Renewable Energy Grid Integration, IRENA
Launch of and Key Insights from IRENA report “Quality Infrastructure for Smart Mini-Grids”	

17:30-17:45

Francisco Boshell, Analyst, RE Technology Standards and Markets, IRENA

Panel discussion with Q&A from the audience

17:45- 17:55

Moderator: Martina Lyons, Associate Programme Officer, Innovation Networks, IRENA

Closing Remarks

17:55- 18:00

Roland Roesch, Deputy Director, IRENA Innovation and Technology Centre, IRENA