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## CONCEPT NOTE

# 8th Multi-stakeholder Forum on Science, Technology, and Innovation for the Sustainable Development Goals

Wed 03 May 2023 - Thu 04 May 2023  
(A VIRTUAL EVENT)

**Title:** *“Clean Energy Technologies to meet SDGs in Small Island States”*

**Date & Time:** 1:15PM - 2:45 PM (EST, New York time) 3 May 2023

**Format:** Virtual Side Event

**Organizers:** Universities Consortium for Small Island States; AOSIS; UNDESA – SIDS Unit

### Synopsis:

This Virtual Event will provide a platform for knowledge exchange and collaboration among experts in the field of sustainable energy and island communities. It will explore innovative technologies, best practices, and policy frameworks for promoting sustainable energy transitions in islands. The outcomes of the will contribute to the development of sustainable energy solutions for island communities, and ultimately, to the achievement of global Sustainable Development Goals. This event continues the discourse on concrete implementation and solutions in preparation for the Fourth International Conference on SIDS to be held in 2024 and towards the 2030 Sustainable Development goals milestones.

### Background:

Islands around the world face unique energy challenges due to their limited land area, geographic isolation, and reliance on imported fossil fuels. The high costs of importing fuel and electricity often result in higher electricity prices, which can stifle economic growth and hinder the islands' ability to compete globally. Additionally, the use of fossil fuels for energy production on islands contributes to the carbon footprint of these regions and exacerbates climate change impacts such as sea level rise, storms, and ocean acidification.



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In recent years, islands have become increasingly interested in transitioning to more sustainable energy systems that leverage local renewable resources such as solar, wind, and hydropower. Advances in technology have made it possible to develop innovative energy solutions that are reliable, affordable, and environmentally friendly. These solutions not only reduce the carbon footprint of the island but also contribute to energy security, economic development, and social well-being.

To achieve sustainable energy transitions, islands must overcome several challenges. For example, renewable energy systems often require significant upfront capital investment, and the high variability of solar and wind resources can make it difficult to maintain a reliable and stable energy supply. Furthermore, regulatory frameworks and policies may not be conducive to the development of sustainable energy solutions, and there may be limited local expertise to support the design, installation, and maintenance of renewable energy systems.

Despite these challenges, islands around the world have made impressive progress in transitioning to sustainable energy systems. For example, the island of El Hierro in the Canary Islands has achieved energy self-sufficiency through a combination of wind and hydropower, while the island of Tokelau in the South Pacific has become the world's first fully solar-powered territory. These successes demonstrate the potential for islands to become leaders in sustainable energy transitions and inspire other islands to follow suit.

The purpose of this event is to bring together experts from around the world to share their experiences and knowledge about technology and sustainable energy transitions in islands. The seminar will explore the latest technologies and innovations in renewable energy systems, as well as the regulatory frameworks, policies, and financing mechanisms that support their deployment. The seminar will also provide a platform for participants to share best practices, lessons learned, and case studies of successful sustainable energy transitions in islands.

### **Objective:**

The objective of this seminar is to explore the role of technology in sustainable energy transitions in islands. The seminar aims to bring together experts in the field of sustainable energy, technology, and island communities to exchange ideas and discuss best practices for adopting sustainable energy solutions. The Side Event will cover the following topics:

1. The challenges and opportunities for sustainable energy transitions in islands: Islands face unique challenges and opportunities when it comes to sustainable energy transitions. The isolation and small size of islands can create limitations for energy supply, transmission, and



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storage. Islands may also have limited financial and human resources to invest in sustainable energy transitions. However, islands often have abundant renewable energy resources such as wind, solar, geothermal, and hydro power, which can be harnessed to meet energy demand sustainably. Additionally, sustainable energy transitions in islands can create new economic opportunities, reduce dependence on fossil fuels, and improve the resilience of island communities.

2. **The role of technology in sustainable energy transitions in islands:** Technology plays a crucial role in enabling sustainable energy transitions in islands. Advanced technologies such as smart grids, energy storage systems, and energy management systems can improve the efficiency and reliability of energy systems in islands. Remote monitoring and control technologies can also facilitate the integration of renewable energy sources into island energy systems. Furthermore, innovative technologies such as hydrogen production and storage, wave and tidal power, and artificial intelligence can offer additional solutions for sustainable energy transitions in islands.
3. **Innovative technologies for sustainable energy production and storage in islands:** Islands can benefit from innovative technologies for sustainable energy production and storage. For instance, hybrid renewable energy systems that combine different renewable energy sources and storage technologies can provide reliable and cost-effective energy supply in islands. Energy storage technologies such as batteries, flywheels, and pumped hydro storage can also help address the intermittency of renewable energy sources. Moreover, novel technologies such as seawater air conditioning, wave energy converters, and microgrids can further contribute to sustainable energy production and storage in islands.
4. **The potential of renewable energy sources for island communities:** Renewable energy sources such as wind, solar, and ocean energy can be harnessed to provide a sustainable and reliable source of energy for island communities. In some islands, renewable energy sources have already displaced fossil fuels as the primary energy source, reducing greenhouse gas emissions and improving air quality. However, the potential for renewable energy sources varies depending on the availability of resources, geography, and weather patterns.
5. **Best practices for integrating renewable energy into island energy systems:** The integration of renewable energy sources into existing energy systems can pose challenges such as grid stability and reliability issues. Best practices for integrating renewable energy sources include energy storage systems, flexible demand management, and smart grid technologies. Additionally, policies and regulations that encourage renewable energy development and incentivize clean energy adoption can also facilitate the integration of renewable energy sources.
6. **Policy and regulatory frameworks for promoting sustainable energy transitions in islands:** The development and implementation of policies and regulations that support sustainable energy transitions are critical to achieving a low-carbon future in islands. These frameworks should aim to create a conducive environment for renewable energy development, promote energy efficiency,



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and provide financial and technical support for clean energy adoption. Regulatory frameworks should also incentivize innovation and ensure that the benefits of sustainable energy transitions are distributed equitably.

### **Expected outcomes:**

The seminar aims to foster knowledge exchange and collaboration among experts in the field of sustainable energy and island communities. The expected outcomes of the seminar include:

1. Increased awareness of the challenges and opportunities for sustainable energy transitions in islands: This expected outcome is important because it helps to create a common understanding of the issues and opportunities that exist in sustainable energy transitions in islands. By raising awareness among stakeholders, decision-makers, and the wider public, the seminar can help to promote informed decision-making, mobilize support for sustainable energy transitions, and stimulate dialogue and collaboration among different actors.
2. Greater understanding of the role of technology in enabling sustainable energy transitions in islands: This expected outcome is important because technology is a key driver of sustainable energy transitions. By deepening participants' understanding of the role of technology, the seminar can help to identify the most promising technologies for sustainable energy production, storage, and distribution in islands, as well as the enabling conditions and constraints that affect their adoption and diffusion.
3. Identification of innovative technologies and best practices for sustainable energy production and storage in islands: This expected outcome is important because it can lead to the identification of new and innovative solutions that can help to overcome the challenges of sustainable energy transitions in islands. By sharing best practices and showcasing successful examples, the seminar can help to promote the adoption and replication of sustainable energy technologies in islands.
4. Development of partnerships and collaborations among experts and island communities: This expected outcome is important because it can help to build networks and partnerships among different actors working on sustainable energy transitions in islands. By fostering dialogue and collaboration between experts, policymakers, community leaders, and other stakeholders, the seminar can help to promote joint problem-solving, knowledge sharing, and resource mobilization.
5. Recommendations for policy and regulatory frameworks for promoting sustainable energy transitions in islands: This expected outcome is important because policy and regulatory frameworks play a critical role in enabling and incentivizing sustainable energy transitions. By generating recommendations for policymakers and regulators, the seminar can help to promote



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supportive and effective policy frameworks that can accelerate the adoption of sustainable energy technologies in islands.

**Target audience:**

- Experts in the field of sustainable energy and technology
- Representatives of island communities and governments
- Academics and researchers working on sustainable energy and island communities.
- Energy industry professionals
- Non-governmental organizations working on sustainable energy and island communities.

**PROVISIONAL PROGRAMME**

Time	Activities
1:10pm – 1:15pm	<p align="center"><b>Participants Join/Connect to Meeting</b></p> <p><b>Moderator: Mr Sai S. Navoti</b> Chief, SIDS Unit Division for Sustainable Development Goals, UNDESA</p>
1:15pm – 1:30pm	<p align="center"><b>OPENING REMARKS</b></p> <ul style="list-style-type: none"> <li>• <b>Mrs. Matilda Bartley</b> Counsellor, Deputy Permanent Representative Permanent Representative of Samoa to the United Nations Chair of the Alliance of Small Island States (AOSIS)</li> <li>• <b>Ms. Maria-Francesca Spatolisano</b> Assistant Secretary-General for Policy Co-ordination &amp; Inter-Agency Affairs, UNDESA</li> <li>• <b>Dr. Kalim U. Shah</b> Coordinator, University Consortium of Small Island Developing States (UCSIS)/ Director, Island Policy Lab, University of Delaware</li> </ul>
1:30pm – 2:40pm	<p align="center"><b>PANEL DISCUSSION</b></p>
	<p><b>Guiding Questions</b></p> <ul style="list-style-type: none"> <li>• What do you view as the current strengths, weaknesses, opportunities, and threats to sustainable energy transitions in islands?</li> </ul>



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	<ul style="list-style-type: none"> <li>• How is changing technology and innovation in energy production, storage and transmission making the sustainable energy transition more financially realistic and equitable for island societies?</li> <li>• What are the gaps to fill in policy, regulatory and institutional frameworks for promoting sustainable energy and how do we fill them?</li> <li>• Is the current and foreseeable global energy upheaval going to have positive or negative impacts on island energy security and consequent sustainable development?</li> </ul> <p><b>Panelists</b></p> <p>(i) <b>Dr. SARA TRAERUP</b> Head of Section, Technology -Transitions and System Innovation, UNEP</p> <p>(ii) <b>Dr DINESH SURROOP</b> Pro-Vice Chancellor and Associate Professor of Engineering, University of Mauritius</p> <p>(iii) <b>DR. SCOTT MACDONALD</b> Chief Economist, Smith's Research &amp; Gradings &amp; Founding Director, Caribbean Policy Consortium</p>
2:40pm -2:45pm	<p><b>Closing Remarks</b></p> <p><b>Mr Sai S. Navoti</b> Chief, SIDS Unit Division for Sustainable Development Goals, UNDESA</p>