

Finding New Synergies between Water and Energy

08 May 2018

Some Housekeeping Items

Two Options for Audio (select audio mode):

1. Listen through your computer.

- Please select the “mic and speakers” radio button on the right hand audio pane display

2. Listen by telephone.

- Please select the "telephone" option in the right-hand display, and a phone number and PIN will display.

3. Panelists - Please mute your audio device when not presenting

4. Technical Difficulties:

- **Contact the GoToWebinars Help Desk: 888.259.3826**

Some Housekeeping Items (continued)

- **To ask a question**
 - Select the 'Questions' pane on your screen and type in your question
- **Having trouble viewing the webinar?**
 - PDFs of the presentations can be accessed at <https://cleanenergysolutions.org/training>
- **Share with others or watch it again**
 - A video/audio recording of this Webinar and the slide decks will be made available at: <https://cleanenergysolutions.org/training>
- **Recordings are also available on our YouTube channel**
 - <http://www.youtube.com/user/cleanenergypolicy>

Disclaimer

- *The Clean Energy Solutions Center does not endorse or recommend specific products or services. Information provided in this webinar is featured in the Solutions Center's resource library as one of many best practice resources reviewed and selected by technical experts*

Agenda

1

Welcome & Introductory Remarks

2

Overview of the Clean Energy Solutions Center

- **Jennifer Daw**, Clean Energy Solutions Center

3

Presentations

- **Juan Cruz Monticelli**, Organization of American States * **Overview of IPHROS**
- **Maha N. Haji**, MIT * **Practical applications of integrated water energy systems**
- **Neal Aronson**, Oceanus Power & Water, LLC * **Assistance to governments seeking to deploy clean energy technologies**

4

Question and Answer Session

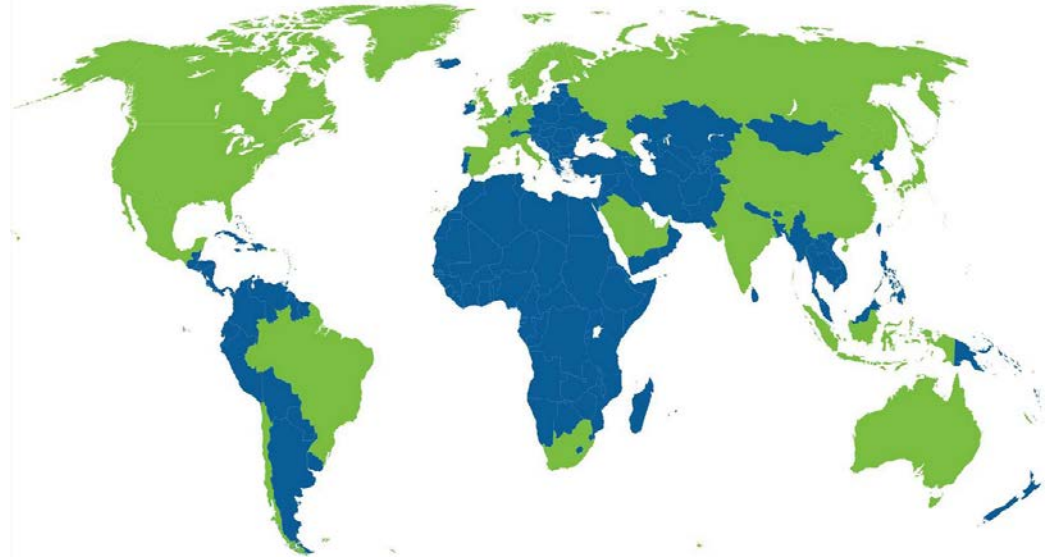
Clean Energy Ministerial

The Solutions Center:

- Launched under the Clean Energy Ministerial (CEM) in 2011

Clean Energy Ministerial:

- A high-level global forum to promote policies and programs that advance clean energy technology, to share lessons learned and best practices, and to encourage the transition to a global clean energy economy.



90%
of
Clean energy
investment

&

75%
of
Global CO₂
emissions

Solutions Center: Background & Vision

- Multilateral initiative, of the Clean Energy Ministerial, is co-led by the Australian Department of the Environment and Energy, Sweden's Ministry of the Environment and Energy, and the U.S. Department of Energy.
- Additional funding support from Power Africa
- In-kind support from Chile
- The Solutions Center is a unique CEM initiative assisting countries in all regions of the world in strengthening clean energy policies and finance measures
- Supporting transition of clean energy markets and technologies



*US participation & leadership are under review.

Solutions Center: Goals and Audience

Programs and Services

- **Team of 50+ experts from around the globe responded to 350+ requests for policy support from more than 80 countries**
 - Extensive support across Africa, Asia, and LAC
 - Launched support for finance measures in 2015
- **Trained over 15,000 officials through more than 225 webinars and training events with others**
- **Strong & growing partnerships with development agencies and regional and global organizations in delivery of support**
- **Over 5500 resources in curated library for policy makers**

Target Audiences

- **Primary**
 - Government Policy Makers and Advisors
- **Secondary**
 - Private-Sector Companies
 - Energy Entrepreneurs and Investors
 - Non-Governmental Organizations
 - Civil Society
 - Others Engaged in Clean Energy

Solutions Center: Partnerships

More than 35 international partners:

- Caribbean Community (CARICOM)
- Climate Technology Center and Network (CTCN)
- Inter-American Development Bank (IDB)
- International Energy Agency (IEA)
- International Renewable Energy Agency (IRENA)
- Low Emission Development Strategies Global Partnership (LEDS-GP)
- Latin American Energy Organization (OLADE)
- Organization of American States (OAS)
- Renewable Energy and Energy Efficiency Partnership (REEEP)
- Sustainable Energy for All (SEforALL)
- United Nations Environment Programme (UN Environment)
- USAID Power Africa (USAID PA)



OAS | More rights
for more people

REEEP



CARICOM
CARIBBEAN COMMUNITY

A Community for All

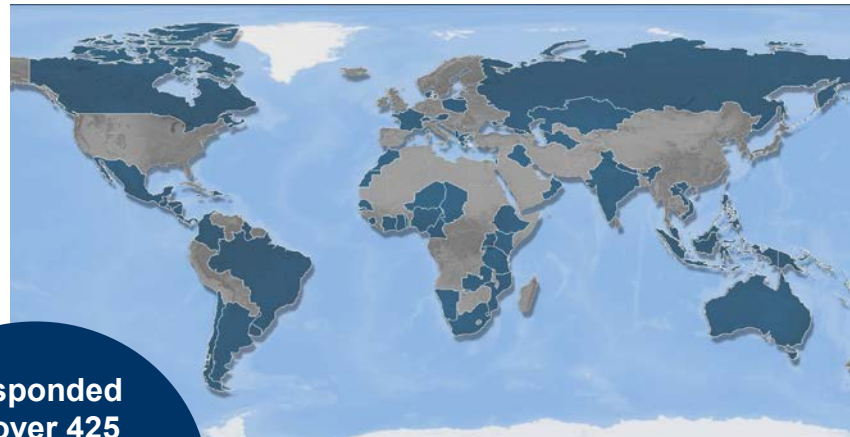


Ask an Expert: Our Experts in Action



We connect you to a global network of energy experts for personalized attention and quick response technical assistance on **strategies, regulations, standards, financial incentives, and energy transition programs** for a broad range of clean energy sectors and technologies including:

- Energy Water Food Nexus
- Energy Access
- Energy Efficiency
- Renewable Energy
- Smart Grid
- Transportation
- Utilities



Responded
to over 425
requests for
assistance
from over 90
countries.

To request assistance, register on
<http://cleanenergysolutions.org/expert>

Energy-Water-Food (EWF) Nexus Web Portal

- Provides a single access point for EWF information:
 - policy best practices
 - models
 - Tools
- Educates policy makers about the importance, drivers, challenges, and opportunities associated with the EWF nexus
- Supported by the Solutions Center with funding from Commonwealth of Australia

<https://cleanenergysolutions.org/resources/energy-water-food-nexus>

Energy Sector

The topic of energy includes energy sources in the built environment, electricity and thermal energy, and transportation sectors as well as industry impacts from energy use. Each subtopic is categorized by the competing demands for water and land/food resources associated with each energy source. The topic also emphasizes policies, standards and best practices for each energy source that relates to water and land/food resources. [Learn more.](#)

- [Built Environment](#)
- [Electricity and Thermal Energy](#)
 - [Fossil-fuel Energy](#)
 - [Renewable Energy](#)
 - [Biomass](#)
 - [Hydropower](#)
 - [Solar](#)
- [Food Resources and Land Use](#)
- [Industry Impacts](#)
- [Transport](#)
 - [Fuels](#)
 - [Biofuels](#)
- [Water Use](#)

Food Sector

Water Sector

The topic of water is broken into major use categories, including source water, drinking water, wastewater and reuse, and it considers industry impacts from water use. Each subtopic is categorized by the competing demands for energy and land/food resources associated with each water source. The topic also emphasizes policies, standards and best practices for each water source that relates to energy and land/food resources. [Learn more.](#)

- [Drinking Water](#)
- [Energy Use](#)
- [Food Resources and Land Use](#)
- [Industry Impacts](#)
- [Raw Water](#)
- [Reuse](#)
- [Wastewater and Stormwater](#)

Integrated Approaches

The integrated approaches topic considers actions that effect all three sectors of the energy-water-food nexus. This section presents an integrated perspective on models and tools, polices and plans, resource security and technology solutions that facilitate nexus thinking or problem solving in support of sustainable development. Using an integrated

British Virgin Islands Electricity Corporation

- BVIEC received Solutions Center assistance to evaluate a hybrid system (solar PV, battery & diesel generator) to support potable water demands
 - The system was evaluated using NREL's REopt tool
 - The evaluation identified that 400-500 kW of PV would be economically favorable, reducing diesel fuel needs
- The Solutions Center also:
 - Developed a cost calculator to evaluate PPA's for solar PV
 - Reviewed proposed FIT Tariff and PPA agreements to provide guidance on appropriate pricing levels to promote market development



Juan Cruz Monticelli, Section Chief, Department of Sustainable Development, Organization of American States



Juan-Cruz works with the Department of Sustainable Development of the Organization of American States since 1999. His experience includes working with OAS Member States geared to expand the use of renewable energy and energy efficiency technologies. Previously, he worked on integrated water resources management and regional planning in Latin America and the Caribbean. He contributed to the development of civil society participation policies for the Inter-American Strategy for Public Participation. Juan-Cruz wrote several project proposals and papers relating to water management, biodiversity and the environmental aspects of economic integration and trade liberalization.

In 2001, Juan-Cruz worked with the World Bank's Environmentally and Socially Sustainable Development and International Law Group. He also worked with the Inter-American Development Bank.

Juan-Cruz has a Law degree from the Universidad Católica Argentina and a Master of Laws degree from George Washington University, where he specialized in Intellectual Property.

Maja N. Haji, PhD in Mechanical Engineering, Massachusetts Institute of Technology



Dr. Maha Haji is a Project Engineer with ATA Engineering with expertise in analysis-driven design and testing of systems and structures for robustness in harsh environments. Prior to joining ATA, Maha was a postdoctoral associate in the Precision Engineering Research Group at MIT working on ways in which existing offshore structures, such as wind turbines and oil platforms, could be retrofitted to also harvest critical minerals such as uranium and cobalt from the ocean. Her work at MIT included design, cost analysis, prototyping, and ocean testing of symbiotic systems for ocean mineral extraction. Maha also has expertise in wave energy extraction from her past work with California Wave Power Technologies, a UC Berkeley spin-off creating a low-cost, highly efficient and survivable wave energy converter. Additionally, she has worked on determining the feasibility of and designing integrated pumped hydro reverse osmosis systems, which she will be discussing today. Maha received her PhD in Mechanical and Oceanographic Engineering from a Joint Program between MIT and Woods Hole Oceanographic Institute in 2017. She received her Master's from the same program in 2015. She holds a Bachelor of Science in Mechanical Engineering and a Bachelor of Arts in Applied Mathematics from the UC Berkeley.

Neal Aronson, CEO, Oceanus Power & Water, LLC



Mr. Aronson is an executive and entrepreneur with almost thirty years of experience in financial and operational management of technology, service and development companies. He has spent the last five years founding and building project and service companies in the renewable energy sector. For over ten years prior, He was Chief Financial Officer and partner of a developer and operator of large, master planned hospitality projects and had primary responsibility for all corporate finance and overall company operations. In this role, He co-managed efforts that successfully raised almost two hundred million dollars of investment capital; and managed the growth of the company's flagship property into a leading destination resort with national brand recognition. Previously, He was the part of the founding management team of LoopNet, Inc. (NASDAQ: LOOP) a leading information services company serving national business customers. Mr. Aronson is a graduate of Whitman College and received a MBA from the University of California's Haas Graduate School of Business.

Question and Answer Session



Juan Cruz Monticelli, Section Chief, Department of Sustainable Development, Organization of American States



Maja N. Haji, PhD in Mechanical Engineering, Massachusetts Institute of Technology



Neal Aronson, CEO, Oceanus Power & Water, LLC

Webinar recordings at the Clean Energy Solutions Center YouTube page:

<https://www.youtube.com/user/cleanenergypolicy>

Webinar recording, presentations, and information on upcoming and previously held webinars:

<https://cleanenergysolutions.org/training>

Your Participation is Appreciated!

THANK YOU!

Solutions Center home page to learn about our programs and resources

<https://cleanenergysolutions.org>

Webinar recordings, presentations, and information:

<https://cleanenergysolutions.org/training>

For more information on the **“Ask-an-Expert”** program:

<https://cleanenergysolutions.org/expert>