



Grid Interconnection of Mini-Grids

18 July 2018

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- *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

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Welcome & Introductory Remarks

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Overview of the Clean Energy Solutions Center

- **Katie Contos**, Clean Energy Solutions Center

Overview of the Energy Access Practitioner Network

- **Ruchi Soni**, Manager of Energy Access, United Nations Foundation

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Presentations

- **Chris Greacen**, PhD, Consultant, World Bank ESMAP
- **Sam Slaughter**, Co-Founder and CEO, PowerGen Renewable Energy
- **Dipti Vaghela**, Coordinator and Manager, Hydro Empowerment Network (HPNET)

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Question and Answer Session

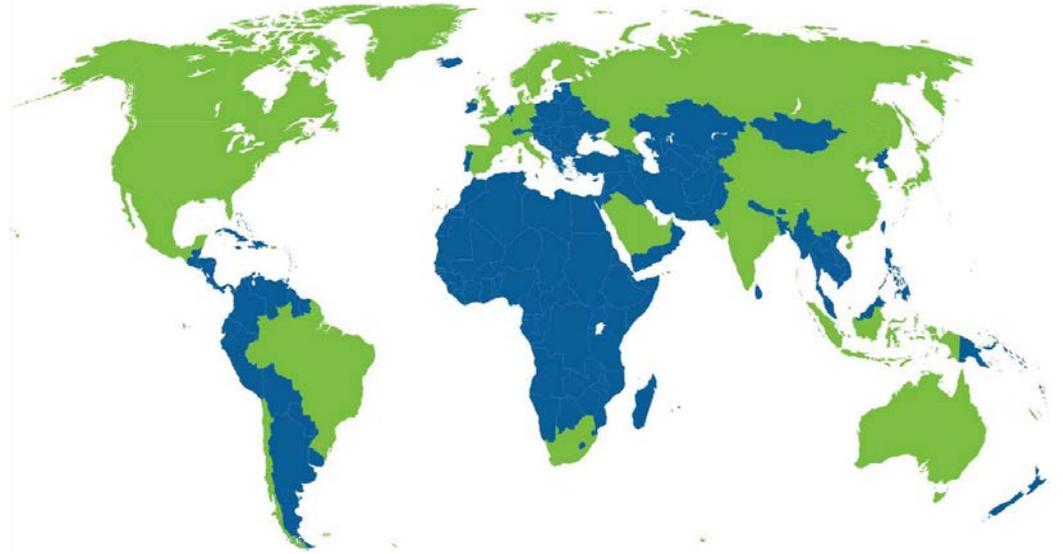
Clean Energy Ministerial

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:

- Climate Technology Center and Network (CTCN)
- ECOWAS Center for Renewable Energy and Energy Efficiency (ECREEE)
- Inter-American Development Bank (IDB)
- International Energy Agency (IEA)
- International Partnership for Energy Efficiency Cooperation (IPEEC)
- International Renewable Energy Agency (IRENA)
- Low Emission Development Strategies Global Partnership (LEDS-GP)
- Renewable Energy Policy Network for the 21st Century (REN21)
- Sustainable Energy for All (SEforALL)
- United Nations Environment Programme (UN Environment)
- USAID Power Africa (USAID PA)



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:

- Carbon Capture Utilization & Storage
- Energy Access
- Energy Efficiency
- Renewable Energy
- Smart Grid
- Transportation
- Utilities



Responded to over 400 requests for assistance from over 90 countries.

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

Ruchi Soni, Manager of Energy Access, United Nations Foundation



Ruchi Soni is Manager of Energy Access at the UN Foundation, where she oversees the Energy Access Practitioner Network and the Foundation's involvement in the Mini-Grids Partnership (MGP). She worked for the World Bank for nine years, where she was responsible for the design and scaling-up of commercially-viable and innovative business models for electricity access. More recently, she was the program manager at wPOWER, a U.S Department of State initiative, where she directed program development, donor management and communication for wPOWER Hub's impact.

Ruchi has worked on policy issues, authored several publications on energy issues and contributed to global knowledge flagship products like RISE. She has been involved in designing and implementing national-level energy programs in Asia (India, Afghanistan, Fiji Islands), Latin America (Mexico) and Africa (Tanzania, Kenya). She was also responsible for program coordination, and resource planning for many of these programs and studies.



Chris Greacen, PhD, Consultant, World Bank ESMAP



Chris Greacen works on policy and hands-on implementation of renewable energy projects from the village to the national level. As co-director of the nonprofit organization Palang Thai, he helped draft Thailand's policies on very small power producers and conducted studies in support of the country's feed-in tariff program. He co-founded the Border Green Energy Team in Western Thailand, where he helped rural communities build more than a dozen micro-hydropower projects. As a World Bank consultant, he aided the Tanzanian Energy and Water Utilities Regulatory Authority in developing Tanzania's small power producer regulatory framework. As a consultant to the World Bank, GIZ, and the Asian Development Bank, he is helping the government of Myanmar develop and implement the off-grid component of its national electrification program and develop a regulatory framework for mini grids and small power producers. He has worked on renewable energy mini grid projects in Cambodia, India, the Democratic People's Republic of Korea, the Lao People's Democratic Republic, Myanmar, Micronesia, Thailand, Vanuatu, and Native American reservations in the United States. He holds a PhD in energy and resources from the University of California at Berkeley, where he wrote his dissertation on engineering, politics, and common property resource aspects of micro-hydropower in rural Thailand.

Sam Slaughter, Co-Founder and CEO, PowerGen Renewable Energy



Sam is co-founder and CEO of PowerGen Renewable Energy, a micro-grid builder, developer, and operator based in Kenya and Tanzania. Over the past 7 years, PowerGen has installed several hundred renewable power systems throughout 7 East African countries, including over 50 micro-grids. Prior to PowerGen, Sam's work experience included time with UBS Investment Bank, VCharge Energy, and Harvard University's Trustman Fellowship. Sam is a graduate of Harvard's School of Engineering and Applied Sciences, where he received a bachelors degree in Mechanical and Materials Engineering.

Dipti Vaghela, Coordinator and Manager, Hydro Empowerment Network (HPNET)



Raised in the Mississippi Delta, Dipti holds a B.S. in Mechanical Engineering from the University of California, Berkeley and a M.S. in Environment Studies from San Jose State University. Inspired by her family's roots in rural India, Dipti focuses on sustainability of decentralized renewable energy solutions for rural electrification. Since 2003 her parallel roles as researcher, practitioner, and facilitator have contributed to synergizing communities, local entrepreneurs, field-based NGOs, policy makers, and funding agencies in implementing bottom up, learning-process approaches to community-based energy initiatives in rural south and southeast Asia. In 2012 she co-founded the Hydro Empowerment Network (HPNET), a knowledge exchange platform for local practitioners to advance policy, technology, and socio-environmental aspects of micro/mini hydropower. In 2014 and 2015, she assisted the Renewable Energy Association of Myanmar (REAM) to conduct practice-to-policy exchanges that promote scaled efforts for renewable energy mini-grids in Myanmar. Dipti was a 2016-17 Fulbright Public Policy Fellow placed in Myanmar to support REAM's efforts to accelerate the National Electrification Plan with sustainable integration of renewable energy mini-grids. She currently facilitates and manages the Hydro Empowerment Network of South and Southeast Asia, while also freelancing to advance and scale Myanmar's local manufacturer-developers of micro/mini hydro and advanced biomass gasifiers.

Question and Answer Session



**Ruchi Soni,
UNF**



**Chris Greacen,
Work Bank ESMAP**



**Sam Slaughter,
PowerGen Renewable Energy**



**Dipti Vaghela,
HPNET**

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