

**CLEAN ENERGY
SOLUTIONS CENTER**

Micro-grids: Best Practices around Technology Challenges

December 9, 2014



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Welcome & Introductory Remarks

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Overview of the Clean Energy Solutions Center

- **Sean Esterly**, National Renewable Energy Laboratory

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Presentations

- **Richenda Van Leeuwen**, Executive Director, Energy Access Initiative, United Nations Foundation
- **Matt Orosz**, President, Director (USA), STG International
- **Tristan Kochoyan**, Founder, Power:On
- **Michelle Klassen**, Vice President,
- **Matt Basinger**, Founder/Director, Advancing Engineering Indonesia

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Question and Answer Session

- **Dan Schnitzer**, Founder and Executive Director, EarthSpark International

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Attendee Survey

Solutions Center Background and Vision

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CleanEnergySolutions.org

The Clean Energy Ministerial (CEM) launched the Clean Energy Solutions Center in April 2011. The Solutions Center:

- Is one of 13 CEM Initiatives, which include:
 - Global Superior Energy Performance Partnership
 - Super-Efficient Equipment and Appliance Deployment initiative
 - Global Lighting and Energy Access Partnership
- Helps governments design and adopt policies and programs that support the deployment of clean energy technologies
- Has more than 35 partners, including IRENA, IEA, IPEEC, Sustainable Energy for All, Bloomberg New Energy Finance and Leonardo Energy
- Is co-chaired by the U.S. Department of Energy and the Australian Department of Industry.



Australia



Denmark



India



Indonesia



Italy



Japan



Mexico



South Africa



Sweden



United Arab Emirates



United States

Goals

- **Serve** as the primary resource for clean energy policy information, assistance and peer learning for governments and government-affiliated practitioners..
- **Share** policy best practices, data, and analysis tools across countries.
- **Deliver** dynamic services that enable expert assistance, learning, and peer-to-peer sharing of experiences.
- **Foster** dialogue on emerging policy issues and innovation across the globe.

Primary

- Government Policy Makers
- Advisors

Secondary

- Private Sector Companies
- Energy Entrepreneurs and Investors
- Non-Governmental Organizations
- Civil Society
- Others Engaged in Clean Energy

Target Audiences

Ask-an-Expert: Our Experts in Action

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CleanEnergySolutions.org

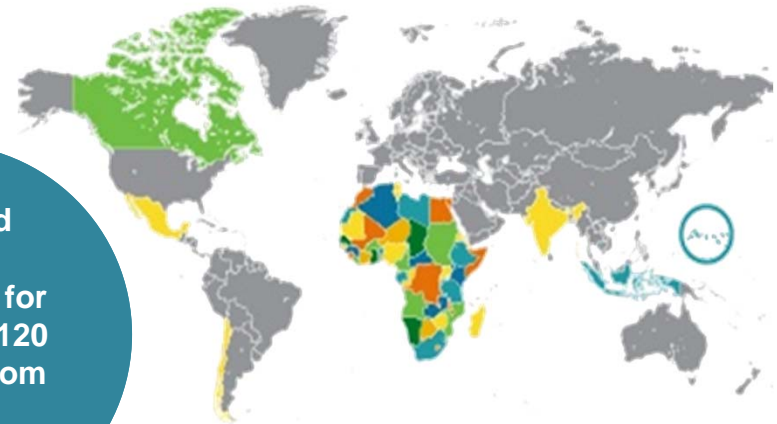


Connects policymakers to a global network of more than 30 energy experts for quick-response technical assistance on policies and programs relating to:

- Transportation
- Renewable Energy
- Energy Access
- Energy Efficiency
- Smart Grid
- Integrated Planning
- Regulators and Utilities



Delivered no-cost assistance for more than 120 requests from over 60 countries.



Please contact me directly to find out if the Ask-an-Expert program can benefit your work:

Sean.Esterly@nrel.gov

303-384-7436

Richenda Van Leeuwen, Executive Director, Energy Access Initiative

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Richenda Van Leeuwen is Executive Director, Energy Access Initiative overseeing the UN Foundation's work on energy access and its engagement with the UN's Sustainable Energy for All Initiative. She founded and leads UNF's Energy Access Practitioner Network, a 900-strong global network catalyzing market-led solutions for energy access in developing countries. She joined the UN Foundation in 2010 from Good Energies, a global renewable energy private equity firm where she led its work both on commercial emerging markets transactions and as a founding board member of the Good Energies Foundation, on the application of renewable energy technologies for poverty alleviation in developing countries. Prior to this, she served as the Executive Director of Trickle Up, an international microenterprise development non-profit organization from 2001-2005. A sought-out speaker on energy access, gender equity and poverty issues, she has over 20 years of executive management experience with the UN, private sector and non-profits on several continents, in particular focusing on impact investing for micro- and small and medium sized enterprises as well as post-conflict reconstruction, refugee issues and economic empowerment. She currently serves on the board of SELCO India, a leading renewable energy social enterprise focusing on energy solutions for poor families in India. She gained both her BS and MBA degrees from Durham University, UK.



ENERGY ACCESS
PRACTITIONER NETWORK



Matt Orosz, PhD - President, Director (USA), STG International

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Matt Orosz holds his doctorate in Civil and Environmental Engineering (MIT '12), an M.Sc. in Technology and Policy (MIT '06), an M.Eng. in Civil and Environmental Engineering (MIT '03), and a B.A. in Environmental Science (Dartmouth '00). Matt is the Lead Engineer and Project Coordinator for all of STG's work. He led the implementation of the World Bank sponsored work in Lesotho and continues to provide inspiration and leadership to the group. Matt is currently serving his tenure as an Echoing Green Fellow (2012-14).

Tristan Kochoyan, Founder, Power:On

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Tristan Kochoyan is the founder of Power:On, a social enterprise supplying electricity to rural communities in developing countries. Power:On designs and operate hybrid, efficient and smart minigrids tapping local, renewable resources, and makes sure they create opportunities for economic and social development.

Tristan is passionate about social entrepreneurship and is convinced it holds viable solutions to fill the electricity access gap. He started Power:On right after his graduation from HEC Paris Business School, building on previous work experience in the energy and humanitarian fields, as well as on his interest for coding and new technologies.

Tristan makes regular contributions to the impact and electricity access fields in France and abroad, via Power:On's blog (pwr-on.fr) or as a speaker during conferences.

Michelle Klassen, Vice President, ZeroBase Energy

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Ms. Klassen founder and director of SOYD, a 501(c)3. SOYD was an 8-month long internship for at-risk youth from around the world. SOYD was championed for offering young people humanitarian aid experience from world travels and community involvement, while working on the core problems they faced in their own lives. Haiti was the launch point for the international travel required for all interns.

Over the years, Ms. Klassen has been involved in designing and managing large-scale solar projects. Currently, she is managing the design and installation solutions for the far reaches of the world, including microgrids both on and off grid. Expertise includes solar PV as well as interfacing and managing multiple existing generators, best-in-class battery storage, and balancing systems for optimum performance. Customers currently include utilities, ministries of energy and defense departments, foreign and domestic.

Matt Basinger, Founder/Director, Advancing Engineering Indonesia

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Dr. Matt Basinger has been engineering micro-grids for villages in Africa and Asia for nearly a decade. He received his doctorate from Columbia University's School of Engineering and he currently directs the Indonesian branch of Advancing Engineering (AE), a consulting company he co-founded. He has lead technology start-ups and research teams at the Earth Institute in the development of smart-metering platforms, directly managed the field work and implementation of micro-grid sites in Indonesia and multiple countries throughout east and west Africa. Matt speaks Bahasa Indonesia, and he lives in Papua, Indonesia, close to the action.

Dan Schnitzer, Founder and Executive Director, EarthSpark International

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Dan Schnitzer is Founder and Executive Director of EarthSpark International. In this capacity, Dan focuses on fundraising, partnerships, and promotes the development of country-wide clean energy supply chains. Dan is also a Ph.D. candidate at Carnegie Mellon University in the Department of Engineering & Public Policy. At Carnegie Mellon, his research focuses on solutions to increasing the utilization of renewable energy in the United States electricity sector. He was formerly employed by KEMA, Inc., a privately held energy consulting firm headquartered in The Netherlands, where his work focused on energy efficiency and renewable energy policy, engineering, and system analysis. He currently lives in Pittsburgh, PA. Dan received his Bachelors degree from the University of Chicago in Physics, Economics and Environmental Studies.

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Questions



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 - Sean.Esterly@nrel.gov or 303-384-7436