

Optimizing Clean Power Everywhere

Modeling Hybrid Renewable Microgrids with the HOMER Software

Asia Clean Energy Forum
Deep Dive Workshop
June 15, 2015

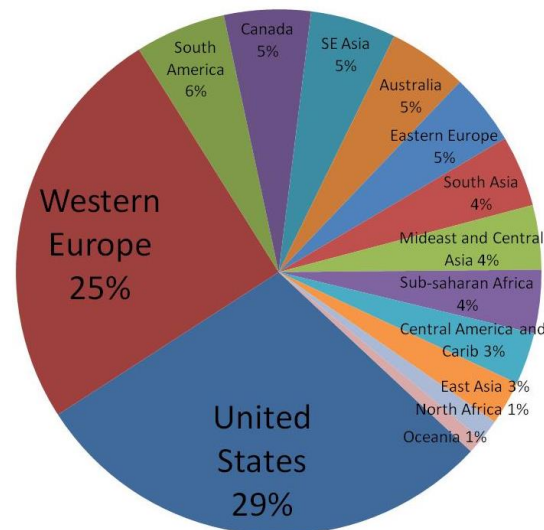
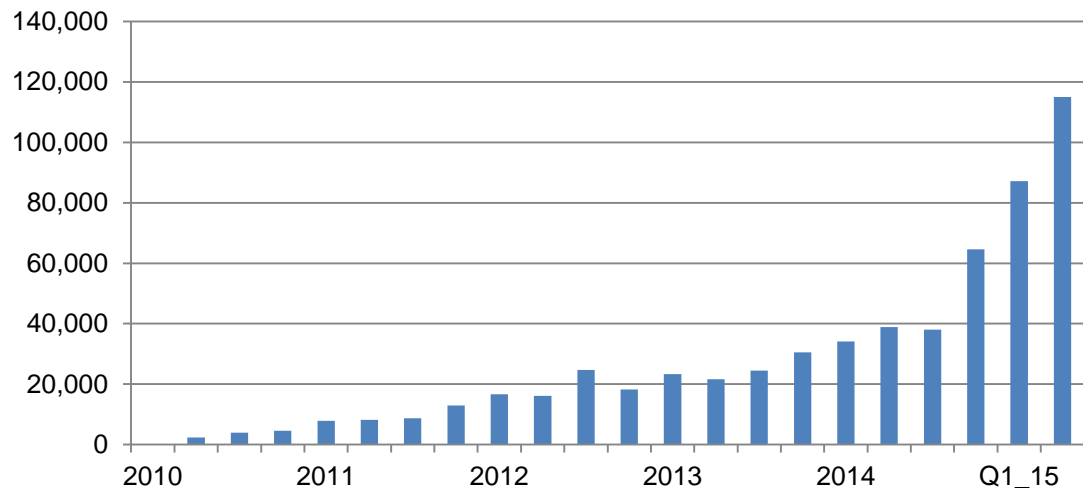
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Agenda

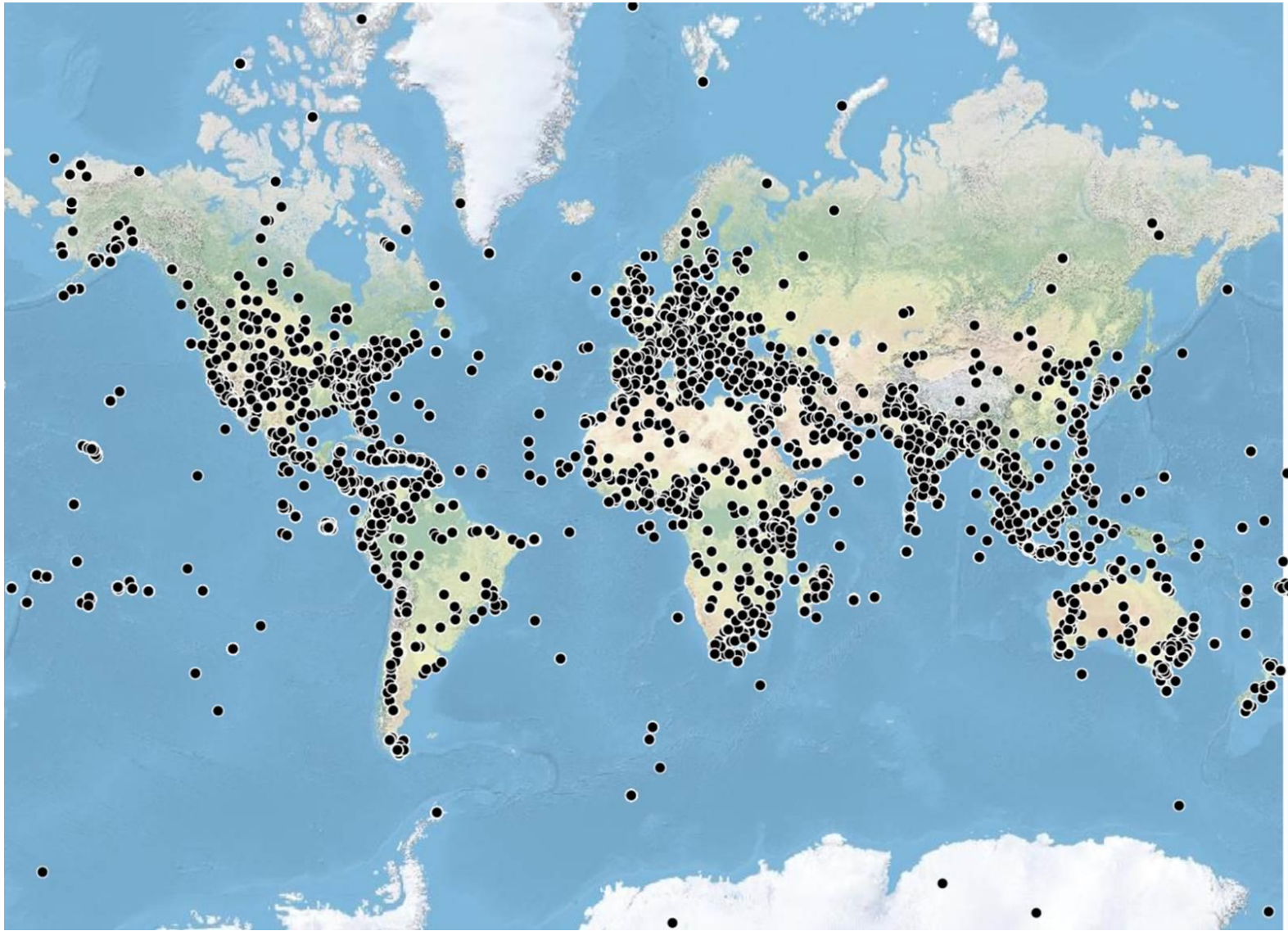
2:00 -2:20	Dr. Peter Lilienthal	Welcome
2:20 – 2:50	John Herrman	Philippine mini-grids
2:50 – 3:20	James Hazelton	Australian mini-grids
3:20 – 3:50	Dr. Peter Lilienthal	Unreliable grids
3:50 – 4:20	Break	
4:20 – 4:50	Raj Chintapalli	Indian island grid
4:50 – 5:20	Silver Navarro	Philippines energy access
5:20 – 5:30	Dr. Peter Lilienthal	Discussion & Closing Remarks

HOMER

- NREL: 1992-2009
- Original developers now at HOMER Energy
- 125,000+ users in 193 countries



Global Standard



Industry Partner Program

- Newsletter: 65,000 subscribers
- HOMER events
 - Cancun
 - Barcelona
 - Manila
 - Canberra
- Webinars: several hundred live participants
- HOMER Component Library
- Enterprise licenses and training
- Custom apps

3rd Annual HOMER Microgrid Forum

- **October 14-15 – Canberra, Australia**
 - Sponsorship opportunities are available
- November 2013, Cancun, Mexico
- September 2014, Barcelona, Spain

HOMER Software Training

- Saturday June 20, 2015
 - Manila
- Full-day, hands-on software training
- Introduction and advanced topics
 - Unreliable grid
 - Multiple generators
 - Combined heat & power
 - Energy efficiency

- Spaces still available

What's New with HOMER Pro

New components

- Thermal load controller
- Concentrating PV
- MPPT/Dedicated PV Inverter
- Hydrokinetic

Improved Components

- **Grid-connected battery**
- **Grid outages**
 - **Scheduled and random**
- Up to 20 generators
- Up to 10 PV arrays
- Wind turbine losses
- Maintenance schedules
- Minimum generator runtimes
- Fuel minimization

Library

- Store cost data in the library
- All components, loads, settings and resource in library
- Library management tool

New Results

- Choose parameters for summary tables
- Sort and filter on any output
- Direct results export to .CSV (spreadsheet format)

New Input capabilities

- **Built-in default load profiles**
- Obtain resource data by clicking on a map or typing address

APIs

- Application Programming Interfaces
- Custom dispatch modules

Parallel processing