ISOLATED POWER SYSTEM CONNECT 2018

http://www.ipsconnect.org

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Simon Benmarraze - International Renewable Energy Agency

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FOREWORD

Message from the International Renewable Energy Agency

The global energy transformation is driven by the business case for renewables which has never been stronger. Since 2010, the average costs of utility scale solar PV have fallen by 73% and in the case of wind energy the average cost has dropped 23%. Onshore wind projects are now increasingly commissioned for 4 USD cents/kWh and record low prices in recent energy auctions in Chile, Mexico, Peru, in Saudi Arabia and the UAE have made 3 USD cents/kWh the new benchmark for solar PV. Similarly, the costs of battery storage technologies are rapidly decreasing and we expect will further decline by as much as 60% over the next decade making this really a grid-scale opportunity for the future. Overall, we are projecting that cost reductions will continue in the years to come and that all currently commercially available renewable power generation technologies will be competitive with conventional fuels by 2020. Technological innovation coupled with digitalisation, big data, and artificial intelligence are further fuelling this change and are reshaping the way energy is produced, distributed and consumed.

Mr Simon Benmarraze,
International Renewable Energy Agency

GENERAL THEME – IPS CONNECT 2018

The workshop is convened by the Centre for Renewable Energy and Power Systems of University of Tasmania, to expand last year's successful IPS Connect Rottnest Island. For this year's event we are excited to expand the professional development course proceeding the workshop, with support from the International Renewable Energy Agency (IRENA), Hawaii Natural Energy Institute, Artic Resilience Energy Network Academy (ARENA), and the Pacific Power Association. The workshop will engage, share and connect the latest developments in remote area power technologies with utility owners, remote area communities and system operators and engineers.

The workshop will be hands on, including case studies of Australian, Alaskan and Hawaiian hybrid diesel power systems. A number of technology tours will also be undertaken with local utility support.

VENUE

Connect 2018 will be held at the Ka'anapali Beach Hotel
2525 Ka'anapail Pkwy, Lahania HI 96761, United States of America
https://www.kbhmaui.com/

MAUI

An essential guide to the services and events on Maui can be accessed at the following address:

https://www.gohawaii.com/trip-planning

https://www.gohawaii.com/islands/maui

https://www.gohawaii.com/islands/maui/travel-info/transportation

The guide includes popular attractions, events, weather expectations, in addition to a map of the island.

IPS CONNECT FACILITATORS

Mr Simon Benmarraze, International Renewable Energy Agency

Simon is a renewable energy professional with international experience in project development and financing with public and private organizations. Passionate about the global transition to a sustainable future. Simon has previously held roles with Solar Euromed, CRH, imec and GE across business development, development and research assignment.

Dr James Hamilton, University of Tasmania

James is a research fellow at the University of Tasmania, leading implementation of the King Island low load diesel research pilot. He is currently a director with Renewable Ready and has formerly held roles as director of Joule Logic, a specialist renewable energy IPP and consultancy James has worked within the renewable sector for over a decade, across roles in Australia, Indian, China and South Africa.

Professor George Roe, University of Alaska Fairbanks

George is a research professor affiliated with ACEP and the Institute of Northern Engineering at the University of Alaska Fairbanks. His areas of research emphasize energy management in relation to sustainable community development, stranded renewables, exploring energy opportunities for sustainable maritime development, microgrids, energy storage (thermal and electrical), and waste-to-energy systems. Current projects include the Alaska Center for Microgrid Technologies Commercialization, the Arctic Remote Energy Networks Academy, and the Georgetown University Energy Prize.

PROFESSIONAL DEVELOPMENT CORSE

MISSION

The professional development format will be modified in 2018 to achieve:

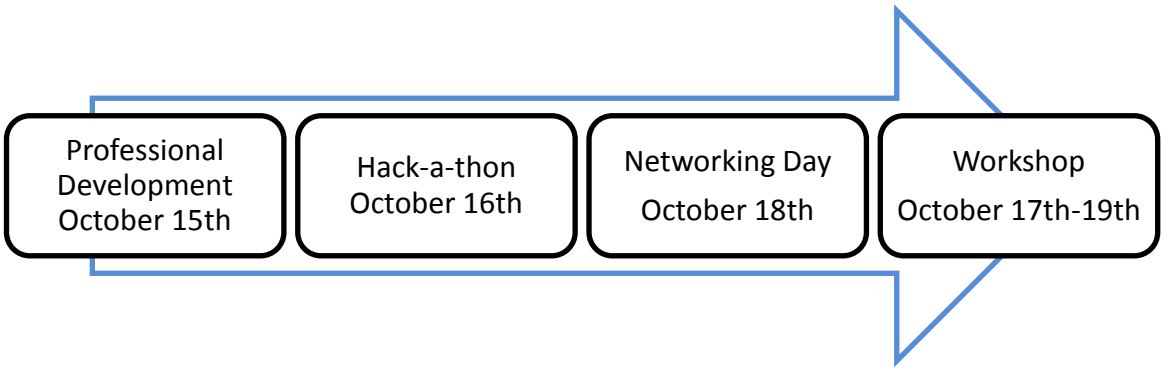
- Greater delegate participation and interaction;
- Directed networking and mentor/mentee engagement;
- North American and Asia Pacific case studies;
- Online qualification of delegates ahead of attendance.

HOSTS

- **International Renewable Agency;** http://www.irena.org/
- **Centre for Renewable Energy and Power Systems, University of Tasmania;** http://www.utas.edu.au/centre-for-renewable-energy-and-power-systems
- **Hawaii Natural Energy Institute, University of Hawaii;** https://www.hnei.hawaii.edu/
- **Alaskan Centre for Energy and Power, University of Alaska Fairbanks;** http://acep.uaf.edu/

DURATION

The professional development program will run for two days, the 15th and 16th of October. However, most delegates are encouraged to stay for the full week. During the workshop program PD delegates will be introduced to a mentor, this will require them to attend the workshop (17th and 19th of October).



PD PROGRAM

15 October 2018, Kā‘anapali Beach Hotel, Maui, Hawaii

Time	Session Title and Objectives	Speaker/Facilitator
08:00 – 08:30	Registration	
08:30 – 08:45	Welcoming remarks; Introductions to facilitators – Simon, George and James	*Leighton Waterman, IRENA*
Session 1: Renewable energy development – Technical Definition and Project Planning *This session will provide insights on key issues with regards to the technical definition of a solar PV project for utility and distributed applications including design, specification and system analysis.*		
08:45 – 09:00	Analysis of project development cycles for an isolated renewable power system	*Simon Benmarraze, IRENA*
09:00 – 9:30	Bankability review of major components of an isolated renewable power system	*Simon Benmarraze, IRENA*
9:30 – 10:15	Measurement of project data, project planning. Data collection Checklist Walk Through	*Simon Benmarraze, IRENA*
Session 2: Renewable energy development – Project Evaluation - Regional Case Studies *The session will provide insights on critical issues associated with the preparation of a project proposal and relevant underlying modelling requirements.*		
10:15 – 10:45	Group photo and coffee break	
10:45 – 11:30	Development of project performance models	*Simon Benmarraze, IRENA*
11:30 – 11:45	Introduction to Selected Regional Case Studies and Teams	*Simon Benmarraze, IRENA* *George Roe, ACEP* *James Hamilton, CREPS*
11:45 – 12:45	Interactive Project Evaluation Walk Through	*Simon Benmarraze, IRENA* *George Roe, ACEP* *James Hamilton, CREPS*
12:45 – 13:45	Lunch break	
Session 3: Renewable energy development – Project structuring *The session will provide insights on critical issues related to the bankability of a solar PV project looking at system optimization, commercial requirements, socio-economic analysis and other relevant aspects.*		
13:45 – 14:45	Project Evaluation Walk Through, continued…	*Simon Benmarraze, IRENA* *George Roe, ACEP* *James Hamilton, CREPS*
14:45 – 15:45	Navigating the investors and lenders requirements: Contractual agreements and risk management review	*Simon Benmarraze, IRENA*
15:45– 16:00	Coffee break	
16:00 – 17:30	Preparing investment proposals with tools and templates from the IRENA Project Navigator Bankability Checklist Walk Through & Close	*Simon Benmarraze, IRENA* *Simon Benmarraze, IRENA*

HACK-A-THON PROGRAM

16 October 2018, Kā‘anapali Beach Hotel, Maui, Hawaii

Time	Session Title and Objectives	Speaker/Facilitator
09:00 – 9:30	Introduction and welcome remarks	*Daniel Gonzalez, BMNT*
9:30 – 10:00	What we hope to accomplish	*Daniel Gonzalez, BMNT*
10:00 – 10:30	H4X Innovation Pipeline Explainer	*Daniel Gonzalez, BMNT*
10:30 – 10:45	Group photo and coffee break	
10:45 – 11:00	Problem Curation Primer	*Daniel Gonzalez, BMNT*
11:00 – 12:00	Problem Curation Workshop	*Daniel Gonzalez, BMNT*
12:00 – 13:00	Lunch break	
13:00 – 13:30	Introduction to Beneficiary Discovery	*Daniel Gonzalez, BMNT*
13:30 – 14:00	Interview Recruiting Plan Development Exercise	*Daniel Gonzalez, BMNT*
14:00– 14:15	Coffee break	
14:15 – 14:45	Mission Model Canvas Explainer	*Daniel Gonzalez, BMNT*
14:45 – 15:45	Mission Model Canvas Generator Exercise	*Daniel Gonzalez, BMNT*
15:45 – 14:45	Review and Discussion	*Daniel Gonzalez, BMNT*
14:45	BMNT Happy Hour	

CONTENT

Introductions will be run adopting a conventional lecture format.
Exercises will be run as round table group exercises. Materials issued for the group exercises will be role specific. Each table will consist of 7-10 delegates.

Facilitators will provide briefing sessions individually or collectively selecting either tables or role groupings.

There will also be a variety of content made freely available to participants in advance of the course. This material will be published online in a webinar style format, leveraging the IRENA project navigator platform, https://navigator.irena.org/index.html

IRENA PROJECT NAVIGATOR

IRENA
International Renewable Energy Agency