

BOEM Offshore Renewable Energy Workshop

Oregon Museum of Science and Industry

1945 SE Water Ave

Portland, Oregon

May 21 - 22 2013

Sponsor: Bureau of Ocean Energy Management
Training Coordinator: National Renewable Energy Laboratory

Day 1 - May 21

Offshore Wind Focus

Opening Session – Offshore Wind

Walt Musial - NREL 8:30am

- Welcome and Opening remarks
- BOEM HQ (BOEM)
- Meeting Goals and Objectives (NREL)

Regulatory Introduction BOEM

Jean Thurston - BOEM 8:45am

- Evolution of Offshore Wind Regulation on the OCS
 - EAct 2005 Requirements and Consequences
 - National Programmatic EIS
 - Overview of 30 CFR 585 Framework
 - “Smart from the Start” Program
 - FERC/BOEM interface on the OCS
 - BOEM Intergovernmental Oregon State Task Forces

DOE - Offshore Wind and MHK Overview

Greg Matzat - DOE 9:15am

- DOE National Offshore Strategy
- Review of DOE Projects and Programs

Wind Technology Overview

Ian Baring Gould - NREL 9:30am

- Energy in the Wind
- How to Judge a good wind resource potential
- Wind Turbine 101 – How do wind turbines work?

BREAK

10:00am

Offshore Wind Overview

Walt Musial - NREL 10:30am

- What do offshore wind turbines look like?
- Industry Status
- Modern multi-MW offshore wind turbines
- Floating Wind Turbines
 - Why go floating? Possible benefits
 - Resource potential in deep water
 - Industry status

- Support Structure Types (TLP, Semi, Spar)
- Moorings and Anchors

Question and Answer

Offshore Wind and MHK Electrical Systems

Ian Baring Gould - NREL 11:15am

- Plant layouts / electrical collector systems and substations
- Transmission to shore / export cables
- Interconnection with land-based substation
- How does the power grid handle wind resource variability?

Question and Answer

Lunch on your own (1 .5 Hour) 12:00 pm

Offshore wind power plants wakes and arrays

Walt Musial -NREL 1:30pm

- Effects of wind turbine wakes
- Wind Energy Area leasing area delineation

Project Development Phases

- Standards and Compliance
- Phases of Offshore Wind Plant Development

Discussion - Question and Answers

Offshore Wind Market Overview

Ian Baring-Gould- NREL 2:00pm

- Leveraging Land-based Markets
- International Markets
- Cost of Energy
- Offshore Energy Policy Issues
- Electricity prices – hurdle price
- Electricity Market Opportunities

Discussion - Question and Answers

Break 3:00pm

Technical Expert Panel – Offshore Renewable Energy

Greg Matzat - DOE 3:30pm

- Lanny Kirkpatrick - Siemens
- Joel Whitman – Whitman Consulting Group
- Jay Edgar – Glosten Associates
- Thomas Mills - Vestas

Open Topic Discussion

Wrap up Walt Musial/ Jean Thurston 5:30pm

Day 2 - May 22

Marine Hydrokinetic Focus

Opening Session – MHK

Musial/Thurston

8:30am

- Opening remarks and key Messages from Day 1
- Regulatory opening remarks (BOEM)
- Meeting Goals and Objectives (NREL)

FERC Regulatory Perspective

Ann Miles - FERC (invited)

8:45am

- FERC jurisdiction on the OCS
- Types of authorizations
- Licensing process
- Key concepts and implementation of the BOEM/FERC guidelines

Environmental Lessons -Terrestrial Wind and MHK Research

Robert Thresher- NREL

9:15am

Offshore Wind Impacts, Competing Uses, and Economic Development

Ian Baring-Gould - NREL

9:45am

Discussion – Questions and Answers

Break

10:15am

Ocean Wave Energy Technology

Robert Thresher - NREL

10:45am

- Marine energy resource estimates
- Ocean wave technology - present & future potential
- Wakes and Arrays (alternative use impacts e.g. fishing)
- Modeling and Analysis – Design Codes
- Highlight in electrical aspects difference from offshore wind
- International Markets/Projects
- U.S. projects being developed
- Projected cost of energy
- Device Testing and the National Marine Energy Centers
- The Technology Readiness Level development path

Discussion - Question and Answers

11:30am

Lunch on your own (1 ½ hours)

12:00 noon

Industry Panel Discussion - Marine Hydrokinetic

Robert Thresher – NREL

1:30pm

- Reenst Lesemann, Columbia Power Technologies
- Bill Staby, Resolute Marine Energy
- Jason Bush – Oregon Wave Energy Trust

Meeting Wrap-Up

Jean Thurston – BOEM

2:45pm

Adjourn Public Meeting

3:00pm