

# Marine Renewable Energy Priorities & Collaboration

Stephen Dempsey

Executive Director

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## Who we are

- **Staff of 7**
- **9 Board Members**
- **Committees**
  - Tidal Area Subcommittee
  - Marine Sound Area Subcommittee
  - Environment Research Advisory Committee
  - Geoscience Area Subcommittee

- **Member Institutions**
  - Nova Scotia Department of Energy
  - Acadia University
  - Cape Breton University
  - St. Francis Xavier University
  - Dalhousie University
  - Saint Mary's University



# Marine Renewable Energy Research Drivers

- Aggressive renewable energy targets
- Emerging industry
- Limited knowledge available
- No operating experience
- Tremendous potential



# Tidal Energy Research Approach

## Our research program focuses on:

- \* Advancing the science and understanding of the impacts and benefits of marine renewable energy on the ocean ecosystems, i.e., the IF, WHEN, WHERE and UNDER WHAT CONDITIONS to proceed with tidal energy.
- \* It must be done **properly** and **responsibly**.
- \* Engage partners
- \* Develop collaborations
- \* Identify resources

Tidal Energy  
Resource  
Assessment

Sediment  
Dynamics

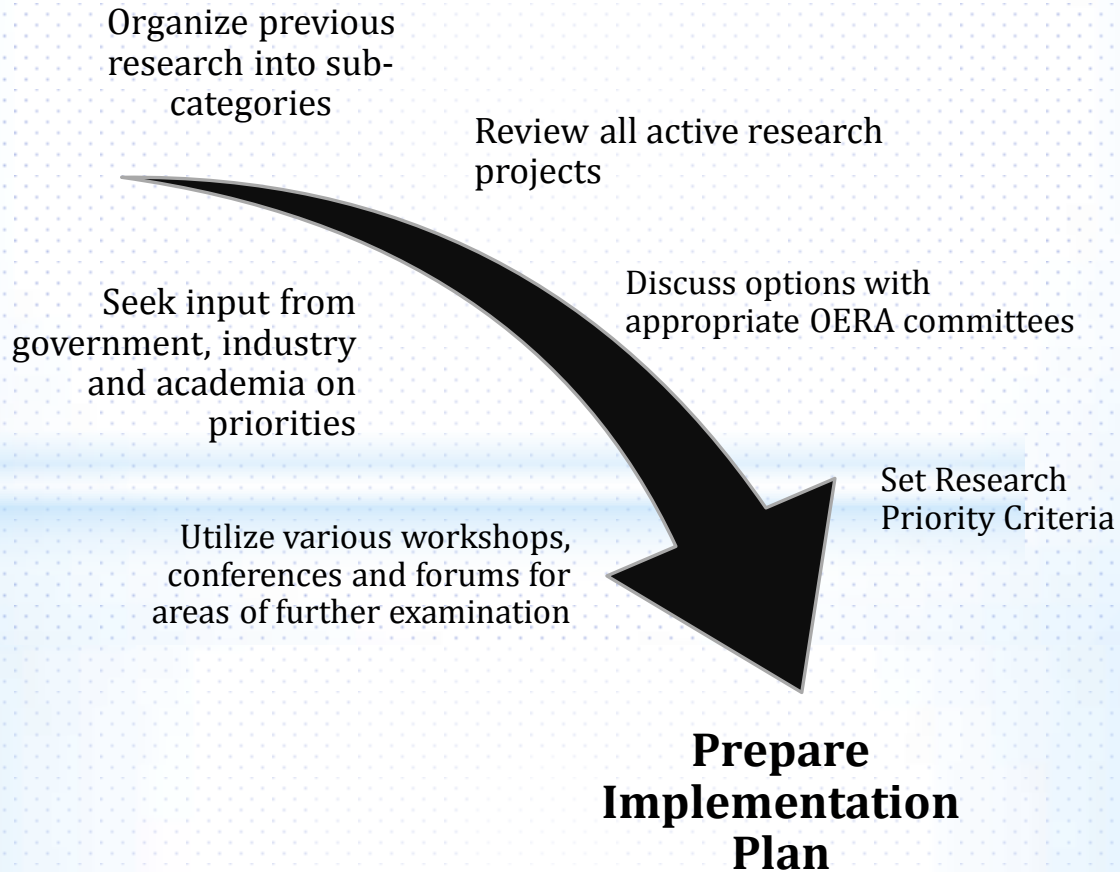
Animal  
Behaviour

Near and Far  
Field Effects

Strategic  
Environmental  
Assessments

Socio-  
economic  
Impacts

# Research Priority Setting Process



# Innovation Team for Tidal Energy Priorities

1. • Resource and Site Assessment and Monitoring
2. • Power Plant Deployment and Operations
3. • External Confidence and Accountability
4. • Environmental Concerns

## 2013 / 14 Research Priorities - Themes

- 1. Resource Assessment**
- 2. Monitoring Impacts Following Deployment of Turbines and Turbine Arrays**
- 3. Environmental Baseline Data**
- 4. Monitoring Effects of Turbines on Fish and Marine Mammals**
- 5. Environmental Impacts of Turbines on Sediments, Habitat and Ecology**
- 6. Deployment, Retrieval, Mooring Systems and Station-keeping in High Flow Environments**
- 7. Low Cost, Effective Monitoring Technologies**
- 8. Monitoring and Optimizing Operational and Life-cycle Cost Performance of Turbines and Related Equipment**
- 9. Cabling and Connectors**
- 10. Social and Economic Benefits and Impacts of Tidal at the Community, Provincial and National Levels**

## Priority Filters





## What questions need to be answered – W5

**WHO**

• **WILL LEAD?**

**WHAT**

• **PARTNERSHIPS ARE NECESSARY?**

**WHERE**

• **WILL THE RESOURCE BE FOUND?**

**WHEN**

• **IS OUR TARGET DATE FOR SUCCESS?**

**WHY**

• **SHOULD STAKEHOLDERS SUPPORT THIS PLAN?**

WHO

• WILL LEAD?



## WHAT

### • PARTNERSHIPS ARE NECESSARY?

#### Type of Collaboration

- ❖ University
- ❖ Industry
- ❖ Peer to Peer
- ❖ International



#### Institution

- ❖ Strathclyde University
- ❖ ISIS and Biota Guard AS
- ❖ UMass Dartmouth
- ❖ FORCE
- ❖ EU – FP7 – Multiple Intl. Partners
  - ❖ UK
  - ❖ Portugal
  - ❖ Korea
  - ❖ France
  - ❖ Sweden
  - ❖ Norway
  - ❖ Canada

## WHERE

• WILL THE RESOURCES BE FOUND?

### Memorandum of Understanding With University of Massachusetts

Focus on:

- Collaborative research projects;
- Cooperation on the International Conference Ocean Energy (ICOE) 2014 in Halifax, NS; and
- Student Travel Exchange Program:
  - \$25K per year secure from OERA



# OERA

Offshore Energy  
Research Association  
of Nova Scotia

## WHEN

• IS OUR TARGET DATE FOR  
SUCCESS?



CLOSING THE GAPS  
Collaborating • Inspiring • Leading

**Nova Scotia Energy  
Research & Development  
Forum 2014**

May 21 and 22, 2014  
World Trade and Convention Centre  
Halifax, Nova Scotia, Canada

Hosted by: **OERA** Offshore Energy Research Association of Nova Scotia **NOVA SCOTIA**

[www.oera.ca](http://www.oera.ca)



Marine Renewables Canada and its partners invite you to...

**ICOE**  
2014  
INTERNATIONAL CONFERENCE  
ON OCEAN ENERGY

**HALIFAX, NS  
NOV 4-6, 2014**

Canada welcomes the 5th International Conference on Ocean Energy (ICOE), the global event focused on the industrial development of marine renewable energy.

[ICOE2014CANADA.ORG](http://ICOE2014CANADA.ORG)

## WHY

### • SHOULD STAKEHOLDERS SUPPORT THIS PLAN?

**Attract significant investment for our region**

**Build regional research competencies**

**Meet and exceed our renewable energy targets**

**Provide local opportunities for HQPs**

**Build a globally competitive renewable sector**

**65,000 MW Renewable Power in Bay of Fundy**



# Thank you and Contact Information



602 – 5151 George Street  
Halifax, NS B3J 1M5

***Stephen Dempsey***  
Executive Director

P: 902-406-7011  
F: 902-406-7019  
E: [sdempsey@oera.ca](mailto:sdempsey@oera.ca)  
Website: [www.oera.ca](http://www.oera.ca)