



Invitation for EERA JP Wind & SETWind workshops

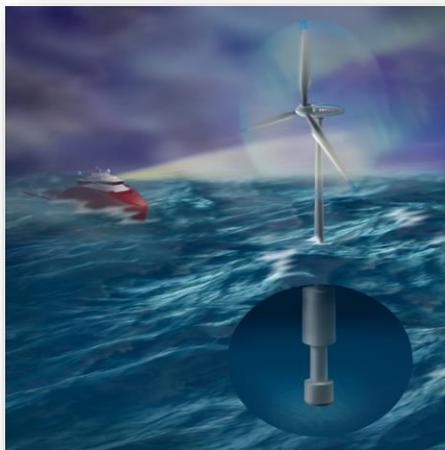
on MAY 5th and 6th on

Lighthouse Initiatives

Following an extensive consultation process with the stakeholder community in the SETWind project, the implementation working group recommends a concerted effort towards two lighthouse initiatives for offshore wind energy. The lighthouse initiatives address two areas:

- ♣ Floating offshore wind technology to make floating offshore wind cost competitive.
- ♣ Integration of large-scale offshore wind energy to enable the future reliable operation and zero emission of the power system.

The term “lighthouse initiative” refers to a visionary, science-driven large-scale initiative with significant budget (tens of millions of Euros) and duration (5 years or more) that will address grand scientific and technical challenges that are crucial for the further advancement of offshore wind energy, providing new knowledge and basis for innovation.



Fundamental research questions need to be addressed to enable the development of wind energy to its full potential. Here there lighthouse initiative draw on three grand scientific challenges described in a recent article in Science by a group of highly acclaimed wind energy experts. The challenges are:

- ♣ Improved understanding of atmospheric and wind power plant flow physics.
- ♣ The interaction between aerodynamics, structural dynamics and hydrodynamics of enlarged floating wind turbines.
- ♣ Systems science for integration of wind power plants into the future electricity grid. An attractive and impactful lighthouse initiative will build on



Workshops on MAY 5th and 6th to describe the scientific challenges that are addressed in the lighthouse initiatives.

The science and engineering challenges are well documented and these include a long list of topics. [reference to paper + reference to IEA report]. In the workshops a selection will be made to constitute a lighthouse research project complemented with important topics that need to be addressed as well. To support the wider capacity building for innovation in Europe, the lighthouse initiatives should mainly focus on lower TRL research up towards qualification in laboratory scale.

The structure of the workshops

Wednesday 5th May

- 9:00-10:00 **Introduction to lighthouse initiatives, aim and goal**
- Presentation
 - Q&A
- 10:00-12:00 **Improved understanding of atmospheric and wind power plant flow physics**
Jake Badger
- Presentation of the first draft (10:00-10:20)
 - brainstorm on topics (10:20-11:00)
 - prioritization and distribution over lighthouse initiatives (11:00-11:45)
 - Floating offshore wind technology
 - Integration of large-scale offshore wind energy
 - Summary and closing (11:45-12:00)
- 13:00-15:00 **The interaction between aerodynamics, structural dynamics and hydrodynamics of enlarged floating wind turbines**
Peter Eecen
- Presentation of the first draft (13:00-13:20)
 - brainstorm on topics (13:20-14:00)



- prioritization and distribution over lighthouse initiatives (14:00-14:45)
 - Floating offshore wind technology
 - Integration of large-scale offshore wind energy
- Summary and closing (14:45-15:00)

Thursday 6th May

09:00-11:00 **Systems science for integration of wind power plants**
Nikos Cutululis

- Presentation of the first draft (09:00-09:20)
- brainstorm on topics (09:20-10:00)
- prioritization and distribution over lighthouse initiatives (10:00-10:45)
 - Floating offshore wind technology
 - Integration of large-scale offshore wind energy
- Summary and closing (10:45-11:00)

11.00 -12.00 **Summary, call to action, and way to proceed**
Peter Eecen