

The long term R&D discussion  
by the

European Academy for Wind  
Energy, EAWWE

- Why a long term R&D discussion?
- Why under the umbrella of the EAWWE?
- What is the present status?

# Why do we need such a discussion? when looking from 'outside' to wind power

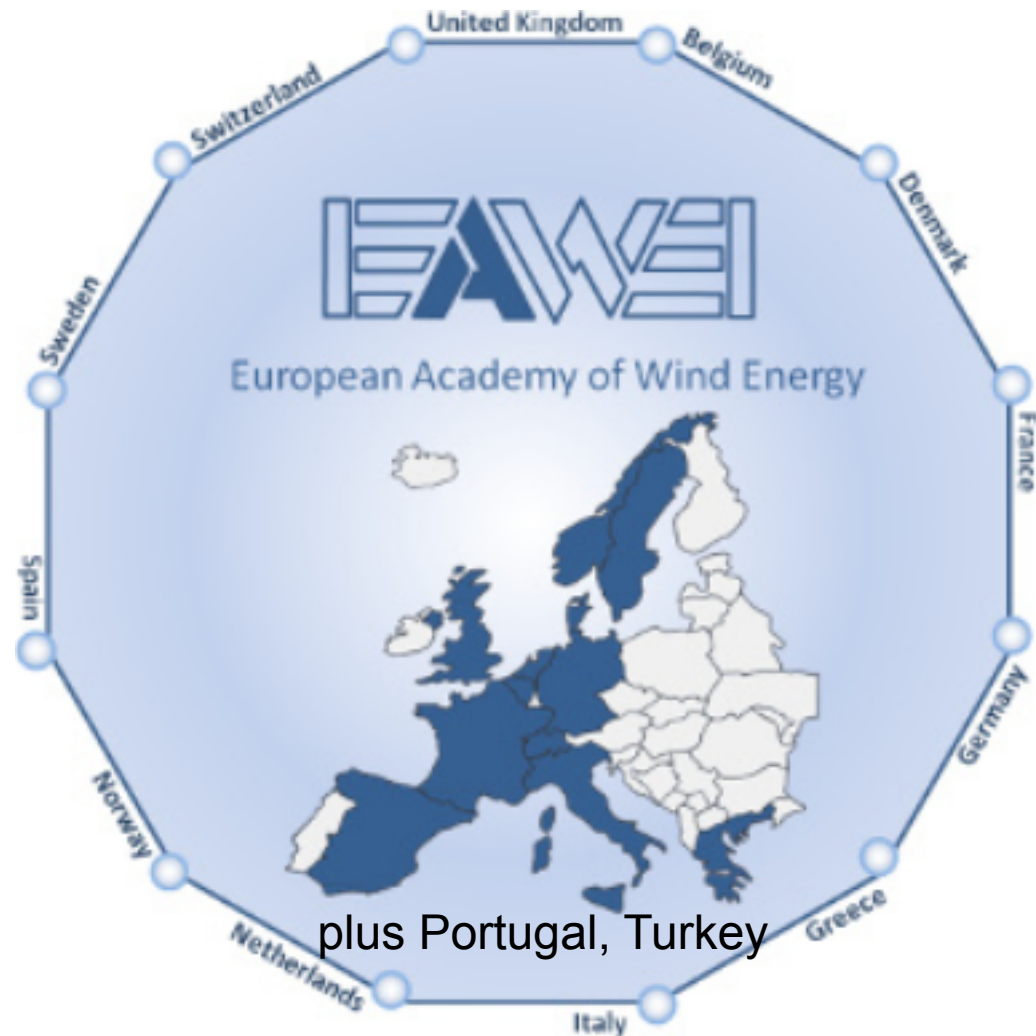
- Wind energy is here to stay.
- TKI and EC-FP7/Horizon focus on short term results.
- (funding) organisations like KNAW, NWO do not know what and how, and sometimes argued 'long term R&D is not necessary'
- the Dutch Topsectoren Beleid and Energie Akkoord ask for a vision of the TKI and NWO/FOM

# Why do we need such a discussion? when looking from 'inside' wind power

- To stimulate the cooperation between researchers in fundamental and applied sciences and engineering
- To identify current technological and scientific barriers, stimulating creativity towards its solution
- To define priorities for future scientific research
- To rethink our scientific view on Wind Energy

# The European Academy for Wind Energy

- Since 2004
- For universities and institutions with a serious wind energy programme
- Research and education



# Main activities of the EAWE

- The biannual conference ‘the Science of making Torque from Wind’, next June 2014, C’hagen
- Yearly PhD seminar, sometimes a PhD summer school
- Yearly awards for ‘best PhD’ and for scientific achievements
- European Wind Energy Master by Delft, Oldenburg, Trondheim, Copenhagen
- Workshops, discussions

# 2 seminars on long term R&D, held at the Hanse Wissenschaftskolleg (HWK)

May 2013

March 2014



# What is the definition of a scientific challenge that we aim to discuss?

A challenge that is demonstrably a specific and critical barrier that, if removed, would have significant impact for understanding the wind energy conversion process.

So:

Not a roadmap of TP-Wind, R&D plan of EERA but looking much further, addressing the basis of our R&D



# Status of the EAWWE discussions

10 research area's have been defined:

Today:

1. Materials and structures ←
2. Design methods
3. Offshore environmental aspects
4. Wind park as power plant
5. Wind and turbulence ←
6. Aerodynamics ←
7. Control and system identification ←
8. Electricity conversion
9. Reliability and uncertainty modeling
10. Hydrodynamics, soil characteristics, floating ←

# Status of the EAWE discussions

For all 10 research area's the following has been discussed and described

- State of the art
- Leading research questions
- Each including several topics

A professional write (Eize de Vries) takes care for a uniform style and layout

# Planning of the EAWE

- First edition at ‘the Science of making Torque from Wind’ in June: a leaflet with links to the EAWE webpage where all edited material is available
- Autumn 2014: next version, fully edited.
- Probably a paper in a scientific journal
- In the meantime: local discussions, consulting of more experts, convergence and improvement of the text.

# Today:

- 5 research area's
- Discussion will contribute to the EAWE vision
  
- Next steps in the development of a Dutch R&D vision to be determined (2<sup>nd</sup> workshop? Again in strong interaction with EAWE?)