

Welcome at:

We@Sea's Results

(Jos Beurskens)



Offshore Wind Energy in the Netherlands
Results of We@Sea research in perspective
Den Helder, 1 & 2 December, 2009

www.we-at-sea.org / www.ecn.nl

The birth of the We@Sea programme

- Initiated by ECN and TUDelft and designed in cooperation with all relevant stakeholders (2002 – 2004)
- Bridging gap between WE sector's optimism and the offshore sector's skepticism (2002/2004 !)
- Awareness needed for policy measures
- Create opportunities for the industry
- R&D topics inspired by demand



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We@Sea consortium; present status (32)

R&D Establishments

- ECN windenergie,
- TNO
- TU-Delft
- WMC BV

Environment, nature & safety

- IMARES
- Bureau Waardenburg
- TNO
- Greenpeace
- Stichting.Noordzee
- University Twente

Wind turbine manufacturers

- GE wind energy
- Vestas
- XEMC Darwind

Offshore technology

- Ballast Nedam
- Fabricom
- Fugro Engineers BV
- GustoMSC
- Lloyd's Register NL

Project developers

- E-connection,
- Evelop
- Shell Wind Energy BV

Wind energy technology

- Smulders Group
- Siemens

Energy consultants:

- Kema Power
- Ecofys

Energy sector

- Delta
- ENECO
- Nuon/vattenfall
- Statkraft
- TenneT

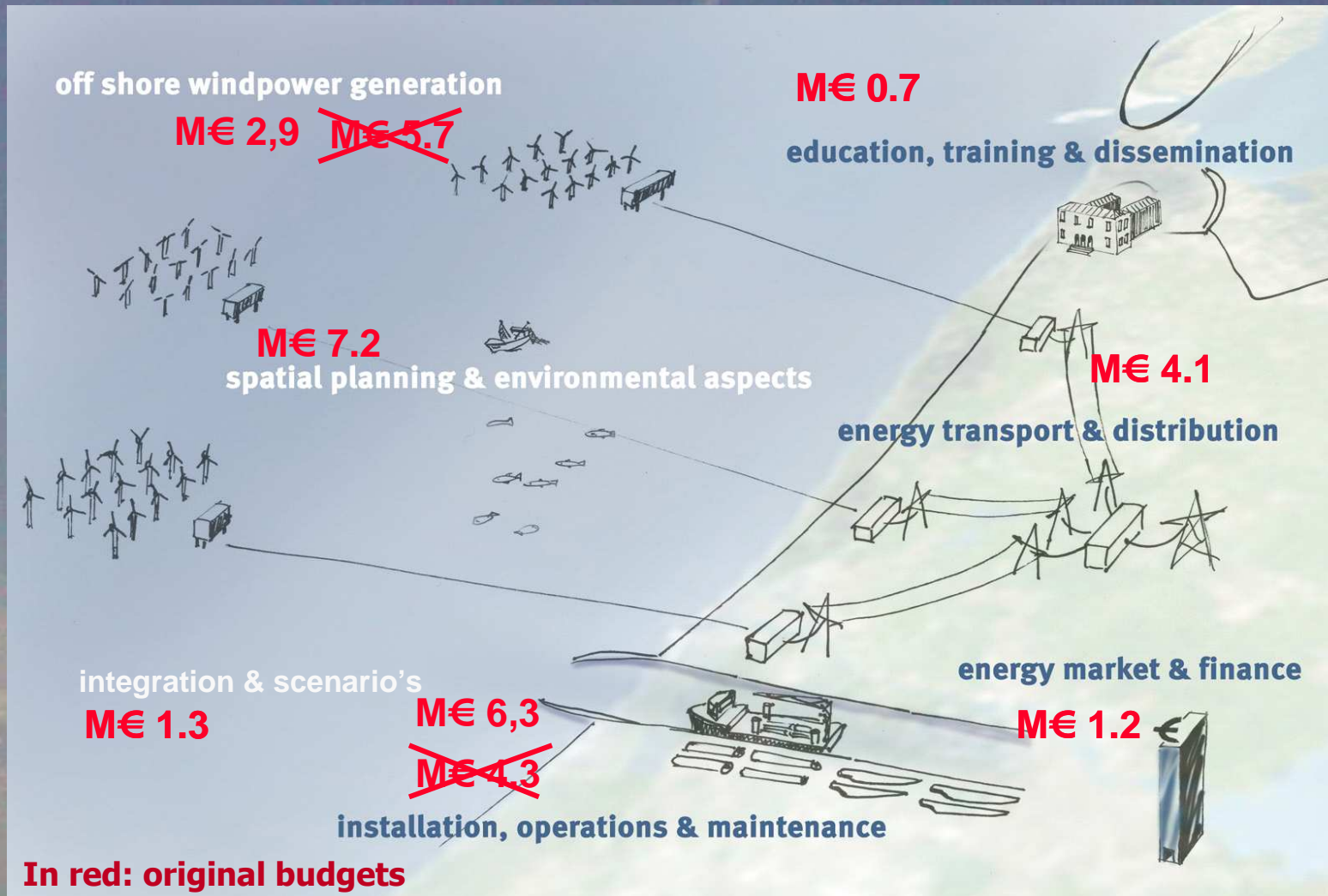
Logistics and harbour development

- STC BV

Financiers

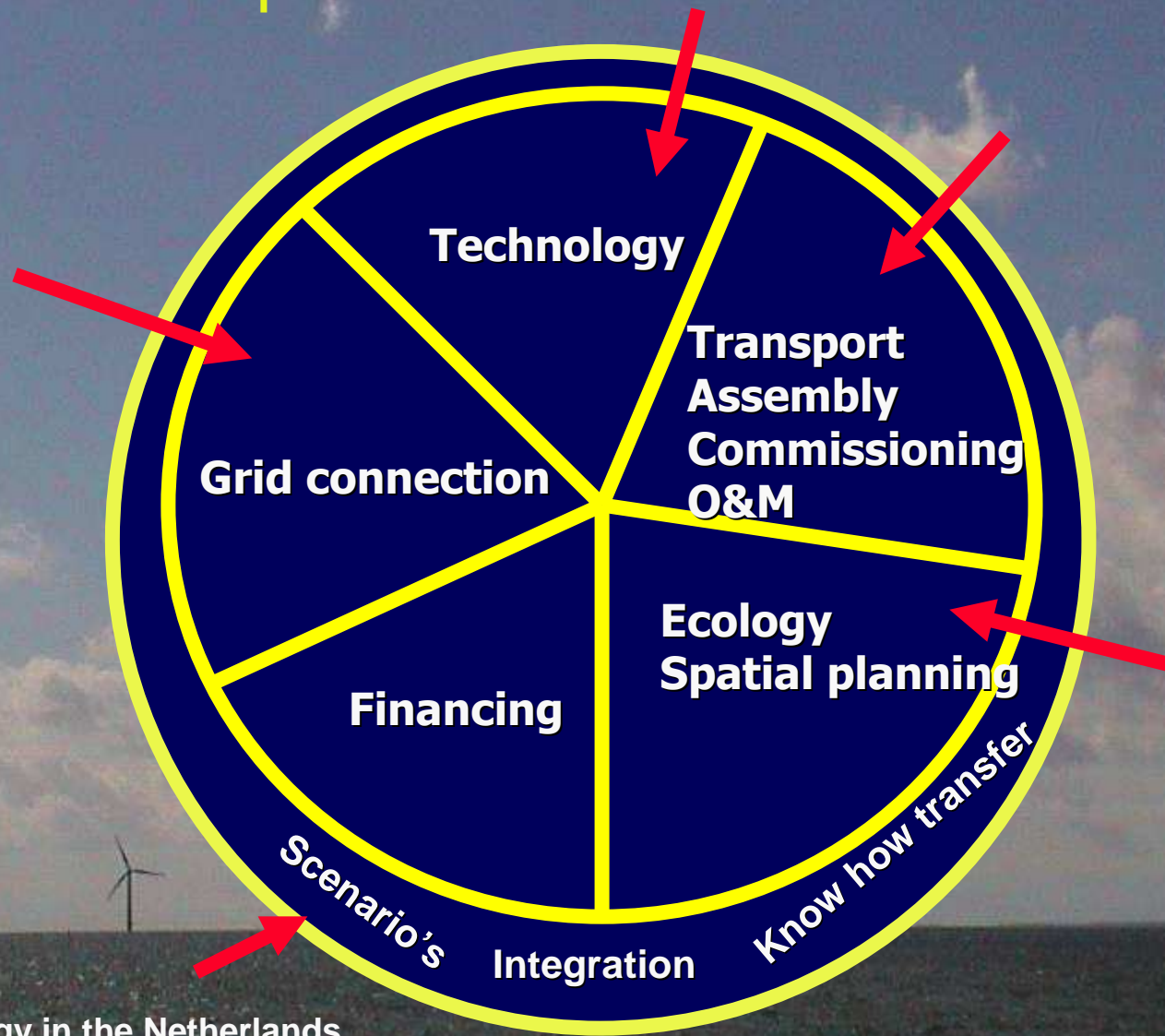
- NIBC

The We@Sea programme structure



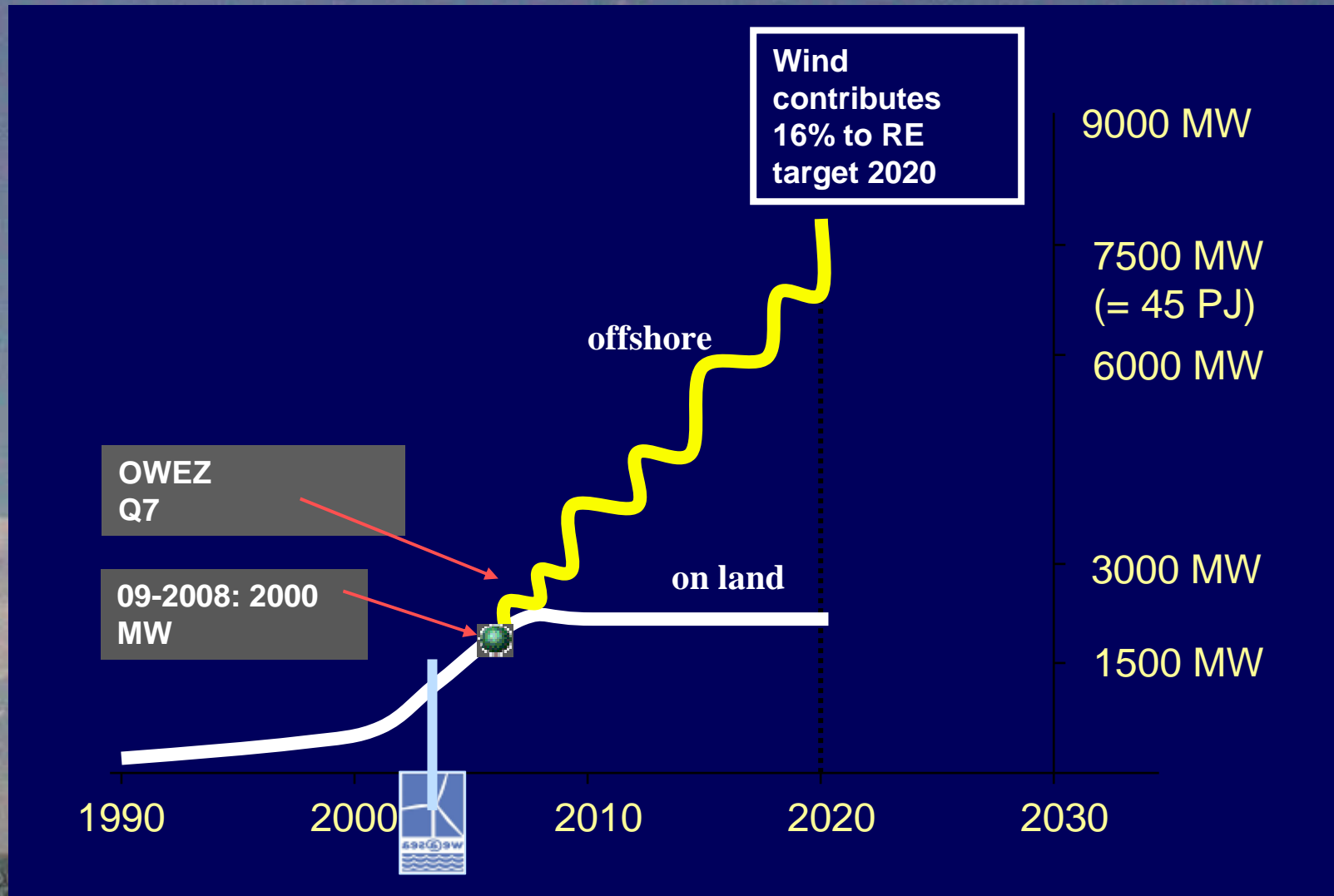
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Objectives, critical issues and We@Sea's research lines and topics



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We@Sea and the deployment of WE



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1.1 We@Sea and the deployment of WE

Shell-NUON

36 x Vestas 3MW V90 → 108MW
 10 – 18 km from the coast
 18 m water depth
 Monopiles 70 m above sea level,
 30 m into seabed
 total investment appr. M€ 260

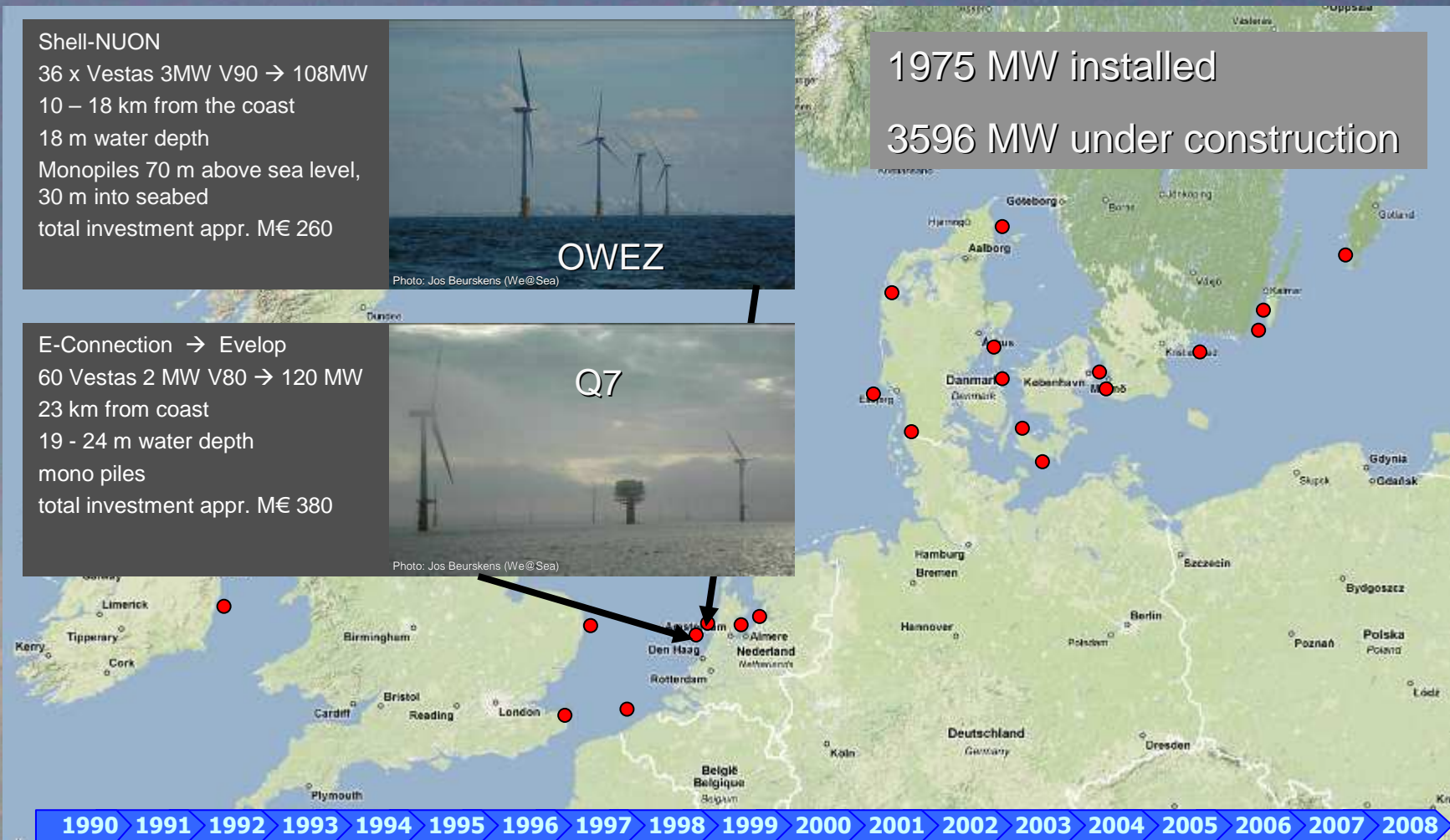


1975 MW installed

3596 MW under construction

E-Connection → Evelop

60 Vestas 2 MW V80 → 120 MW
 23 km from coast
 19 - 24 m water depth
 mono piles
 total investment appr. M€ 380



Source: TUDelft Offshore Engineering



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Today's Programme

- Dutch Offshore Services (ATO, Bertrand van Leersum)
- Offshore Policy of the Netherlands; the Dutch industry's view (NWEA, Ton Hirdes)
- Results: Electrical power from the sea, Ecology, Technology, Policy

Tomorrow's Programme

- Three parallel sessions/workshops: Ecology, Technology, Infrastructure



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Structure of the sessions

- Results
- Relevance & applicability
- The broader (international) perspective



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A photograph of an offshore wind farm with several wind turbines visible on the horizon over a vast, choppy sea under a cloudy sky. The image is framed by dark blue vertical bars on the left and right sides.

**Book with results of
We@Sea programme
to be published at
the end of April 2010**

Thank you !



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