

Technical Consultation

Options & requirements interface OWF – TenneT



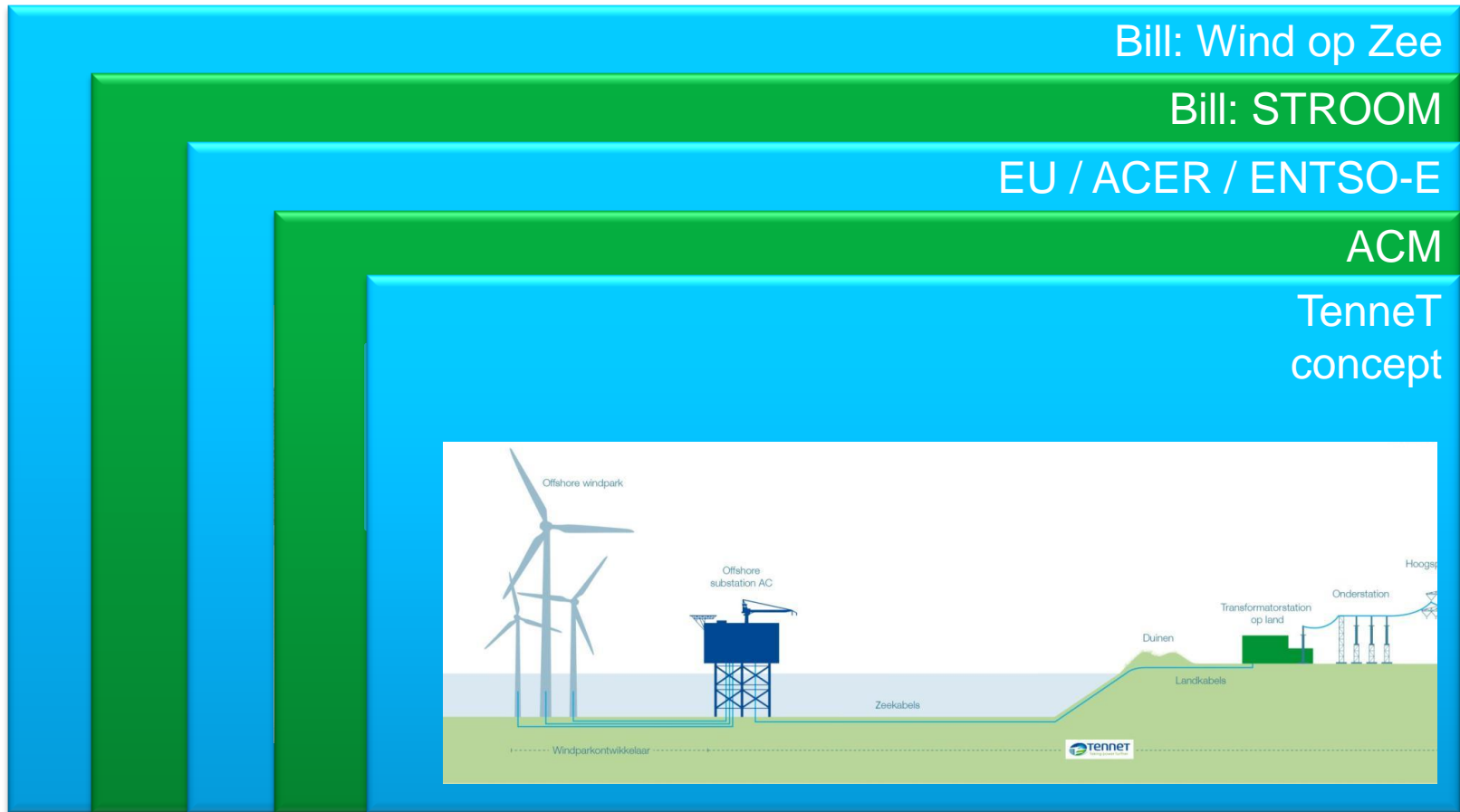
Utrecht, 29.01.2015

Frank Wester

Agenda

- **Opening & Welcome**
- **Introduction**
- **Context**
- **Wrap-up meeting 27-11-14**
- **Discussion on open points**
- **New items**

Approach from TenneT in development of the concept has been:



Actions in MoM 27-11-14



Subject	Action
Voltage Level	Prepare position paper on 66kV [TenneT]
Physical interface point	Proposed approach accepted
Number of J-tubes	NWEA to deliver number of J-tubes [NWEA]
Protection	Proposed approach accepted
kWh meter	Proposed approach accepted
Operation of bays by TenneT	Proposed approach accepted
Data links	Proposed approach accepted
SCADA	Verify with suppliers if this is mandatory [TenneT]
Capacity, guaranteed or overplanting	Inform TenneT of design criteria for the export capacity [NWEA]
Requirements from RfG code (SOC 11-175)	Proposal how to proceed with "Dutch" RfG requirements [TenneT]

Voltage level



- Action: Prepare position paper on 33kV - 66kV [TenneT]

This paper should address the dilemma's regarding the 33kV – 66kV options with the concerns from the stakeholders OWF, MinEZ and TenneT.

- TenneT → scope of white paper send on 12/1
- NWEA → comments received on 18/1 and 20/1
- DNV/GL consult → initial draft position paper
- Discussion on content, by Lyndon Greedy and Hans Cleijne

J-tubes



- Action: NWEA to deliver number of J-tubes

After an internal meeting at NWEA, TenneT was informed that NWEA didn't want to take this responsibility given TenneT is the grid operator.

- Status: taken into account in the 33kV – 66kV position paper
- Statement TenneT: expected amount of J-tubes at 66kV is 6 for each windfarm of 350MW.



- Action: Verify with suppliers if this is mandatory [TenneT]
Understanding of this requirement is needed before final decision on this matter.
- Status: Ongoing. Priority on voltage level discussion.
- Expected result for Consultation: End of February



Overplanting

- Action: Inform TenneT of design criteria for the export capacity [NWEA]
- Status: Feedback expected from NWEA.
- Statement TenneT: Transmission power is restricted by the 220kV cables. 700MW is the maximum transport capacity. Overplanting in BC of OWF.



- Action: Proposal how to proceed with "Dutch" RfG requirements [TenneT]
- How much reactive power can be compensated by the turbines?
- Status: Ongoing as part of the ATO proposal.
- Expected result for Consultation: End of February



New items

- Mail from GDF Suez: Power requirements from OWG at no-load
(back up generator etc)
What amount of power is required?
- Other issues?

Wrap-up

Next meeting(s).....



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Next meeting.....