NERA ECONOMIC CONSULTING

# Offshore wind auctions in Europe

## Presentation to EPRG


Alon Carmel

Senior Consultant


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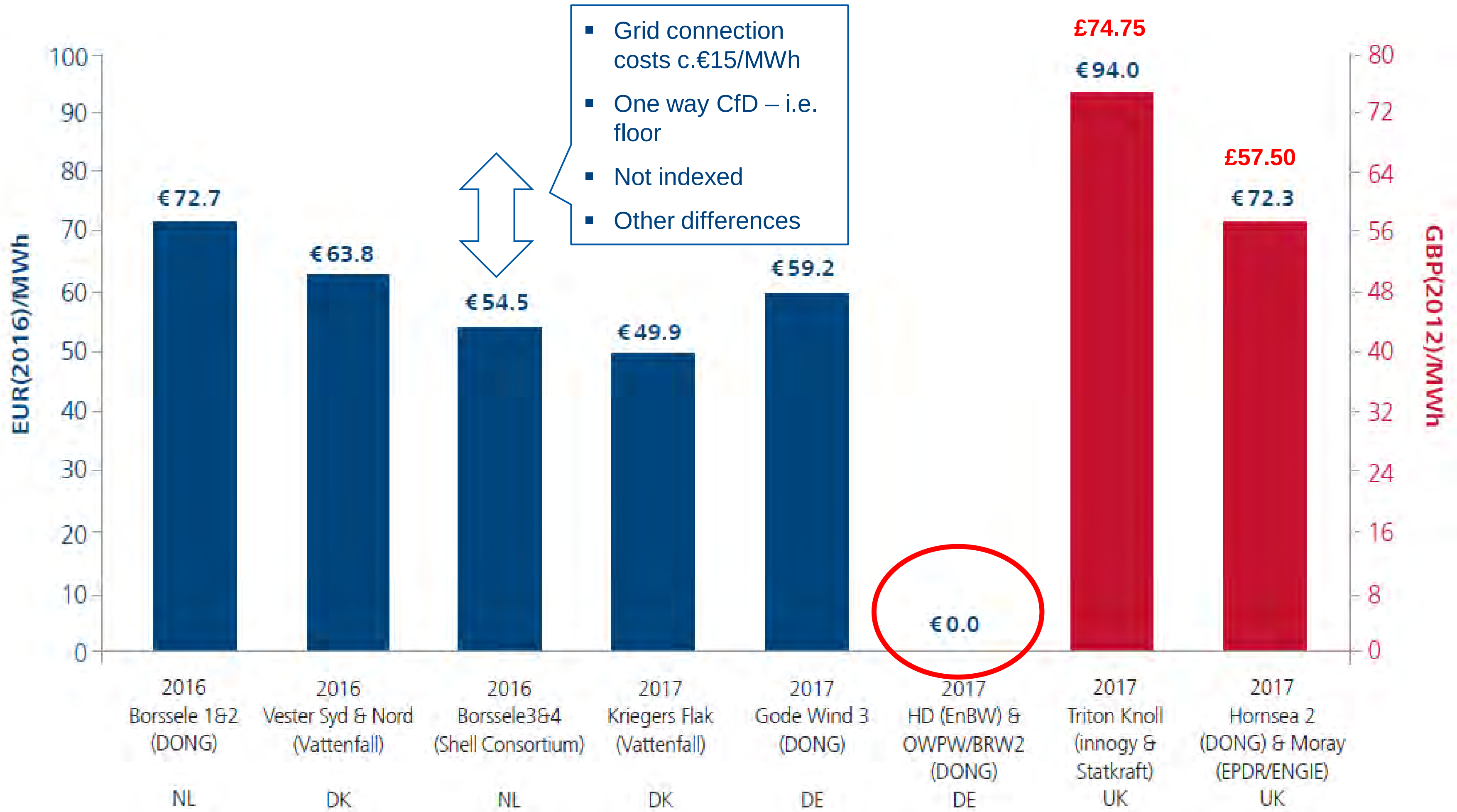
Insight in Economics™

# European offshore wind auctions 2016-2017
## Tech cost, financing cost and competition driving bids lower

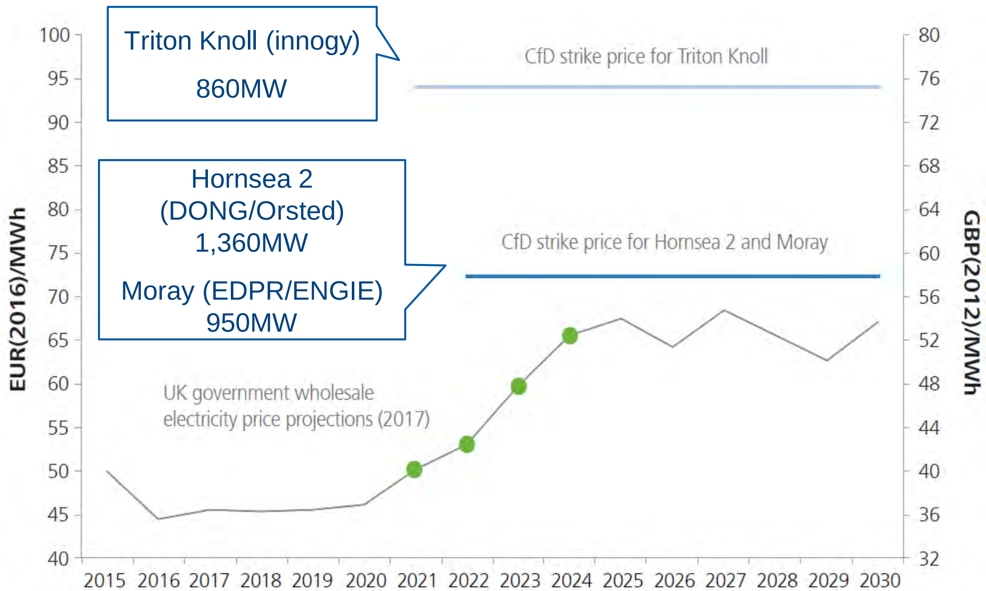



Source: NERA White Paper, September 2017

Radov, Carmel and Koenig (September 2017), Offshore Revolution? Decoding the UK Offshore Wind Auctions and What the Results Mean for a "Zero-Subsidy" Future, http://www.nera.com/publications/archive/2017/offshore-revolution--decoding-the-uk-offshore-wind-auctions-and-.html

# UK offshore wind auctions 2017
## How close are we to “non-subsidy”?

### OSW subsidy prices vs market electricity prices




Source: NERA analysis of BEIS data

### Risk exposure affects costs

- CFD contract is a risk sharing instrument between generator/investor and consumers/Government
- “Non-subsidy” OSW projects would face full market price risk
- This would decrease debt finance and increase cost of capital
- Wind “captured prices” lower
- New CCGT gets electricity price + capacity market payment (+ ancillary services revenues)

# Technology neutral auctions require careful bidding

## DONG/Orsted's Hornsea 2 project **could have** won at £75/MWh…

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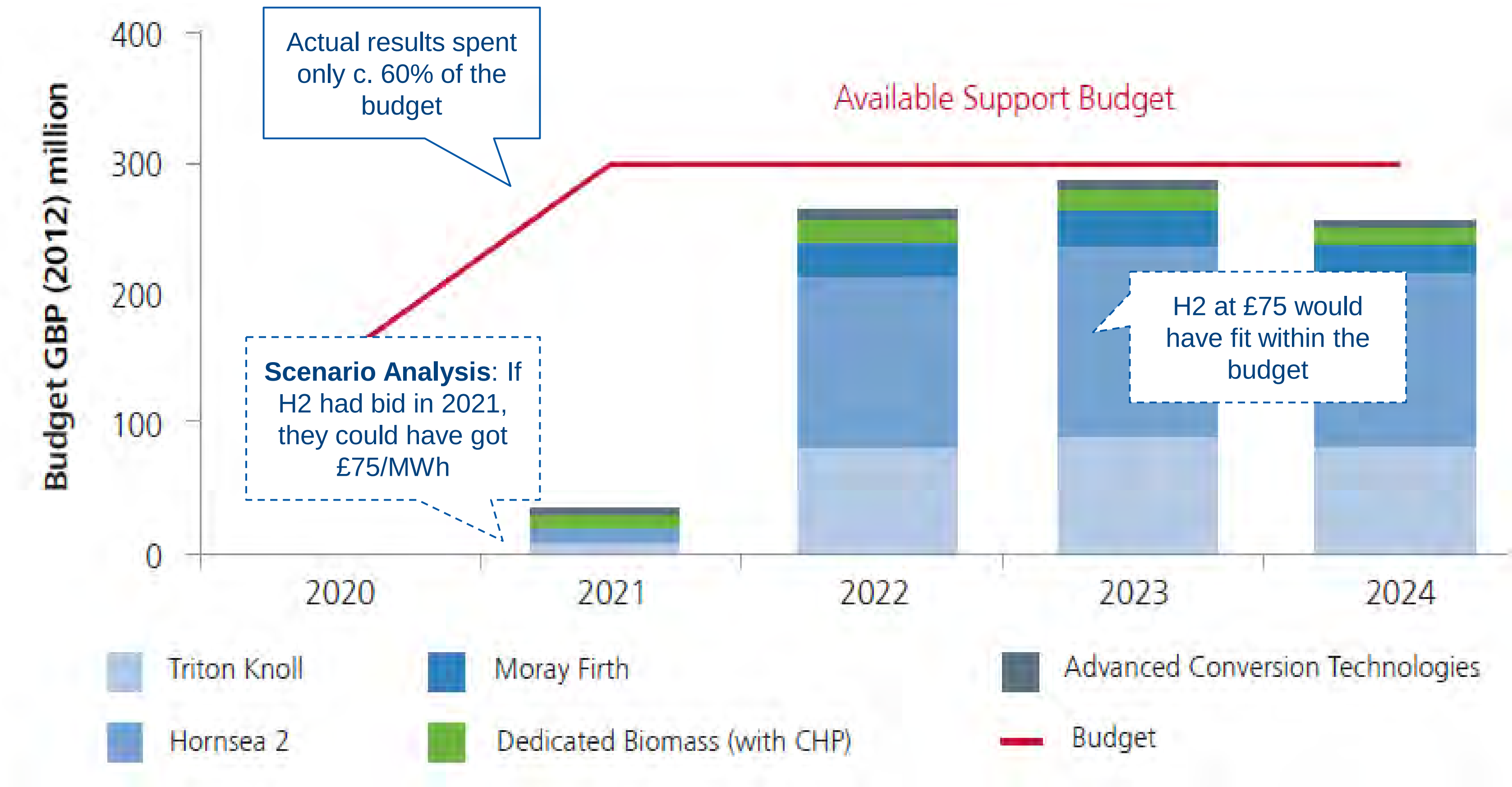


Source: NERA auction modelling scenario

# Next UK auctions – Spring 2019
## Key policy questions and trade-offs

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- **“Non-subsidy” bids** – will we see more of these? In UK? In theory the CfD auction could clear below the wholesale price projection – generators “paying” Government for PPAs
- **Onshore wind & solar PV?** Further Pot 1 auction with market stabilising CfD contract at or below wholesale price projection.
- More **technology neutrality**? More competition, lower bids?…..but less certainty for investors (higher cost of capital) meaning higher bids…?
- **Maximising competition** (as many bidders as possible) versus **maximising likelihood of delivery** (avoiding Winner’s Curse)…
- Including **whole system cost** considerations?
- Auctioning **subsidies for pre-developed sites** versus auctions for **subsidy contracts** across projects and technologies? Danish vs UK model.
- **Longer term** – Government auctions off sites/concessions like in oil & gas with companies managing market price risk through private sector PPAs?


**Daniel Radov**

Director
NERA London
+44 20 7659 8744
Daniel.Radov@nera.com

**Alon Carmel**

Senior Consultant
NERA London
+44 20 7659 8628
Alon.Carmel@nera.com




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