

# More Than 2500 Grouted Connections in Offshore Foundations



- |   |  |  |   |
|---|--|--|---|
| (51) 2017: Walney 3 and 4, United Kingdom<br>87 monopiles u/c                         | (38) 2014: Westermost Rough, United Kingdom<br>35 monopiles      | (25) 2010/2012: BARD Offshore 1, Germany<br>80 tripiles          | (12) 2007: Lynn & Inner Dowsing, United Kingdom<br>54 monopiles |
| (50) 2016: SS Nordsee 1, Germany<br>4 legged jacket structure                         | (37) 2013: DanTysk, Germany<br>80 monopiles                      | (24) 2010: Baltic 1, Germany<br>21 monopiles                     | (11) 2006: Princess Amalia, the Netherlands<br>60 monopiles     |
| (49) 2016: OSS Veja Mate, Germany<br>4 legged jacket structure                        | (36) 2013: Northwind, Belgium<br>72 monopiles                    | (23) 2010: Walney 1, United Kingdom<br>51 monopiles              | (10) 2006: Burbo Bank, United Kingdom<br>25 monopiles           |
| (48) 2016: Dolwin Gamma, Germany<br>2x9 pile/sleeve                                   | (35) 2013: Nord See Ost, Germany<br>Supply of materials          | (22) 2009/2010: Belwind, Belgium<br>56 monopiles                 | (9) 2006: Egmond aan Zee, the Netherlands<br>36 monopiles       |
| (47) 2016: Veja Mate, Germany<br>67 monopiles   | (34) 2012: Globaltech 1, Germany<br>80 tripods                   | (21) 2009/2010: Greater Gabbard, United Kingdom<br>140 monopiles | (8) 2005: Barrow, United Kingdom<br>30 monopiles                |
| (46) 2016: Wikinger OWF, Germany<br>70 4 legged jacket                                | (33) 2012: Teeside, United Kingdom<br>27 monopiles               | (20) 2009: Thanet, United Kingdom<br>100 monopiles               | (7) 2004: Kentish Flats, United Kingdom<br>30 monopiles         |
| (45) 2015/2016: DanTysk, Germany<br>Accommodation platform - 4 legged jacket          | (32) 2012: Riffgat, Germany<br>30 monopiles                      | (19) 2008/2009: Alpha Ventus, Germany<br>6 tripods               | (6) 2003: Arklow Bank, Ireland<br>7 monopiles                   |
| (44) 2015: Gode Wind - Substation 1+2, Germany<br>2 jackets OHVS 4 legged pile/sleeve | (31) 2012: Meer Wind, Germany<br>80 monopiles                    | (18) 2008: Gunfleet Sands, United Kingdom<br>48 monopiles        | (5) 2003: North Hoyle, United Kingdom<br>30 monopiles           |
| (43) 2015: Baltic 2, Germany<br>OHVS 4 legged pile/sleeve jacket                      | (30) 2012: Anholt, Denmark<br>111 monopiles                      | (17) 2008: Hooksiel, Germany<br>1 triple                         | (4) 2002: Samsø, Denmark<br>10 monopiles                        |
| (42) 2014: Baltic 2, Germany<br>41 jackets/39 monopiles                               | (29) 2011: Lincs, United Kingdom<br>75 monopiles                 | (16) 2008: Thornton Bank, Belgium<br>6 undercasting of towers    | (3) 2002: Horns Rev 1, Denmark<br>80 monopiles                  |
| (41) 2014: Butendiek, Germany<br>80 monopiles   | (28) 2011: London Array, United Kingdom<br>177 monopiles         | (15) 2008: Horns Rev 2, Denmark<br>92 monopiles                  | (2) 2001: Ytre Stengrund, Sweden<br>5 monopiles                 |
| (40) 2014: Amrumbank, Germany<br>80 monopiles   | (27) 2011: Walney 2, United Kingdom<br>51 monopiles              | (14) 2008: Rhyl Flats, United Kingdom<br>25 monopiles            | (1) 2000: Utgrunden, Sweden<br>7 monopiles                      |
| (39) 2014: Borkum Riffgrund 1, Germany<br>77 monopiles                                | (26) 2010/2011: Sheringham Shoal, United Kingdom<br>90 monopiles | (13) 2007: Robin Rigg, United Kingdom<br>60 monopiles            |   |

## REFERENCES OUTSIDE EUROPE

- Ongoing: Akita Noshiro, Japan and Yunlin, Taiwan
- 2020: TPC Changhua, Taiwan
- 2019: Formosa 1, PH2, Taiwan  
20 - MP/TP
- 2016/17: Huaneng, China  
2 - 4 legged booster station
- 2016/17: South Grid, China  
17 - 4 legged jackets
- 2015/16: Block Island, USA  
5 - 4 legged jacket structure
- 2015: CGNPC, China  
1 - 4 legged booster station
- 2015: Taipower, Taiwan  
1 - MP/TP MET mast
- 2015: TGC, Taiwan  
1 - MP/TP MET mast
- 2014: COOEC, China  
1 - 3 legged jacket