

## OFFSHORE RENEWABLE ENERGY DEVELOPMENT – WIND FARMS IN THE NORTH SEA,

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Many countries are looking at marine renewables as a means of reducing their reliance on fossil fuels for large-scale energy generation. Technologies intended to harness waves and tidal currents are being developed, but the main focus of effort in the short to medium term is on the installation of very large wind turbines offshore, often in extensive ‘parks’ or ‘farms’.

Wind farms present particular challenges to underwater cultural heritage. The turbines themselves require foundations that may be relatively extensive or penetrate deep below the seabed. Large amounts of cabling are required between the turbines and sub-stations out at sea. Very long export cables have to be installed between the farms and their landfalls. Excavation at the landfall and onshore where connections are made to national power transmission networks can threaten coastal and on-land cultural heritage. The turbines may have visual impacts on coastal monuments, and on appreciation of historic landscapes and seascapes. There can also be diverse indirect and secondary impacts on cultural heritage from the planning and construction of such massive engineering works. This presentation will outline the plans and political processes involved in proposed development of offshore wind farms in the Dutch sector of the North Sea, and present the experiences of almost a decade of close working between archaeologists and wind farm developers in the UK sector.