Abstract

This dissertation focusses on the installation of turbines and their foundations. The objective is to analyse the bottlenecks and challenges that come with this process in terms of infrastructure, namely vessels and cranes, and techniques by means of a literature study. After reviewing the bottlenecks some solutions the industry has come up with to combat them are presented. Alternatives concepts that streamline the transport and installation process will be reviewed. In terms of installation techniques this research will look at quayside prefabrication of turbine parts. By giving all relevant factor that affect the feasibility of prefabrication this decision making process will be revealed. This theoretic matter is put in practice by analysing the East Anglia One project based on previous findings in addition to data provided by DEME. The final part of this study will look at floating wind turbines. This technique often allows the installation of turbines in deep water without the need of marine lifting operations. Once again the obstacles faced with the widespread implementation of these designs will discussed, namely port infrastructure.