

Analyzing the Potential of Offshore Wind Energy

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Abstracts

In many parts of the world, wind energy has already grown to be a mainstream energy source. This growth has long been driven by concerns about global climate change, mainly in the developed world and especially in Europe.

Wind energy has emerged as the most attractive solution to the world's energy challenges. It is clean and fuel-free. Moreover, wind is indigenous and enough wind blows across the globe to cope with the ever increasing electricity demand. Moreover, wind power generation is increasingly competitive with conventional fossil fuel sources and already today is on a par with new coal or gas fired power stations.

The possibility of locating wind turbines in the sea bed has opened up a new frontier for wind power, especially in the countries of northern Europe, where the availability of relatively shallow coastal waters has combined with the need to find space for much larger projects than are possible on land.

The pioneer in offshore wind farming has been Denmark, which has installed the two largest wind parks in the sea – 160 MW at Horns Rev in the North Sea and 158 MW at Nysted in the Baltic. Two further large developments at the same sites are now progressing.

The UK has also taken on a leading role, with 214 MW already built in four locations, a further 1,000 MW+ with agreement to proceed across eight sites, and even larger individual projects (of up to 1,000 MW each) planned within three strategic offshore areas identified by the UK government.

Installing wind turbines in the sea has proved more expensive than anticipated, however, and a number of projects are currently on hold whilst their economics are re-assessed. One factor which is expected to improve the viability of offshore wind farms is

the commercial deployment of the new generation of larger capacity turbines (over 5 MW). Another issue to be resolved is how the costs of building new grid connection cables out to sea will be shared between the developers and the electricity supply industry.

Aruvian's Research brings you a complete in-depth focus on the global offshore wind energy industry in its report – *Analyzing the Potential of Offshore Wind Energy*. The report begins with an exploration of the importance of wind power in today's energy-hungry world. The report looks at the basics of the offshore wind power industry, that is, how a wind turbine works, analyzing and understanding the technologies involved in harvesting offshore wind power, economical analysis of offshore wind power, and much more. Economics, issues and barriers, regulatory incentives, tax incentives, and other such factors related to offshore wind energy is also explored in-depth in this report. The report contains in-depth analysis of the US offshore wind energy industry in two parts – one looking at overall developments, while the other focuses specifically on the developments in offshore wind energy in the Outer Continental Shelf. Developments in offshore wind energy in various states such as Texas, Wisconsin, Michigan, etc., is also explored within the report.

A major section in the report is devoted to an analysis of the international and European regulations which are affecting the development of the offshore wind energy industry. A section on floating offshore wind energy developments is also looked at.

Aruvian's offering includes a complete analysis of the major countries investing in offshore wind power, along with companies around the world which are making waves in the field of offshore wind power. The report is a comprehensive A to Z guide on the potential of offshore wind energy industry.

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