



Study for the installation of offshore wind farms in Canary Islands

M.Martínez, A. Pulido, J. Romero, N. Angulo and F. Déniz

Department of Electrical Engineering
E.T.S.I.I., Las Palmas de Gran Canaria
Campus Universitario de Tafira – Edif. Ingenierías, 36017 Las Palmas (Spain)
Phone/Fax number:+0034 928 451987, e-mail: apulido@die.ulpgc.es, mmartinez@die.ulpgc.es

Abstract. The future of wind energy development in Europe and worldwide is undoubtedly the offshore wind farm. Spain is the second European country in installed wind power, with significant own technology, now Spain is preparing to begin the development of offshore technology with the release of specific legislation and an environmental analysis of the entire national coastline.

At present there is no offshore farm in Spain, but in 2030 the MITyC wait that the power of wind farms will reach to 40 GW on land and 4 GW offshore.

The Canaries are one of the best places in Spain in terms of value of the resource, but with a limited land area 7529 km², a high rate of population (2,070,465 people in January 2008), a high degree of protected land 42.2% of the territory, and a huge dependence on foreign petroleum for 99% of energy consumed.

You have to look to the offshore wind as an opportunity to extract energy without occupying valuable and scarce land, using own resource and diversifying the energy basket.

Discusses the possibility to use this technology in each of the seven islands, establishing a procedure for identifying possible places and how the national rules affect us.

Key words

Wind Turbine, offshore, criteria for implantation, power system

References

- [1] www.itccanarias.org
- [2] DECRETO 32/2006, de 27 de marzo, por el que se regula la instalación y explotación de los parques eólicos en el ámbito de la Comunidad Autónoma de Canarias.
- [3] [http://www.mityc.es/Electricidad/Seccion/Instalacion esEolicas/Descripcion/](http://www.mityc.es/Electricidad/Seccion/Instalacion/esEolicas/Descripcion/)
- [4] <http://www.interreg-bionatura.com/>
- [5] <http://www.seo.org/ibas.cfm?idComunidad=4>
- [6] ORDEN de 27 de abril de 2007, por la que se convoca concurso público para la asignación de potencia en la modalidad de nuevos parques eólicos destinados a verter toda la energía en los sistemas eléctricos insulares canarios.
- [7] REAL DECRETO 1028/2007, de 20 de julio, por el que se establece el procedimiento administrativo para la tramitación de las solicitudes de autorización de instalaciones de generación eléctrica en el mar territorial.
- [8] Estadísticas energéticas de Canarias. 2007. Consejería de Empleo, Industria y Comercio del Gobierno de Canarias.
- [9] Informe sobre Plantas Eólicas Marinas CENER. Félix Avia Aranda