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Strategic development of windfarms on rockislands in the Eastern and Central Aegean Sea

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ABSTRACT

Energy requirements are continuously increasing. With the universal mechanization of labor in urban, as well as rural areas, demand for energy is higher than it has ever been. Industry and governments are forced to develop technology that will cover this energy demand. The most remote areas of a country need electricity supply as much as urban centers do. More specifically, two distinct problems are identified: a) the mode of energy production b) the mode of energy transmission. There is a current trend in global economy towards energy production from renewable sources. Oil (hydrocarbons?) will certainly remain the principal energy source, although the finite reserves, as well as the environmental hazard from the unconstrained use necessitate decrease in our dependence on fossil fuel, substituting it with environmental- friendly energy production systems. Wind (Eolic) energy, the conversion of wind power into a useful form of energy, is one of the most widespread renewable energy forms. The morphology of Greece's terrain is particularly interesting; the existence of thousands of islands and islets exposed to high-speed winds has ignited interest in wind turbine installation projects. Besides the economic dimension, large scale projects in a location like Greece in the far border of the European zone acquire an additional geostrategic significance. This thesis deals with wind turbine installation (placement) in islets of eastern and central Aegean Sea. The Aegean Sea and its eastern part in particular, is an area with high wind (Eolic) potential, making it ideal for study.

KEYWORDS

Offshore windfarms, Aegean Sea