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# GCC Renewable Energy Sector Opportunity Analysis

https://marketpublishers.com/r/GE434C432EDEN.html
Date: June 2013
Pages: 103
Price: US$ 1,000.00 (Single User License)
ID: GE434C432EDEN

## Abstracts

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The world's largest producer of oil and gas is finding it increasingly difficult to suffice its own needs. An unprecedented increase in population and growth in industrial and economic activity has triggered newfound interest in renewable energy development for six major Middle Eastern economies. Saudi Arabia, UAE, Kuwait, Qatar, Bahrain and Oman, together knows as the Gulf Cooperation Council, have turned their focus towards the exploitation of renewable sources of energy present in the region.

Electricity production is the most energy intensive industry in these countries and is produced mostly from fossil fuels. The climatic conditions of the region make air conditioning a must resulting in more than average power consumption as compared to the rest of the world. About 99% of water in these countries comes from desalination, another energy consuming process, working mainly on gas feeds. Water and electricity together are the most energy consuming sectors in the region and some of these countries are the highest per capita consumers of power and water. With depleting oil and gas reserves and export quotas and commitments to fulfill, it is vital for the GCC countries to diversify and look at renewable sources of energy for power and water production.

Saudi Arabia, UAE, Kuwait and Oman have each declared their plans to produce at least 10% of electricity from renewable sources of energy by 2020 and are leaving no stone unturned to secure their future with renewable sources of energy, the report implies.

The research report is an intriguing text that gives facts and projected figures about the paradoxical situation arising in the world, with the world's largest oil and gas providers looking at renewable sources to light their own bulbs. The report meticulously takes

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through each country's electricity and water situation and then its renewable energy efforts along with policies and regulations. It is packed with information and adds a special feature on the GCC interconnection grid that will be fed with power from the renewable sources of energy in the coming years and also gives the potential renewable sources of energy and the future scenario of the GCC region with the latest developments.

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# About

The Middle East countries, due to their arid climatic conditions, enjoy a great deal ofsunlight throughout the year. The solar potential of the GCC countries is supposed to beone of the highest in the world. GCC is a rainless region which experiences clear skies for80% of the year, thus, continuous solar radiation for a major part of the year.The following figure gives the solar radiation throughout the world. It clearly shows thatthe GCC region lies in the highest band of insolation like few other parts of the worldexperience. The total solar radiation is at 18 TWe and GCC forms a major part of this dueto the expansive desert like topography.

The solar radiation that the GCC region receivesis enough to encourage the photovoltaic and concentrating solar power industries in theregion. This gives two options of generating electricity through the solar energy, ampleamounts of which are available and can be exploited thoroughly. As the region is movingtowards renewable energy, solar power is being deemed as the top renewable sourcewhich will be exploited for power production. The results of the solar radiation studieshave encouraged more and more investment in the sector.

The average solar radiation of the GCC countries is among the highest in the world. Theregion receives maximum solar energy from April to August before falling down. Even inthe months preceding and succeeding these, the solar radiation is quite strong. In all, theGCC region receives considerable solar energy for eight months of a year, March throughOctober.

Kuwait’s solar radiation is at the top peaking at above 8000 W hr/m2. Kuwait, thus, hasthe largest potential for solar power generation and considering the size and powerconsumption of the country it will be a boon for the nation. Kuwait’s domesticconsumption and reliance on oil and gas for power consumption can significantly decreasewith the development of solar energy in the country, given its huge solar potential. Itsdirect normal solar radiation is also the highest, making it highly potential for solar powergeneration.

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