

GCC Renewable Energy Sector Opportunity Analysis

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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 known 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

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 of sunlight throughout the year. The solar potential of the GCC countries is supposed to be one of the highest in the world. GCC is a rainless region which experiences clear skies for 80% 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 that the GCC region lies in the highest band of insolation like few other parts of the world experience. The total solar radiation is at 18 TWe and GCC forms a major part of this due to the expansive desert like topography.

The solar radiation that the GCC region receives is enough to encourage the photovoltaic and concentrating solar power industries in the region. This gives two options of generating electricity through the solar energy, ample amounts of which are available and can be exploited thoroughly. As the region is moving towards renewable energy, solar power is being deemed as the top renewable source which will be exploited for power production. The results of the solar radiation studies have encouraged more and more investment in the sector.

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

Kuwait's solar radiation is at the top peaking at above 8000 W hr/m². Kuwait, thus, has the largest potential for solar power generation and considering the size and power consumption of the country it will be a boon for the nation. Kuwait's domestic consumption and reliance on oil and gas for power consumption can significantly decrease with the development of solar energy in the country, given its huge solar potential. Its direct normal solar radiation is also the highest, making it highly potential for solar power generation.

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