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Renewable Energy in the Persian Gulf

Six Arab states border the Persian Gulf, namely, Saudi Arabia, Kuwait, Qatar, United Arab Emirates (UAE), Bahrain and Oman. Although Iran also has an extensive coastline along the Gulf, the country does not show a strong interest in clean energy. All these countries are known to be major oil producers, so they currently rely on conventional energy sources. Due to the dramatic increase in oil prices, there is a growing interest in renewable energy as an alternative to fossil fuels. The states around the Persian Gulf are planning to supply their domestic energy needs through other energy sources. This way, they could increase their oil exports. In particular, solar energy is gaining adepts as the solar irradiation is quite strong over the Gulf area.

Saudi Arabia (SA) is leading the quest for renewable energy. The first solar energy power station was built in Farasan Island, SA, and inaugurated in 2011. This plant is able to generate 864 MW by means of six thousand solar cells. It was jointly built by Saudi Electricity and a Japanese energy company. Some of the electricity is used to power desalinization plants which were previously powered by oil. This project was the first of its kind in SA, so it demonstrates alternative energy sources are a good substitute of fossil fuels for electricity generation (Hepbasli and Alsuhaibani).

The King Abdullah City for Atomic and Renewable Energy (K. A. CARE) procurement program seeks to generate 54 GW of power through non-conventional energy technology by 2032. Solar energy is expected to play a major role in this project where approximately 16 GW will be generated by photovoltaic cells. The first step of the project is to collect information about

the solar and wind resources in the region. Thorough monitoring and mapping is being performed so as to determine the best places to locate solar cells and wind farms in the country. This program will position SA as a solar energy leader (“K A CARE”).

UAE is also interested in the benefits of solar and wind energy. The UAE government established the International Renewable Energy Agency (IRENA) in order to promote alternatives to fossil fuels. IRENA aims to facilitate access to all sorts of information regarding renewable energy, ranging from state of the art technology and development of infrastructure to financial advice. Availability of reliable information is of major importance in order to propose sustainable energy projects. UAE wants to be a renewable energy hub that assists in the transition to clean energy worldwide. UAE also has some ongoing projects. For instance, the construction of the first phase of a solar photovoltaic power plant in Dubai (the Mohammad Bin Rashid Al Maktoum Solar Park) was granted in 2012. The first phase of the plant is expected to generate 13 MW by the end of 2013, which will be progressively increased to 1 GW by 2030. This project is regarded as a milestone toward a sustainable future for UAE (“Welcome to IRENA”).

Kuwait aims to obtain about 10% of its electricity from nonconventional energy sources. The government is aware of the potential of solar energy in Kuwait. However, plans to build photovoltaic power plants and offshore wind mills have been postponed. By the end of 2012, Qatar government announced a plan to build a 1.8 GW solar power plant as an attempt to reduce green house emissions. The solar plant will be in operation within four years. The electricity generated by the plant will be mainly used to drive

desalinization plants. This idea is supported by Qatar Solar Technologies (QSTec) a leader in the development and production of polysilicon solar panels.

The small island country of Bahrain is planning to launch a solar energy project in the city of Manama. The initial project aims to produce 5 MW of power. The government forecasts that five to seven percent of Bahrain's energy needs will be covered by solar energy.

In general, the states bordering the Persian Gulf are willing to migrate from fossil fuels to renewable energy. Initial steps are taken towards the adoption of clean energy resources. In the long run, this energy shift will bring both economical and environmental benefits.

Works cited

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