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Gulf Affairs: What is the role of IRENA within the Gulf Cooperation Council (GCC) countries? What are some of the achievements and deliverables that it has produced so far?

Adnan Amin: IRENA provides support to all of its member countries, including those in the GCC, in transitioning towards a future of sustainable energy. The fact that IRENA is headquartered in an oil producing region, while being the only international organization dedicated to renewable energy, is a testament to the determination of countries in the region to diversify their energy systems.

Earlier this year, we launched the Renewable Energy Market Analysis: The GCC Region that highlights best practices in policymaking and project development in the region and provides recommendations for accelerated uptake of renewables.

IRENA has collaborated in the GCC at the national level as well, for example with the UAE's Directorate of Energy and Climate Change and Masdar Institute to produce Renewable Energy Prospects: United Arab Emirates, which shows that renewable energy can affordably produce 25 percent of electricity generation by 2030. In Oman, IRENA has contributed to driving early progress towards renewable

energy planning by conducting a renewable readiness assessment with extensive stakeholder engagement. The assessment indicated that Oman can leverage vast renewable resources to address rising energy demands and recommended key actions to drive the transition towards more renewables.

Gulf Affairs: What do you think will be the impact of the current oil price collapse on renewables investment in the GCC? Do you see renewables competing head-to-head with fossil fuels in the GCC in the coming decade?

Amin: There is limited direct competition between oil and renewable energy across the end-use sectors. While oil primarily caters to the transportation sector, most of the renewable energy deployment has been concentrated in power generation and heating (the non-transportation sectors). Therefore, the decline in oil prices should not have a strong impact on the uptake of solar and other renewables.

The long-term economics of renewables in the GCC remain positive, given that solar photovoltaic (PV) power in the region is comparable to the levelized cost of electricity from oil priced at \$20 per barrel. In a “low-price” environment of around \$30 per barrel in February 2016, this cost advantage still offers plenty of economic opportunity for renewable energy deployment.

In addition, we see that falling oil prices and rising energy needs have inspired the governments in the GCC to adopt strategies that conserve natural resources, improve energy efficiency, and in some cases diversify the energy mix to include more renewables. Recently, an \$82 billion plan was set in motion by the UAE government with the aim of building a sustainable economy for future generations. Renewable energy will receive around \$20 billion under this plan.

Elsewhere in the GCC, Saudi Arabia has already increased diesel prices while countries such as Kuwait and Oman have outlined plans to increase prices in the near future. These reforms are likely to create opportunities for decentralized renewables in diesel replacement applications.

Gulf Affairs: What are the prospects for renewables in the Gulf?

Amin: As costs continue to decline and policy frameworks develop, we expect to see a significant scale up of renewables in the region. Evidence is already pointing towards an upswing in project implementation. The UAE alone is expected to auction more than 1,150 megawatts (MW) of solar PV capacity in 2016, which compares to an existing installed capacity of just 135 MW in 2015. The Emirate of Dubai, in particular, has increased its renewable energy target five-fold and declared an ambition to have “solar panels on every roof by 2030.”

Oman has started the construction of a one gigawatt thermal solar-assisted Enhanced Oil Recovery plant and plans to auction 200 MW in 2016. In Saudi Arabia, the marked increase in diesel prices is creating opportunities for decentralized solar.

The GCC countries are well placed to capitalize on their abundant renewable resources to fuel their economic growth and to reap significant socio-economic benefits, including job creation and reductions in fossil fuel consumption, CO₂ emissions, and water withdrawals in the power sector.

IV. Interviews

Gulf Affairs: What is the potential for solar power usage with regards to water desalination in the Gulf?

Amin: Desalination provides a substantial share of the fresh water needs in the GCC—ranging from 27 percent in Oman to 87 percent in Qatar. This share is likely to increase in the future. The rising demand for water continues to outstrip limited naturally available water resources. Desalination is an expensive and energy-intensive process that accounts for up to 30 percent of the energy consumption in the power sector in Qatar and the UAE. Continued reliance on fossil fuel-based desalination raises concerns about energy security and environmental degradation.

A transition towards more efficient desalination technologies and greater use of renewables for desalination offer viable solutions for sustainable desalination in the country. Recently, PV-based desalination has been gaining prominence because PV technology costs have been declining and reverse osmosis technology is being adopted in the region. The technology can be easily powered by PV as it only requires electricity as an input.

Several prototype renewable energy-based desalination projects have been initiated across the GCC. These projects are an essential step in enhancing the cost competitiveness of renewable desalination technologies and can lead the way for broader commercialization.

Gulf Affairs: How do you think the challenges pertaining to renewable energy integration in the GCC can be best addressed and overcome?

Amin: The countries of the GCC have abundant solar resources and boast some of the highest solar irradiances in the world.

Realizing the full potential of these abundant solar resources will depend on the removal of barriers such as institutional inertia faced with new markets, lack of clarity in institutional roles and responsibilities, and lack of dedicated policies and regulations.

To push past some of these road blocks, IRENA's recent report, *Renewable Energy Market Analysis: The GCC Region*, recommends that:

- Renewable energy targets must be backed by dedicated policies and regulatory frameworks.
- Auctions can continue to play a key role in large-scale deployment.
- Feed-in tariffs and net-metering can foster small-scale projects in roof-top settings.
- In addition to the power sector, policy makers can also focus on other applications such as heating/cooling and renewables-based desalination.

Deployment policies need to be part of a broad range of cross-cutting policy instruments, which focus on building institutional capacity, promoting R&D, strengthening domestic industry, and creating an investment-friendly environment.

Gulf Affairs: What opportunities do you see in renewable energy in the GCC in terms of industrial development and job creation? Can renewables offer the Gulf's young educated population feasible job prospects for the future?

Amin: Renewable energy can contribute to national plans for economic development by creating local industries and generating job opportunities along the value chain. IRENA estimates that achieving GCC renewable energy targets and plans could create an average of 140,000 direct jobs every year. In 2030 alone, close to 210,000 people could be employed in renewables.

In fact, deployment in the GCC and the broader MENA region has already resulted in a flourishing renewable energy industry that includes project developers, EPC¹ contractors, manufacturers, and financiers. While most jobs have initially been created by project developers in the construction and installation segment of the value chain, employment in the manufacturing and O&M² segments will increase as the industry matures, installed capacities increase, and equipment manufacturing facilities are localized.

Going forward, maximizing the job creation potential for national populations demands the establishment of an overall enabling policy framework. This framework will constitute policies that encourage deployment, strengthen firm-level capabilities, enable investment and technology transfer, and promote education and training.

¹ Engineering, Procurement and Construction

² Operations and maintenance