

# Investments in the KSA's renewable energy sector

By Dr Amir Kordvani



The demand for electricity across the Middle East is increasing rapidly and is predicted to have doubled by 2020. As a result a number of GCC countries are investing in alternative energy sources as sustainable ways of coping with increased demand.

In the Kingdom of Saudi Arabia (KSA) demand is set to increase to levels that significantly exceed current installed generation capacity. Furthermore, there is a desire to reduce the reliance on domestically produced oil and gas which could be exported if not used for power generation. It has been recently reported that the country expects to be 100 per cent reliant on renewable energy sources within the next few decades.

In order to achieve this ambitious target, a number of renewable energy projects are already underway in the KSA with more in the pipeline. The current focus is on the nuclear and solar power sectors but there are also plans to utilise wind and geothermal energy. These new renewable power generation facilities will gradually replace the diesel and gas power stations currently prevalent in the KSA.

## Timeline – recent developments in the Saudi renewable energy sector

### 2007:

- Saudi Electricity Company (SEC) opens the market to independent power producers, offering 20-year power purchase agreements for power generation projects.

### 2011:

- Nuclear cooperation accords with France, Argentina and South Korea signed.
- King Abdullah City for Atomic and Renewable Energy (KA-CARE) established through a royal decree, as part of the government's strategy to diversify its energy sources.

### 2012:

- Nuclear cooperation agreement with China to build 16 nuclear reactors by 2032 costing an estimated \$100 billion. These reactors are expected to produce 14 gigawatts of electricity throughout the country.
- The KSA Government announced its desire to create a domestic

solar industry that could generate up to a third of the nation's electricity by 2032. Plans are already under way to manufacture polysilicon, used in solar panels, in the KSA. Joint ventures with international firms to use this polysilicon to construct solar panels are also taking place which, if successful, would create an end-to-end solar industry in the KSA.

- Plans to develop 41 gigawatts of solar capacity over the next 20 years with 25 gigawatts being installed in the form of solar thermal plants, and the remaining 16 gigawatts being supplied by photovoltaic panels.
- Bidders invited build a large renewable energy plant, with a key component dedicated to solar energy, in Mecca.

There are indications that renewable energy projects will be implemented by developers on a build-own-operate (BOO) basis, as in

the conventional power market where Saudi Electricity Company (SEC) awards 20-year contracts. The SEC is the primary producer of electric power in the KSA. The SEC, which is majority-owned by the Saudi government, owns the transmission and distribution infrastructure and most generation capacity in Saudi Arabia. Another key body within the Saudi electricity sector is the Electricity and Co-Generation Regulatory Agency (ECRA), which has long-term plans to deregulate the electricity market, separating

generation, transmission, and distribution networks and introducing private competition.

KA-CARE will set up a Sustainable Energy Procurement Company (SEPC) to oversee the tendering process each of which will run from 6-8 months, with a period of 12-18 months between each round. There are suggestions that, under the renewable energy development program, the ECRA should operate as the regulatory authority for the sector.

The KA-Care program will be followed by a formal announcement of Saudi Arabia's first feed-in tariff program. Many stakeholders have called for establishing a fair and reasonable value for this feed-in tariff. However, some commentators have argued that a feed-in tariff guaranteeing a premium for solar and wind power is unlikely to work in Saudi Arabia's closed economy, where energy costs paid by consumers are subsidised.

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