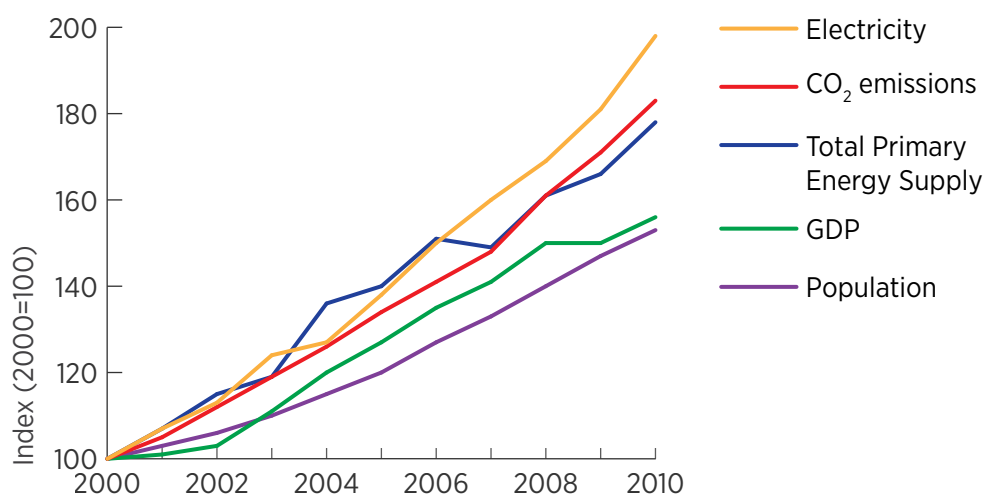


## RENEWABLE ENERGY IN THE GULF: FACTS AND FIGURES

- The Gulf has abundant renewable resources:** Gulf countries are as richly endowed with renewable resources as they are with hydrocarbons. They benefit from strong regular sunshine, and the space to develop large solar power plants. The region also has significant wind resources, geothermal and biomass from urban waste.
- Gulf countries have rising energy demand:** Gulf countries have seen rapid economic growth and have become major energy consumers in their own right. Regional electricity consumption is growing at almost 8% a year — meaning generating capacity has to be doubled every decade. Gulf countries will require 100 GW of additional power over the next 10 years to meet demand. Electricity produced from renewables means less oil and gas has to be consumed domestically, freeing them for export.
- Renewable energy offers Gulf countries a proven, home-grown path to reducing CO<sub>2</sub> emissions:** The six GCC countries are in the top 14 per capita emitters of carbon dioxide in the world; renewables offer a financially viable way to change that. There is also growing pressure to protect the Gulf's fragile environment.
- Renewable energy power generation is becoming more cost effective:** improving technology and growing competition have seen the cost of renewable energy drop dramatically. In some parts of the world, especially when compared to diesel generation, it is already the cheapest option. Furthermore, solar power generation fits very well with demand patterns where air conditioning dominates the electricity demand curve particularly in GCC countries.

**Basic Energy Trends in the GCC Countries**



Source: Based on International Energy Agency data

Countries in the GCC have been undertaking renewable energy projects for more than 30 years. But today a trend for increasingly ambitious projects is being witnessed across the region. These are being supported by renewable energy targets, innovative research and development, and investments across the entire industry value chain. Growing a renewable energy industry in the Gulf will move the world closer to realising the potential of renewable energy as a fuel source.

**Kuwait**

70 MW of renewable capacity planned: solar photovoltaic (10 MW), concentrating solar power (50 MW), wind (10 MW)

**Qatar**

\* 100 MW of solar photovoltaic capacity to be implemented by 2014  
 \* target to be announced

**Bahrain**

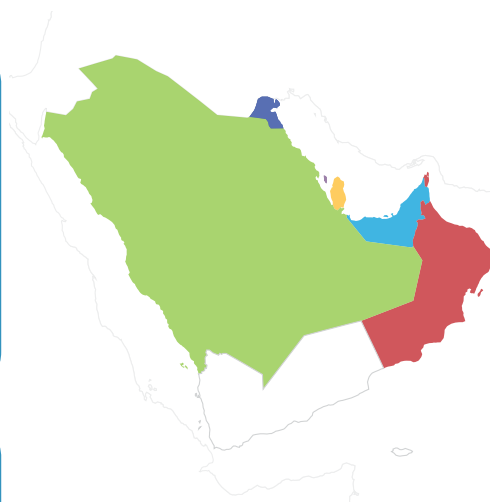
25 MW of waste-to-energy capacity addition announced

**Saudi Arabia**

54 GW of renewable capacity by 2032: solar photovoltaic (16 GW), concentrating solar power (25 GW), wind (9 GW), waste-to-energy (3 GW), geothermal (1 GW)

**Oman**

100-200 MW of solar photovoltaic capacity addition announced


**United Arab Emirates**

\* Dubai: 5% of final energy from renewables by 2030  
 \* Abu Dhabi: 7% of capacity from renewables by 2020  
 \* 100 MW of solar thermal capacity addition by early 2013  
 \* 13 MW of solar photovoltaic capacity addition by the end 2013  
 \* Announced/approved: 28.8 MW of wind; 100 MW of waste-to-energy; and 100 MW of solar photovoltaic

**Getting the policies right:** Despite the potential, some barriers remain that prevent renewable energy from becoming a reality in GCC countries. These include an absence of renewables-friendly regulations and highly subsidised fossil fuels. Changes in the regulatory framework will be necessary. Policies and regulations that promote the development of renewable energy should not solely address large-scale centralised generation. Governments can promote small and medium scale projects such as installing rooftop solar PV panels and solar water heaters in the cities.

IRENA is currently conducting a Renewables Readiness Assessment with the Government of Oman, whose primary objective is to develop a Renewable Energy Roadmap, and which should be available in early 2013. The Renewables Readiness Assessment is a country-led process which guides countries in understanding how they can accelerate the uptake of renewable energy.

A series of country profiles on the Middle East has been released and is available on the IRENA website: [www.irena.org/publications](http://www.irena.org/publications).