

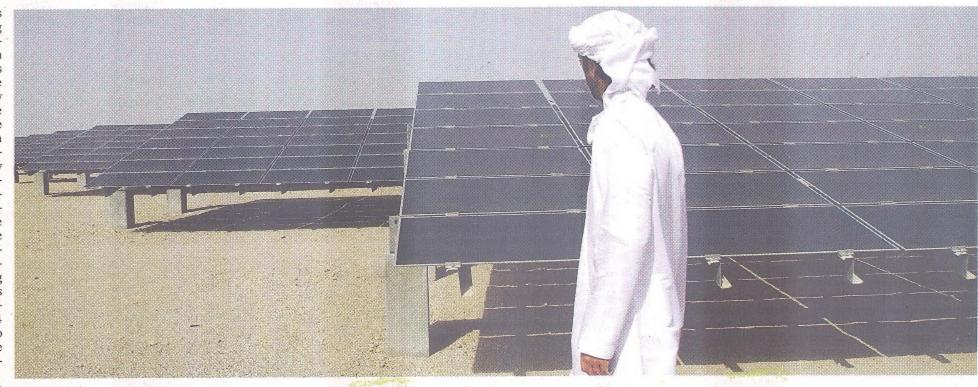
## Changing face of energy secur

With policy support, renewable energy could meet 80% of world's demand by mid-century

HE ENERGY security is witnessing a changing face with renewable energy expected to play an important role to address future energy requirements. Close to 80 per cent of the world's energy supply could be met by renewable by mid-century if backed by the right enabling public policies. With consistent climate and energy policy support, renewable energy sources can contribute substantially to human well-being by sustainably supplying energy and stabilising the climate. It is not the availability of the resource, but the public policies that will either expand or constrain renewable energy development over the coming decades. Developing countries have an important stake in this future - this is where most of the 1.4 billion people without access to electricity live yet also where some of the best conditions exist for re-

newable energy deployment. Some of the major renewable technologies include bio-energy, solar energy, geothermal energy, hydropower and wind power. Bioenergy technologies can generate electricity, heat and fuels from a close to two per cent of worldwide bio-energy systems, including liqgas emissions reductions, concludes the summary for policymakers.

tional cooking and heating in developing countries and currently represents over 10 per cent of globdam projects with reservoirs.



An Emirati passes by a 10 megawatts photovoltaic plant at Masdar City in Abu Dhabi. The \$19 billion Masdar City project is already six years into production and has set a completion date of between 2020 and 2025. It will be the world's first zero-carbon and zero-waste city. - AP

range of 'feedstocks'. Most current energy supply. The GCC countries have enough solar and wind potenuid biofuels, result in greenhouse tial to generate electricity that could meet all their needs without using the oil and gas wealth. If the Bio-energy is mainly for tradi- GCC countries allocate 0.5 per cent of their 2.5 million square kilometres area for the generations of electricity from solar energy and al energy supply direct solar ener- assuming their equipment have a gy, including photovoltaic's and conversion rate of 20 per cent, they concentrating solar power. Cur- can generate enough energy for the rently, direct solar contributes only year. As for wind energy, the avera fraction of one per cent to total age wind velocity in the Gulf is global energy supply. Geothermal around seven metres per second at energy, based on heat extraction 80 metres high. This speed is very from the earth's interior represents suitable to operate windmills ecoless than one per cent of total glob- nomically. As a result, a windmill al energy supply. Hydropower, in- with a 10-metre diameter and 35 cluding run-of-river, in-stream or per cent efficiency rate can produce around 24KW of electricity in the The installed capacity contrib- region. The global warming issue uted 16 per cent of worldwide en- and the expected depletion of the planning a solar power project. The ergy supply, making hydropower conventional energy source such as source in the electricity sector. The countries to search for subsidiary

energy is being produced by hydropower

CO2 in the GCC countries is the highest in the world.

Saudi Aramco and the Japanese refining company Showa Shell are to develop a pilot solar power plant that will have a capacity of 10MW and is due to come on stream in 2011. The plant will have a capacity of 900 megawatts a year. Kuwait is

system. The ambitious \$19 billion Masdar City is already six years into production and has been set a completion date of between 2020 and 2025. It will be the world's first zero-carbon and zero-waste city, de-veloped by Abu Dhabi, the Mubada-British architectural firm Foster and plans to invest up to \$5 billion to construct concentrated solar power plants (CSP) in Spain, the United States and the Middle East. Bahrain was set to build two new 'hybrid' power plants for solar and wind erergy at a cost of around \$8 million which will produce five megawatts of energy. Oman's first large-scale grid-connected solar power project with capacity between 100MW-

200MW. The GCC states would invest man solar-panel maker will own 29 close to \$100 billion for infrastruc- per cent of Qatar Solar Technoloproject will help produce one mega-ture development and explore new gies while the Qatar Foundation The writer is the Group CEO at the largest renewable energy oil and gas is pushing the GCC watt of power, which will be used to ways to ensure uninterrupted surpower lights and other utilities that ply of drinking water to its residens Bonn-based company Total invest- author are his own and do not mont will be \$500 m

doesn't have any natural source of fresh water supply, the member states have to bear huge costs in the desalination of water. The conlevel has doubled since 1980 and at the prevailing rate there is every la Development Company and the reason to believe the consumption would double from the present lev-Partners. Masdar and Spain's Sener els by 2030. The growth in conhigher in countries such as Qatar.

> Qatar - the host nation of the 2022 FIFA World Cup - has proposed to develop and implement artificial cloud technology as a way of creating shade from the intense rays of the sun. This cloud development would be supported by collaboration between Qatar Univer- in future energy requirements and sity and Qatar's Science and Technology Park (QSTP) the Ger- taking into consideration the

> In March 2011 Qatar holdings bought stakes 6.2 per cent interest in the Spanish mega-utility Iberdrola for €2 billion in April 2011 the sumption of electricity at the global US Department of Energy (DOE) and the Qatar Science and Technology Park (QSTP) have signed a MOU for clean energy technologies. Qatar-based Green Gulf will install solar panels in at least four sumption levels could be even schools in the country in an initiative labelled as 'Solar Schools 'Chevron launches Chevron's Centre for Sustainable Energy Efficiency (CSEE) at Qatar Science and Technology Park as a part of research on latest energy efficiency and solar technologies. The renewable energy will play a critical role GCC is working on many initiatives changing face of energy security.