

Investments in renewable energy grow 25%

Estimates show that investments have reached \$200bn in 2010



Renewable energy has notably penetrated energy markets and provides about 19 per cent of international energy needs in 2009, with a capacity of 1230 GW, an increase of 7 per cent over 2008, said Renewable Energy Policy Network in a study.

It also contributed with about 18 per cent of electricity generated in 2009. China, USA and Germany are the most advanced countries in this field.

It is expected that by 2030, renewable energy will represent 22 per cent of total world power supplies according to expectations of International Energy Agency (IEA) in one of its scenarios to measure power supply volume (the scenario related to stabilizing greenhouse gases by 450 parts per million of carbon-dioxide equivalent). Another scenario from IEA expected that renewable energy will have 14.2 per cent of total supplies by 2030 based on current normal growth.

There are three main factors that make countries invest in renewable energy. The first one is to satisfy its needs of energy, which represent the corn stone of sustainable development. Statistics show that demand on energy will

increase over the coming years to keep pace with expected accelerated growth in world economy, especially in countries like China and India, with continuous decrease of world reserve of traditional energy, which is expected to be a more difficult problem over time.

The second factor is calls for the need to deal more effectively with environment problems, work on decreasing greenhouse gases and facing environmental threats like climate change and global warming, which increase every day. Renewable energy can satisfy our needs and decrease greenhouse gases at the same time.

The third factor is continuous increase in oil and gas prices and the expectations that its production costs will increase in the future with the decrease of renewable energy costs. This decrease may be resulting from the advancement of renewable energy production technology, and this decrease is expected to continue over the coming years.

Furthermore, this field provides new investment opportunities whether directly, by investing in this activity, or indirectly, through services and products required by this industry. Additionally, it provides job opportunities, as workers in this field all over the world exceed 3 million in 2009, and this number is expected to double during the coming few years.

Renewable energy is not a magical solution for all problems related to energy. Despite benefits of these alternatives, there are some difficulties in its usage, as it is not always available on demand, because it is seasonal, it requires large initial investments and requires structural changes in world energy infrastructure. However, renewable energy stills a strategic option to ensure future power supply, knowing that there are accelerated developments in this field and that researches and studies made a large decrease in its production costs, whether initial or operational costs.

Investments in renewable energy made a huge rise during the period 2005-2009, where growth rate reached 230 per cent during this period. "Considering global investments in this field in 2009, we find that it reached \$162 billion, despite economic stagnation after the world crisis. Expectations refer to an increase in investment volume in clean energy by 25 per cent in 2010 to reach \$200 billion," according to Abu Dhabi's Economic Studies Department report.

The Group of Twenty (G-20) has about 90 per cent of investments in renewable energy field. On the countries level, China came in the first place in investments with about \$34.6 billion in 2009, while USA came second with \$18.6 billion.

In the UAE, Abu Dhabi is pumping billions of dollars into developing renewable energy and lessening dependence on the oil income.

Oil and Gas revenues, since the beginning of production and exporting, played the leading role in the general development in Abu Dhabi and UAE in general. Oil revenues made a huge change in socio-economic structure of Abu Dhabi over four decades. The emirate became one of the modern societies and has flourishing economy, excellent infrastructure and high living levels.

Abu Dhabi comes in the 7th place in the world regarding proven oil reserves (92.2bn barrels) according to the list of world oil reserves, which represent 7.5 per cent of global reserves and about 95 per cent of UAE's reserves. The current production of Abu Dhabi amounts to over 8 per cent of the total production of the Organization of the Petroleum Exporting Countries (OPEC) with 901 million barrels annually. The Emirate also comes in the 7th place in the world regarding gas reserves with 212 trillion cubic feet.

Despite there are huge reserves enough to continue production with the current rates for more than a century, and the increase in oil and gas prices according to analyses, Abu Dhabi believes in the necessity to work hard to find alternatives for traditional energy to be integrated with available sources to satisfy future needs for the Emirate.

This is highlighted in 2030 Economic Vision for Abu Dhabi. Working on developing strong infrastructure that is capable of supporting economic growth through ensuring power supply to satisfy future needs is one of the seven areas of Abu Dhabi's economic policy.

Abu Dhabi take big steps to develop energy sector, which is a strategic option to ensure sustainability of supplies during different development stages identified in ambitious economic vision for the emirate by 2030. All indicators refer to an increase in local demand on different energy sources in Abu Dhabi and UAE in general, especially in

electric power generation and water desalination as a result to expansion in infrastructure and industrial structures and other sectors. Also, Abu Dhabi seeks to better exploit available energy sources and resources, including Solar and Wind energy in the first place.

Choosing Abu Dhabi to be the headquarters of IRENA is considered an international acknowledgement of Abu Dhabi position and crowning for its efforts in this field. Worth mentioning that UAE has invested about 7 billion dollars in 2008 in clean energy projects and plans to increase its investments to 50 billion dollars by 2015. UAE also plans to increase the contribution of renewable energy sources to 7 per cent to satisfy its energy needs by 2020.

Renewable energy sector in Abu Dhabi is about to takeoff, as Abu Dhabi has performed many projects and initiatives in that sector and drawn a strategy relies on developing clean energy from existing traditional sources, in addition to developing untraditional patterns of renewable energy, where it transferred into using natural gas to generate electrical power with about 100 per cent. It also relies on natural gas to desalinate sea water. All of these efforts are part of Abu Dhabi's endeavors to reduce greenhouse gases and support environmental plans to provide clean energy from traditional sources.

Abu Dhabi also started developing a peaceful nuclear program, under supervision of International Atomic Energy Agency (IAEA), by building four nuclear power plants with a capacity of 1400 MW each. It is planned to start building the first nuclear plant by 2012 and a group of companies from South Korea will perform the project. The first plant is expected to start supplying national network with electricity in 2017, while the other three plants are expected to be completed by 2020.

This is only the start towards transition into using clean energy, as Abu Dhabi seeks to strength renewable energy role as a more sustainable and less contamination alternative. UAE has already started some projects to generate electrical power and desalinate sea water using renewable energy, such as (Om Al Nar) plant in Abu Dhabi that represent a scientific and practical example for one of water desalination technologies using solar energy. It also announced the commencement of generating electrical power from the largest power generator using wind power in the Middle East, on "Seer Bani Yas" island with a capacity of more than 850 KW/H. This power is currently used to supply island's utilities with electricity in addition to power supplied by national network.

Additionally, Abu Dhabi announced launch of Zayed Future Energy Prize with an amount of 2.2 million dollars annually. The prize is presented to honor individuals, companies, institutions and non-governmental entities that make great contributions to develop sustainable innovations and solutions to meet current needs and future requirements of energy all over the world.