



Green Vision

For a Green Future

Issue 1, May 2012

Dear Reader,

This is the first issue of the 'Green Vision', a combined effort by **Green Building Academy** and **EcoMENA**. You are reading this newsletter either because you are a visitor to the Green Building Academy Website www.learning-green.com or to the EcoMENA website www.ecomena.org. We thank you for your support.

The objective of this news letter is to create awareness and spread knowledge on environmental issues in particular to Middle East & North Africa.

We hope it will be very useful to you and we welcome your feedback on the same.

Expecting your continued patronage.

Best Wishes,
Editor
Green Vision Newsletter

In this issue...

- [THE FIRST SOLAR TEST FACILITY IN QATAR](#)2
- [DUBAI TO BUY SOLAR OFF ROOFS](#).....4
- [QATAR'S EMADI FARM PLANS TO BUILD MORE GREEN HOUSES](#).....5
- [BIO-ENERGY IN MIDDLE EAST AND NORTH AFRICA](#).....7
- [NEW GREEN BUILDING CERTIFICATIONS](#)9
- [SOLID WASTE MANAGEMENT IN MIDDLE EAST](#).....10
- [SPREADING GREEN IDEAS TO THE DEVELOPING COUNTRIES](#).....11
- [PAPER BAG BOY](#).....14
- [ABOUT US](#).....16
- [CONTACT US](#).....17



Green Vision

For a Green Future

Issue 1, May 2012

The first solar test facility in Qatar

Qatar's first solar test facility was established by Chevron Qatar and Green Gulf at the Qatar Science & Technology Park (QSTP) and is expected to start testing in three or four months. The five-year project is intended to identify the best-suited solar technologies for Qatar, given the challenges such as: dust, heat, humidity and limited availability of water and land.

A Doha based clean technology advisory and investment firm Green Gulf and Chevron Corporation's affiliate of global energy, Chevron Qatar had signed a memorandum of understanding for the joint study in April 2012.

Chevron Qatar President Carl A Atallah said: "We are testing solar photovoltaic (PV) and solar thermal technologies, in the first and second phases, respectively, and ideally, would like to inaugurate the facility by November this year".



Work in progress at the Chevron Qatar-Green Gulf solar test facility at QSTP (Image courtesy: Gulf Times)

Having said that the installation of PV panels is in progress, Green Gulf's CEO Omran al-Kuwari expressed the hope to complete phase one construction by September and that of phase two by first quarter next year, Omran al-Kuwari explained that these promising technologies will continue to be tested while the ones that are not going to succeed will be replaced with others at the live facility. Ranging from power generation to desalination, different applications will be explored. Solar car parking canopies, in which Chevron has expertise, are to be installed at the test facility, with a vision for commercial application.

Atallah said: "What is important about the test site is that not all solar technologies are created equal. We are going to test the efficiency of those technologies and select the ones that are best for the specific environment".





Green Vision

For a Green Future

Issue 1, May 2012

Green Gulf is also working with some of the solar companies to test technologies which they feel are particularly suited for the climate in Qatar. Al-Kuwari stated: "Now the Mena region has become a big market, a lot of engineering and design has taken this into consideration. So a big chunk of what we are testing is going to be a first time for those technologies".

The tests could include application of certain coatings that make dust bounce off from the solar panels, or certain materials that operate under high heat and humidity. Basically it is like design and material modifications that would make these technologies more suitable for use here.

"But at later stage, we will work with some of the approximately 20 companies involved with us on a case by case basis, and this will be throughout the year," al-Kuwari said.

It is intended to generate close to half a megawatt of power from the test facility, though the main goal is testing different technologies.

"We will utilize that power in the facility itself, for electric cars and other purposes including supply to the nearby buildings like QSTP and so on," the Green Gulf CEO said.

Within PV there are several different types. Solar thermal is in a complete different category, it is the principle of using the sun to generate steam which could in turn power turbines or for other uses.

Solar thermal is steam focused whereas PV is more electricity focused. Steam focused is mostly used for larger scale applications, including desalination and water heating, al-Kuwari observed. Atallah pointed out that solar thermal technology is also used for enhanced oil recovery.

"Instead of generating steam with gas, you can do the same with sun. We are testing that technology in California for steam generation. More than a year's delay in the start of construction for the project was caused by the extra time in planning" al-Kuwari clarified.

"We wanted to make sure that the technologies and methodologies are right, looked at lessons learnt from what Chevron has been doing in California and the experiences from Abu Dhabi (Masdar project). We did not want to rush into it and at the same time wanted to make sure what we are doing is tailor-made for Qatar. We are looking at a lot of applications, including those suitable for 2022 World Cup and food security. The delay was kind of on purpose to make sure we do it right," he added.





Green Vision

For a Green Future

Issue 1, May 2012

Dubai to buy solar off roofs

A study carried out last year found that local businesses and other private owners in Dubai were producing 5MW of electricity for their own use. If these citizens could generate such huge power from the roofs of their houses and office buildings, then, offering some incentives could further motivate them to increase their power generation.



Image Courtesy: greenprophet.com

The reason for such huge solar power generation could also be because of the 'Net Zero Building Codes' that Dubai passed a few years ago, to incentivize architect's to add solar facilities.

At an average rate of 15 per cent, the electricity consumption of Dubai is nearly four times the global growth of 4 per cent and the city already had about 24 GW electricity habit by 2007. Dubai's solar prices are similar to California at about US\$10,000 (Dh36,700) for enough electricity for a typical home. Consultants from Belgium-based Tractebel are now employed by the Dubai Water and Electricity Authority (DEWA) to look into the possibility of some kind of a payment method.

Chief executive of DEWA, Saeed Al Tayer said: "They are looking at technical specifications, code of connection and commercial aspects. It's still too early to say when it will be implemented."

Dubai is bearing in mind preferential rates on bank loans, along with leaning towards the subsidy route in encouraging more generation from distributed energy from lots of individual solar rooftops.

When the U.S offered rebates with 30% discounts nationally, and additional 50% state rebates in the state of Louisiana adding up to 80% cutting upfront payments, it did not see the same success as freed in tariffs.





Green Vision

For a Green Future

Issue 1, May 2012

Also in the U.S. when people saw money by selling Solar Renewable Energy Credits (SRECs), selling solar credits to utilities became the thriving factor that quickly drove New Jersey to parity with California over a very few years.

This just goes to show that people respond psychologically in the thought of being paid for their production of clean powered electricity.

The solar adoption was accelerated in the U.S. also because contracts such as: Solar leases, power purchase contracts, and property tax financing were started in the U.S. in 2009. They made it easier to swap monthly payments for electricity for monthly payments towards a month of solar.

Qatar's Emadi farm plans to build more greenhouses

Supported by the Qatar National Food Security Programme (QNFSP), Ahmed Ibrahim Sadeeq Al Emadi Company's farm is all set to expand its facilities by establishing more greenhouses to boost vegetable production.

"Our objective is to produce vegetables round the year, with special emphasis on the harsh summer months when only greenhouses work and outdoor cultivation is impossible," said administrator Alaaeddin Abdul Aziz. He was speaking on the sidelines of the Third Qatar International Agricultural Exhibition 2012 (3rd AgriteQ 2012).

An exhibit of different varieties of vegetables from Ahmed Ibrahim Sadeeq Al Emadi Company's farm is set up at the QNFSP exhibition area. Established five years ago in the Zubrah area, the farm is spread over 160,000sqm. It supplies vegetables to a number of supermarkets, restaurants and other outlets.





Green Vision

For a Green Future

Issue 1, May 2012



Aziz is seen near a display of vegetables produced at Ahmed Ibrahim Sadeeq Al Emadi Company's farm. A picture of the farm is seen in the background (Image courtesy: Gulf Times)

Most of the organic fertilizers used in the farm were from the animals in the farm itself, and sometimes organic fertilizers were bought. "We use only natural fertilizers," Aziz stated.

Approximately 23% of Qatar's vegetable requirement production are from green houses and open field cultivation at farms. To give it an edge in the market of its vegetables, the QNFSP is looking to support Ahmed Ibrahim Sadeeq Al Emadi Company's farm in the packaging of its vegetable produce.

The Qatar National Food Security Programme (QNFSP) is a part of the Office of The Heir Apparent of the State of Qatar, HH Sheikh Tamim Bin Hamad Al-Thani. The QNFSP Master Plan will devise a holistic solution to Food Security by expanding the four following sectors of economic activity in Qatar:

- Renewable Energy
- Desalination & Water Management
- Agricultural Production
- Food Processing

Established by HH the Heir Apparent Sheikh Tamim bin Hamad al-Thani, QNFSP consists of an inter-governmental task force to develop the food security master plan by the end of 2012.

The objective is to develop a comprehensive and sustainable long term solution to the challenges that the country faces with regards to its food security. It is intended to increase domestic agricultural production and in parallel to strengthen the security of food imports to alleviate the supply deficit that Qatar faces. The programme will





Green Vision

For a Green Future

Issue 1, May 2012

implement the usage of solar energy to desalinate seawater and in turn use it for agricultural production.

It is estimated that given the demographic growth of Qatar, current levels of domestic agricultural output satisfy no more than 10% of total national food consumption needs.

The Qatar National Food Security Programme (QNFSP) has indicated that there is scope to increase self sufficiency as well as stimulate a vegetable processing industry. QNFSP estimates that vegetables are currently grown by 56% of farmers and takes up 11% of cultivated farm land in Qatar. The average yield is approximately 16 tonnes per hectare for open field crops and 96 tonnes per hectare for greenhouse production. Qatar has 1,216 registered farms with 23,903 hectares of arable land, of which only 12,274 hectares or roughly 51% is actually under cultivation. The average size of productive farms in Qatar is 27 hectares and on average only about eight hectares are used for crop production, with roughly equal areas devoted to fruit trees, vegetables and fodder crops.

Bioenergy in Middle East and North Africa

There is a large potential for renewable resources in the Middle East which have remained more or less unharnessed. According to a recent study, the Middle East and North Africa (MENA) region offers almost 45 percent of the world's total energy potential from all renewable sources that can generate more than three times the world's total power demand.



Image courtesy: www.cleantechloops.com

Apart from solar and wind, the Middle East also has abundant biomass energy resources which have remained unexplored to a great extent. According to conservative estimates, the potential of biomass energy in the Euro Mediterranean region is about 400TWh per year.

The major biomass producing MENA countries are Sudan, Egypt, Algeria, Yemen, Iraq, Syria and Jordan. Traditionally, biomass energy has been widely used in rural areas for domestic purposes in the MENA region. Since most of the region is arid/semi-arid, the biomass energy





Green Vision

For a Green Future

Issue 1, May 2012

potential is mainly contributed by municipal solid wastes, agricultural residues and agro-industrial wastes.

Municipal solid waste (MSW) is one of the most attractive sources of biomass in MENA countries. The high rate of population growth, urbanization and economic expansion in MENA region is not only accelerating consumption rates but also accelerating the generation of municipal waste. Bahrain, Saudi Arabia, UAE, Qatar and Kuwait rank in the top-ten worldwide in terms of per capita solid waste generation. The gross urban waste generation quantity from Middle East countries is estimated at more than 150 million tons annually.

The food processing industry in Middle East produces a large number of organic residues and by-products that can be used as biomass energy sources. In recent decades, the fast-growing food and beverage processing industry has remarkably increased in importance in major countries of the Middle East. Since the early 1990s, the increased agricultural output stimulated an increase in fruit and vegetable canning as well as juice, beverage, and oil processing in countries like Egypt, Syria, Lebanon and Saudi Arabia. There are many technologically-advanced dairy products, bakery and oil processing plants in the region.

Agriculture plays an important role in the economies of most of the countries in the Middle East. The contribution of the agricultural sector to the overall economy varies significantly among countries in the region, ranging, for example, from about 3.2 percent in Saudi Arabia to 13.4 percent in Egypt. Large quantities of crop residues are produced annually in the region, and are vastly underutilised. Current farming practice is usually to plough these residues back into the soil, or they are burnt, left to decompose, or grazed by cattle. These residues could be processed into liquid fuels or thermochemical processed to produce electricity and heat in rural areas. Energy crops, such as *Jatropha*, can be successfully grown in arid regions for biodiesel production. Infact, *Jatropha* is already grown at limited scale in some Middle East countries and tremendous potential exists for its commercial exploitation.

The Middle Eastern countries have strong animal population. The livestock sector, in particular sheep, goats and camels, plays an important role in the national economy of the Middle East countries. Many millions of live ruminants are imported into the Middle Eastern countries each year from around the world. In addition, the region has witnessed very rapid growth in the poultry sector. The biogas potential of animal manure can be harnessed both at small- and community-scale.





Green Vision

For a Green Future

Issue 1, May 2012

New green building certifications

As projects become more and more complex and authorities are getting stricter with eco-friendly structures, the Gulf Organization for Research and Development (GORTD) Institute promised to offer discipline-specific Qatar Sustainability Assessment System (QSAS) certifications to meet new requirements that the government and the private contracts may soon impose.

“The meeting was part of the Institute’s QSAS-Continuing Professional Development (QSAS – CPD) Program that aims to offer membership and certifications designed to meet the ongoing education requirements of professionals in the construction industry” said Gulf Organization for Research and Development’s founding Chairman Yousef Mohamed al-Horr while addressing an assembly of engineers, architects and other professionals at a seminar.

Al-Horr explained that QSAS Certification schemes had been offered by GORD to professionals, aimed to help them obtain theoretical knowledge as well as practical skills and experience on QSAS implementation in collaboration with government entities that are responsible for regulating and granting formal certifications needed to work in the green building and sustainability industry.



Yousef Mohamed al-Horr speaking at the seminar (Image courtesy: Gulf Times)

A first of a series of professional development seminars, the “Building Lighting Systems - designs, best practices & QSAS compliance”, was organized by GORD in collaboration with lighting consultancy Hoare Lea, as part of a QSAS Certified Green Professional (CGP) programme.

“The Gulf Organization for Research and Development Institute has launched the QSAS-CPD Programme to validate practitioners’ knowledge and skills and to enhance their experience and





Green Vision

For a Green Future

Issue 1, May 2012

competitiveness through seminars that are developed and delivered in association with globally-recognized consultants, researchers and professors", Al-Horr said.

"Such seminars also allow them to earn one Continuing Education Unit (CEU), which is the membership grades' mandatory credentialing requirement and progression requisites to higher QSAS qualification levels. To earn credits, the individual must have attended GORD/QSAS-sponsored seminars and other recognized CPD activities."

Gulf Organization for Research and Development's founding Chairman Yousef Mohamed al-Horr pointed out that the QSAS-CPD programme offered five levels of QSAS Qualifications based on Continuing Education Units (CEUs). For the candidates who have developed their knowledge and skills related to QSAS project management through participating in one of the three-day QSAS workshops and successfully passing the exam will be offered Associate Certified Green Professional (ACGP) and Certified Green Professional (CGP) certifications.

Solid Waste Management in Middle East

The high rate of population growth, urbanization and economic expansion in the Middle East is not only accelerating consumption rates but also increasing the generation rate of all sorts of waste. Bahrain, Saudi Arabia, UAE, Qatar and Kuwait rank in the top-ten worldwide in terms of per capita solid waste generation. The gross urban waste generation quantity from Middle East countries is estimated at more than 150 million tons annually.



Image courtesy: www.cleantechloops.com

Saudi Arabia produced 13 million tons of garbage in 2009. With an approximate population of about 28 million, the kingdom produces approximately 1.3 kilograms of waste per person every day. According to a recent study conducted by Abu Dhabi Center for Waste Management, the amount of waste in UAE totaled 4.892 million tons, with a daily average of 6935 tons in the city





Green Vision

For a Green Future

Issue 1, May 2012

of Abu Dhabi, 4118 tons in Al Ain and 2349 tons in the western region. Countries like Kuwait, Bahrain and Qatar have astonishingly high per capita waste generation rate, primarily because of high standard of living and lack of awareness about sustainable waste management practices.

In Middle East countries, huge quantity of sewage sludge is produced on daily basis which presents a serious problem due to its high treatment costs and risk to environment and human health. On an average, the rate of wastewater generation is 80-200 litres per person each day and sewage output is rising by 25 percent every year. According to estimates from the Drainage and Irrigation Department of Dubai Municipality, sewage generation in the Dubai increased from 50,000 m³ per day in 1981 to 400,000 m³ per day in 2006.

Municipal solid wastes represent the best source of biomass in Middle East countries. Municipal solid waste is comprised of organic fraction, paper, glass, plastics, metals, wood etc. Municipal solid waste can be converted into energy by conventional technologies (such as incineration, mass-burn and landfill gas capture) or by modern conversion systems (such as anaerobic digestion, gasification and pyrolysis). At the landfill sites, the gas produced by the natural decomposition of MSW is collected from the stored material and scrubbed and cleaned before feeding into internal combustion engines or gas turbines to generate heat and power. In addition, the organic fraction of MSW can be anaerobically stabilized in a high-rate digester to obtain biogas for electricity or steam generation.

Anaerobic digestion is the most preferred option to extract energy from sewage, which leads to production of biogas and organic fertilizer. The sewage sludge that remains can be incinerated or gasified / pyrolyzed to produce more energy. In addition, sewage-to-energy processes also facilitate water recycling. Municipal solid waste can also be efficiently converted into energy and fuels by advanced thermal technologies, such as gasification and pyrolysis. Infact, energy recovery from MSW is rapidly gaining worldwide recognition as the 4th R in sustainable waste management system – Reuse, Reduce, Recycle and Recover.

Spreading green ideas to the developing countries

Global Green Growth Institute (GGGI), is incorporated by Korea to serve as the medium to carry out the message to developing countries. Working with Less advanced economies is the intent of South Korea's Ambitious programme "to spread its knowledge of how to move its entire economy to a sustainable basis" given that more developed nations should be able to





Green Vision

For a Green Future

Issue 1, May 2012

move to sustainable growth on their own, and it is working with the UAE to make all this into a reality.

The Chairman of the GGGI and a former prime minister of the Republic of Korea, Dr. Han Seung-soo stated "We want to share our policy experience with developing countries,"

Dr. Han Seung-soo added: "Developed countries have the domestic capacity to emulate what we are doing, which developing countries do not. We are working with developing countries so that they can bypass the quantity-oriented growth paradigm. Even if they cannot go straight to green growth, at least they can supplement the existing paradigm, which creates the huge problem of climate change by producing large amounts of emissions.

In the new paradigm, we are trying to minimize emissions so that we can help the problem of climate change on which the future of humanity depends. We hope that over one to two hundred years, green growth will become a standard for all."



Dr Han Seung-soo (Image courtesy: Gulf News)

GGGI supports emerging and developing countries that seek to develop rigorous green growth economic development strategies. It does so by placing the best available analytical tools at their disposal, building their institutional capacity to apply these tools for their own purposes, and engaging them in an international process of mutual learning with other countries on a similar journey. It also supports the implementation of green growth





Green Vision

For a Green Future

Issue 1, May 2012

plans by advising on their institutionalization in governmental structures and policy as well as by engaging private investors and public donors in their successful execution.

Dr. Han said: "Such a paradigm shift has to be done by the government. The private sector can initiate actions, but government has to change the law".

He also pointed to the example of Cambodia where they did not have any infrastructure on green growth, and had adopted all Korean legislation and administration.

GGGI has a rolling five-year green growth policy plan, which includes several smaller programmes, like a framework law on low carbon green growth which the Korean government passed last year. And Korea is still working on its plans which GGGI rolls out to other countries as required.

One of GGGI's financial supporters is UAE and Dr. Han Seung-soo has a high regard for the effort that UAE is doing in encouraging sustainable and renewable energies in the economies of the future, and Abu Dhabi is a best example, through the establishment of Masdar City Abu Dhabi is trying to promote low-carbon green growth, and is making a lot of progress. Also the International Renewable Energy Agency (IRENA) has its headquarters in Abu Dhabi.

"GGGI has an office in Masdar City, and we are happy to work closely with the UAE. The office is only one year old, so we cannot expect too much but we want to work with the UAE, and use our office to promote green growth projects in the region. But in time, we look forward to a lot of cooperation on green growth between the two countries, in areas like new and renewable energy sources, solar energy, and new green technologies," Han said.

Most governments are distracted by the global financial crisis and had gone unfocused on the issue of climate change.

Although most governments had wrestled on the thought of debt crisis and climate change, Dr. Han stated: "Climate change is a long-term issue, and debt crisis is a short-term issue. Eventually, after the debt crisis is solved, they will all return to the issue of climate change". And GGGI is trying to offer long-term answers to the problem of climate change.





Green Vision

For a Green Future

Issue 1, May 2012

Korea had acknowledged the fact that even it had grown very fast for up to 40 – 50 years, it's still not sustainable. Dr.Han said "It is unsustainable for us and for the whole world. we would like to see many other developing countries which are producing large amounts of emissions to follow the path to sustainability, so altogether we would deal with the problem with climate change crisis facing the humanity."

The GGGI which serves as the medium to carry out the message to developing countries is already working with seven countries so far.

These countries are:

- United Arab Emirates
- Ethiopia
- Kazakhstan
- Brazil
- Cambodia
- Indonesia
- Thailand

Paper Bag Boy

Abdul Muqet, also known as the Paper Bag Boy, has risen from being just another ordinary student to an extra-ordinary environmentalist. At just ten years old, Abdul Muqet has demonstrated his commitment to saving the environment in United Arab Emirates and elsewhere.



Image courtesy: www.cleantechloops.com





Green Vision

For a Green Future

Issue 1, May 2012



Image courtesy: www.cleantechloops.com

Inspired by the 2010 campaign "UAE Free of Plastic Bags", Abdul Muqet, a student of Standard V at Abu Dhabi Indian School, applied his own initiative and imagination to create 100% recycled carry bags using discarded newspapers. He then set out to distribute these bags in Abu Dhabi, replacing plastic bags that take hundreds of years to degrade biologically.

The bags were lovingly named 'Mukku bags' and Abdul Muqet became famous as the Paper Bag Boy.

Abdul Muqet's environmental initiative has catalyzed a much larger community campaign. During the first year, Abdul Muqet created and donated more than 4,000 paper bags in Abu Dhabi. In addition, he has led workshops at schools, private companies and government entities, demonstrating how to create paper bags using old newspapers. His school along with a number of companies in Abu Dhabi adopted his idea by exchanging their plastic bags for paper bags.

Abdul Muqet was one of the youngest recipients of Abu Dhabi Awards 2011, for his remarkable contribution to conserve environment. The awards were presented by General Sheikh Mohammad Bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Deputy Commander of the UAE Armed Forces. In 2011, Abdul Muqet was selected to attend the United Nation's Tunza conference in Indonesia where he demonstrated his commitment for a cleaner environment through his paper bag initiative.

He has been remarkably supported by his parents and siblings throughout his truly inspiring environmental sojourn. Abdul Muqet's monumental achievements at such a tender age make him a torch-bearer of the global environmental movement, and should also inspire the young generation to protect the environment by implementing the concept of 'Zero Waste'.





Green Vision

For a Green Future

Issue 1, May 2012

About us:

Green Building Academy:

Green Building Academy is an online portal that acts as a gate way to LEED Credentials. The objective of this institution is to create awareness on Green Buildings and Green Building rating systems especially LEED. Green Building Academy strives to help construction professionals in the Middle East by providing them with basic information, free resources and comprehensive training on Green Buildings and LEED.

Please visit www.learning-green.com for more information.

EcoMENA:

EcoMENA is a cleantech resource portal with a mission to disseminate information on renewable energy systems, waste management practices and energy efficiency measures in the Middle East and North Africa (MENA) region. It is an online information powerhouse freely accessible to anyone having an interest in renewable energy and waste management.

Please visit www.ecomena.org for more information.





Green Vision

For a Green Future

Issue 1, May 2012

What do you think?

Please share with us any thoughts or comments that you may have about this edition of the Green Vision newsletter. Hopefully, you enjoyed it and found it informative and easy to read.

What did you like most about it?

What features would you like to see included in future issues?

Please send your comments.

Share your ideas, pictures and events with us. We will feature them in our upcoming issues.

The editor of this newsletter can be contacted at editor@learning-green.com

Visit our websites at Green Building Academy or EcoMENA

Also visit us at . Click the below links:



EcoMENA

