



Green Vision

For a Green Future

Issue 4, August 2012

Dear Reader,

This is the fourth 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

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Lighting the Future

Mark Ceaser, EcoMENA

An analysis of the lighting industry shows a trend shifting from the usage of incandescent bulbs to fluorescent bulbs. Incandescent bulbs use more fossil fuel energy, are more costly and are less effective than fluorescent bulbs in the amount of artificial light they produce as fluorescents produce more lumens than incandescent bulbs. Usage of fluorescent bulbs, however, is not entirely without risk because they contain mercury, a chemical compound that can have debilitating effects on humans upon prolonged exposure.



Photo Credit: www.cleantechloops.com

All fluorescent bulbs contain mercury. In fact, the standard fluorescent bulb has about 20 milligrams of mercury. It is clear that these lamps must be managed properly to protect human health and the environment. The risk of leaving mercury deposits in landfill is high; therefore, recycling seems the most conscientious and environmentally safe recourse. A national fluorescent bulb recycling law not only helps the environment but promotes new business growth and job opportunities, as well.

Because of its unique properties, the most effective way to dispose of mercury-bearing wastes is through recycling. Continued illegal disposal of mercury wastes continues, resulting in unnecessary exposure to people and the planet; however, a grass roots movement to protect the environment has created momentum to generate a national law prohibiting the disposal of fluorescent bulbs in landfills.



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In United States, fluorescent bulbs and other types of energy-efficient lighting as well as nickel-cadmium batteries, pesticides and thermostats are regulated under the Universal Waste Rule (UWR). The UWR allows businesses, government agencies and other generators an opportunity to recycle bulbs and other types of universal waste at the end of life rather than manifesting and disposing of them as a hazardous waste. This can result in significant savings for the business or property owner. Recycling also helps protect our environment from potentially toxic materials

The proper disposal of mercury-contained fluorescent lamps is essential to prevent release of toxic materials into the environment. The manufacturers of fluorescent tubes are responsible for the proper labeling of mercury-containing lamps to alert customers to their hazards. With the labeling of the symbol "Hg" on each lamp, individuals should recognize these products contain mercury.

Private industry has to partner with government to develop a plan to eliminate fluorescent bulbs in landfills. To further encourage recycling, the cost of recycling should be initially absorbed by the manufacturers, who in turn, may pass the costs to the consumers. The consumer can then return the spent bulbs to their purchase point of origin. This has worked in other recycling sectors, and it can also work with mercury-containing devices such as fluorescent lamps.

Asbestos Waste Management in the Middle East

Jane Wardell, EcoMENA

In many countries around the world companies, institutions and organizations have a legal responsibility to manage their waste. They are banned from using substances that are deemed hazardous to the general public. This includes a blanket ban on the use of asbestos. Where discovered it must be removed and dealt with by trained individuals wearing protective clothing. In the Middle East and North Africa, it is vitally important for there to be the development of anti-asbestos policies at government and business levels to further protect the citizens of those countries.

Asbestos in MENA

Each year countries from the Middle East and North Africa import asbestos for use in building materials. In 2003, the Middle East and Africa accounted for 20% of world demand for the material. Iran and the United Arab Emirates were by far the largest investors in the material.



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A lot may have changed since then, but the fact remains that the asbestos is still being used extensively in the construction industry. The entire Middle East has been steadily increasing their asbestos imports, except for Egypt and Saudi Arabia, which are the only two countries that have placed bans on asbestos but with questionable effectiveness.

Iran alone has been reported to order 30,000 tons of asbestos each year. Not a single Middle East country has ratified International Labour Organization Law Number 162, which was instituted at the 1986 Asbestos Convention. The ILO No. 162 outlines health and safety procedures related to asbestos, including regulations for employers put forth in an effort to protect the safety of all workers.

Fallout from Wars and Revolutions

Asbestos is at its most dangerous when exposed to people who are not protected with masks and other clothing. In times past, such considerations were not thought about. At the moment, most people think of asbestos exposure as part of the construction industry. This means demolition, refurbishment and construction are the prime times that people can be exposed to the fibres.



Photo Credit: www.ecomena.org

In the Middle East and North Africa, however, turbulent times have increased the danger of exposure for people across the region. Since 2003, there has been the Iraq War, revolutions in Egypt, Libya and Tunisia, plus the uprising in Syria. Not to mention a raft of conflicts in Lebanon, Palestine and Israel. The upshot of this is that a building hit by an explosive, which contains





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asbestos, is likely to put the material in the local atmosphere, further endangering the lives of nearby.

Asbestos Waste Management

Asbestos waste management in the MENA region needs to take in several distinct action phases. Education and legislation are the first two important steps followed by actual waste management of asbestos. Largely speaking, the MENA region has little or no framework systems in place to deal with this kind of problem.

Many may argue that there is still a philosophical hurdle to overcome. This is why education must go in tandem with legislation. As of 2006, only Egypt and Saudi Arabia had signed up to a ban on asbestos. Even then, there is evidence of its continued use. Whether as part of official pronouncements or in the papers, on the TVs or in schools, it is vitally important that bans are backed up with information so the general public understand why asbestos should not only be banned, but removed. It is important that other countries consider banning the material and promoting awareness of it too.

Governments have the resources to open up pathways for local or international companies to begin an asbestos removal programme. In many places education will be required to help companies become prepared for these acts. Industrial asbestos removal begins with a management survey to identify what asbestos materials are in a building and where. This is followed up by a refurbishment and pre-demolition survey to best see how to remove the asbestos and replace it with better materials. These come in tandem with risk assessments and fully detailed plans.

Asbestos management cannot be completed without such a survey. This may prove to be the most difficult part of implementing widespread asbestos waste management in the Middle East and North Africa. Doing so will be expensive and time consuming, but the alternative is unthinkable - to rip out the asbestos without taking human safety into account. First, therefore, the infrastructure and training needs to be put into place to begin the long work of removing asbestos from the MENA region.

Water Problems in Middle East and North Africa

Salman Zafar, EcoMENA

The Middle East and North Africa (MENA) region is the most water scarce region of the world. The region is home to 6.3 percent of world's population but has access to measly 1.4 percent of the world's renewable fresh water. The average water availability per person in other





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geographical regions is about 7,000 m³/year, whereas water availability is merely 1,200 m³/person/year in the MENA region.

The region has the highest per capita rates of freshwater extraction in the world (804 m³/year) and currently exploits over 75 percent of its renewable water resources. Due to burgeoning population and rapid economic growth, the per capita water availability is expected to reduce to alarming proportions in the coming decades. By the year 2050, two-thirds of MENA countries could have less than 200 m³ of renewable water resources per capita per year.



Photo Credit: www.ecomena.org

Around 85 percent of the water in the MENA region is used for irrigation. This level of irrigation is not inherently sustainable and leads to overuse of scarce renewable water resources, which in turn results in increased salinisation. MENA's average water use efficiency in irrigation is only 50 to 60 percent, compared to best-practice examples of above 80 percent efficiency under similar climate conditions in Australia and southwest US. Similarly, physical water losses in municipal and industrial supplies in the region are way above world averages. Nonrevenue water is 30 to 50 percent in some cities, compared to global best practice of approximately 10 percent.

Many countries in the MENA region are dependent on water resources that lie beyond their borders. For example, Syria, Jordan and Palestine rely on trans-boundary water resources. Palestine is almost entirely dependent on water essentially controlled by Israel. The trans-boundary nature of the water resources in the Middle East makes cooperative management of these resources critical as they have the potential to induce economic and social development and reduce the risks of conflict.





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Despite significant investment in the water sector, water management still remains a serious economic and environmental problem in MENA countries, as shown by frequent droughts and floods. Public health, agricultural productivity and environment is suffering due to overpumping of aquifers and deterioration of water quality as well as water quality. Improved irrigation efficiency in agricultural water use would significantly increase water availability for other sectors.

Managing demand, particularly of agricultural water use, will be the key to reduce the high costs of filling the water gap. Similarly, improvements in water management in domestic and industrial sectors could reduce system losses to globally acceptable levels. Failure to save water and to reduce uneconomic use will have severe socioeconomic repercussions because the only alternative will be desalination.

The administrative structures of both drinking water and irrigation systems are characterized by weak governance and incoherent water laws. Some countries including Egypt, Jordan and Palestine have approved national water resources plans. Other countries have developed frameworks which contain elements of policy, in the form of strategy or master plans. In general, MENA countries are beginning to recognize the importance of an integrated approach to water management. The demand for water will continue to rise across the region, due to population increase and economic growth.



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Green in the News Green Building Academy

Dubai's Environmental Conditions

A report by the Dubai Municipality, on environmental conditions in Dubai, states that there are no major cases of pollution last year and that the general quality of air is good.

The report studied the air, water and soil of Dubai and analysed waste management, sewage, coastal zones, waterways, biodiversity, marine environment and climate of the region. Hamdan Al Shaer, the head of Environment Department says that this report will be used to support policy makers in framing plans to pursue sustainable policies.

However the report identified 'high quantity of waste generation' as one of the areas requiring attention. Dubai on an average generated 7000 tonnes of waste everyday and so the contribution per person is about 2.7 kilograms.



Photo Credit: www.topnews.ae

One of the key agendas of the municipality in the coming 20 years, is to take measures to tackle the 'waste generation' issue by recycling 100 percent waste and to send zero waste to landfills.



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Sustainable Public Lighting in Abu Dhabi

The Municipality of Abu Dhabi has installed more than 6000 public lighting units. The lights conform to the standards specified in the Abu Dhabi Emirate's sustainable public lighting strategy.

The strategy will reduce the total lighting costs by as much as 40 percent over the next 20 years. The light will reduce power usage by 60 percent and cut carbon-di-oxide emissions by 75 percent compared to the previously used lighting system.



Photo Credit: www.yoursolarlink.com

To add to the environmental benefits of the new strategy, a plan to gradually dim street lights by upto 50 percent is also expected. The municipality also recently conducted a workshop to discuss the strategy's implementation in the emirate.

Growing trees with less water in Qatar

The Netherlands Embassy, Doha Municipality, Dutch Company Aqua Pro Holland and Lusail City were involved in a pilot project to grow trees using 90 % less water which was launched in West Bay and Lusail in Qatar.

The 'Groasis Waterboxx' is a device designed to help grow trees in dry areas. Using the 'Groasis Waterboxx' technology, a total of 160 saplings have been planted. The initial results are expected





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in October this year when the saplings would have survived with watering only once or twice in between.

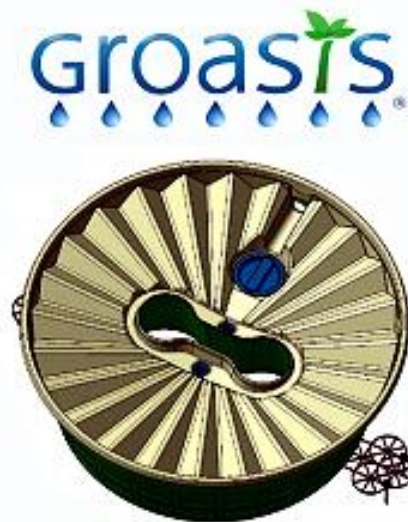


Photo Credit: www.greenfudge.org

Aqua Pro Holland, a private company founded by inventor Pieter Hoff introduced the Groasis technology. The Groasis technology is a copy of how mother nature solves the problem of planting in deserts, eroded areas and on rocks. The interesting fact about this technology is that it is a planting technology and not a way of irrigation.

'Peak Load Campaign' by Dewa

In Dubai, using any electrical appliance or device between noon to 5 pm the peak load hours) during the summer months will mean that Dubai Electricity and Water Authority (Dewa) will have to increase its power generation capacity during these hours. This means that more fuel is consumed and more greenhouse gases are emitted in the air.

Hence the 'Peak Load Campaign' has been launched by Dewa to urge residential and commercial consumers to reduce their high levels of electricity and water consumption during the summer months. The campaign also targets commercial and industrial customers to shift their less-critical energy operations from peak times to off-peak hours.



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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 deantech 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.



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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

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