

## **UNDP in the Energy Saving Spotlight**

**The COP15 Climate Summit last month may have left most of us in the dark on international climate change commitments, but pressure is still on for Lebanon to reduce its energy consumption.**

It may seem that such issues may not directly affect Lebanon, but Lebanon has more of a reason to be concerned. For such a small country with a relatively low population, its energy consumption per capita is severely disproportionate and as such its carbon emissions are very high. Besides the hefty toll this is having on our environment, it is in the Lebanese Government's best interest to save as much energy as it possibly can since the electricity sector, the third largest recipient of state expenditure, is accumulating huge debt and causing massive revenue loss for industry and commerce in turn limiting the capacity for economic growth (not to mention the amount spent by the general public on back-up generators). In addition to this, the impacts of the July conflict with Israel in 2006 left the already troubled energy sector with even more problems. Dealing with such a situation is neither easy nor cheap, and requires a substantial amount of international assistance.

The United Nations Development Programme (UNDP) in Lebanon has over 25 projects within its Energy and Environment Programme, one of which is the "Lebanon-Cross Sectoral Energy Efficiency and Removal of Barriers to ESCO Operations". Initiated in 2002 and picking up more pace from 2005, it saw the establishment of the Lebanese Centre for Energy Conservation (LCEC), a joint project between UNDP and the Ministry of Energy and Water (MoEW) predominantly funded by the Global Environment Fund, as a recognised national energy centre with the primary objectives of reducing end-use energy demand by promoting the efficient use of energy and renewable energy sources.

The early success of the awareness campaigns launched by the LCEC was an important step in transporting the message of the environmental benefits as well as the more tangible monetary benefits of saving energy to the general public and private organisations. This was down to the effective use of the media and various other activities such as distributing brochures, working with schools, and collaborating with Liban Post to place stickers on mail which provided tips on simple ways to conserve energy. The solar water heater (SWH) marketing campaign also opened many doors for new and existing solar suppliers of which there are now over 35 suppliers across the country.



As the UNDP Programme Manager, Mr Edgard Chehab, quite rightly pointed out at the UNDP Energy Programme Review in December last year, the fact that where there is a window of a market opportunity, the Lebanese people tend not to waste much time in exploiting it. “And where better to do so than in the market for energy efficiency” he added. The LCEC has invested in kick-starting and developing the energy audit market in Lebanon by recruiting and training energy service companies to conduct energy audits for public and private organisations. To date over 120 audits around the country have been completed including Beirut International Airport, Casino du Liban, and the supermarket Spinneys. The purpose being of the audit is to examine the energy infrastructure and consumption of a building or organisation to indicate the areas where utilisation can be minimised. Measures can be taken such as upgrading to more efficient cooling systems, lighting retrofits, or even installing double glazed windows which can ultimately save the company money and reduce consequential carbon emissions. Moreover, with the collaboration of the Ministry of Finance and the Central Bank of Lebanon, the LCEC has now also set up a new scheme that will “provide the momentum to sustain and expand the energy audit market”, according to the LCEC Project Manager, Mr Pierre EL Khoury, by offering financial incentives, such as 0% interest loans to carry out such studies.

By 2012 we could also see a complete ban on imports of inefficient incandescent lamps, following an action plan put forward by the LCEC for their gradual phase-out. They're also working with the official standards agency Libnor and the Ministry of Industry to make compact fluorescent lamps mandatory. The potential results are remarkable: during the first year of the action plan an estimated 236 million kWh of energy could be saved, reaching a cost saving of around 26 million USD, and avoid 196,735 tons of CO<sub>2</sub> emissions.

In addition to the LCEC project, another UNDP managed project titled the "Country Energy Efficiency Demonstration Project for the Recovery of Lebanon" (CEDRO) operating in close coordination with LCEC, has worked on assisting the national energy sector reform in three main regions (the Bekaa, Akkar, and the South) following the war with Israel in 2006. The project is funded by the Government of Spain through the Lebanese Recovery Fund and also focuses on promoting end-use energy efficiency and renewable energy applications. The first phase of the project has seen the installation of SWH facilities on four governmental hospitals and 25 Photovoltaic (PV) sites in governmental schools and municipalities, as well as identifying 11 efficient lighting demonstration project sites and promoting general awareness in schools. The second and third phases of the project, currently underway, will see the implementation of PV street lighting demonstration projects, identifying further SWH and PV project sites, as well as studies exploring potential sites to exploit the power of the wind amongst other activities.

CEDRO is also in-line with one of the objectives of the "Sustainable Energy Strategy for Lebanon" project, aiming to install such sustainable technologies into governmental buildings such as schools and hospitals in order to set a demonstrative example for private sector organisations. Working with the Ministry of Finance, this project also seeks to devise financial mechanisms and legislative reforms which would provide the private sector with incentives or decentives that would encourage them to implement sustainable energy measures into their businesses.

The UNDP Energy Programme Review in December concluded the project founding the LCEC, but the centre is indeed here to stay, and a draft law that would officially recognise the LCEC as the national energy efficiency centre within the MoEW is yet to be accepted by parliament. Having set the scene for a path of continual expansion in this field, a number of new UNDP projects have sprouted under the LCEC umbrella.

The “Global Solar Water Heating Market Transformation and Strengthening Initiative” will build upon the work that the LCEC has done up until now on developing the SWH market in Lebanon with the help of donations from China and Sweden. Over the next five years the initiative is aiming to facilitate the installation of 190,000m<sup>2</sup> of new installed SWH capacities, and are hoping sales will continue growing to reach the target of 1,050,000 m<sup>2</sup> by 2020, with an estimated saving of 1,000,000 MWh in fossil fuel capacity and an estimated three million ton reduction in CO<sub>2</sub> emission. Achieving such targets requires a well designed strategic approach in: policy and financial development, such as energy performance requirements in building regulations and various forms of financial incentives; awareness and marketing for suppliers; product certification and standards development as well as guidance for customers; and a system of continued monitoring of performance and promotion of the SWH market, the information from which may be used in future projects.

Like CEDRO, the Greek Government is also collaborating with Lebanon through the Greek Centre for Renewable Sources (CRES), offering a grant that would support the reconstruction efforts in South Lebanon. The project also entails the installation of SWHs and energy efficient lighting, as well as providing technical know-how through training and capacity building and setting up a UNDP-CRES managed solar thermal testing facility at the Industrial Research Institute.

The MEDCO Partnership between the LCEC and the fuel supplier MEDCO is a new initiative which is attempting to bring energy efficiency into people’s homes. MEDCO is offering its clients that receive diesel oil to their houses a free audit to be conducted by an appointed “Energy Efficiency House Doctor”, a trained engineer, which will survey the property, and provide an evaluation and advice on the ways in which they can improve the overall energy efficiency.

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What is important to note is the Lebanese Government's vision for a future continual expansion in the field of energy conservation and deserves considerable praise. This is demonstrable in their setting of a somewhat ambitious, but necessary, target of 12% electricity demand to be derived from renewable sources by 2020, which is double the amount currently derived from hydroelectric sources. However, achieving this is highly dependent on adequately developing the market, policy implementation and enforcement, and preserving existing and creating new relations with international donors. Such endeavours will certainly open many employment opportunities and given the level of skilled engineers there are in Lebanon, reaching these targets should be relatively achievable and would have a profound impact on the economic and environmental situation.