Cleantech Investment in the Middle East

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Much has been made of the Arab Spring here in MENA (middle east, north Africa) and many have tied the movement to a re-assertion of the clean energy agenda here. As in many things that get labeled in the international media, the reality is somewhat different to what is being portrayed, but nonetheless, there is enormous potential for clean energy in MENA that feels like it's on the cusp of being realized.

For those not familiar with the market, here are a few basics on the region that support the case for cleantech investment. Most importantly and on the plus side, there is a huge amount of sunshine and a lot of desert to support large scale renewables projects. Renewables currently only meets 6% of installed generating capacity across the region and 90% of that is hydro (MEED, 30 September - 6 October www.meed.com) . On the down side, with desert comes sand and sand in both wind turbines and on Solar panels has a large impact on efficiency.

Water is also scarce with fuel burning desalination plants providing the lion's share of the local resource. Perhaps most importantly, power demand is on a skyward trajectory thanks to population growth, wastage and economic development (particularly the energy intensity of the sectors being supported such as aluminium). Electricity is significantly subsidized in the Gulf Cooperation Council (GCC) nations making its profligate use a feature of the local electricity landscape. Energy Efficiency and demand side management including smart metering, new materials, better planning, efficient water use and effective waste management will drive interest in cleantech investment going forward.

Like anywhere around the world, the focus of each country, regardless of oil wealth endowment is on economic diversification and jobs. The region is beset with the need to boost economic growth and the traditional oil rich countries are fighting to develop post-oil economies with real industry. There has been a striking difference between the actions of the GCC states (in most cases oil nations) and the others. Traditionally north Africa (Tunisia and Morocco) have lead the installation of Solar PV and wind with some very impressive targets, projects and authorities established to drive the agenda. If nothing else, the so called 'arab spring' has seen the resurgence of international funding into the region and support for the clean energy agenda there. Tunisia has 174MW of installed wind capacity and Morocco has 470MW of installed solar and 282 MW of Wind. (MEED, 30 September - 6 October www.meed.com)

Egypt has also been a shining light. Housing much of the regions soft infrastructure for the sector, such as the Regional Centre for Renewable Energy and Energy Efficiency and the national New and Renewable Energy Agency, Egypt has an impressive scorecard of large scale solar installations and wind farms to meet its 20% renewable energy contribution target. With 140 MW of Solar and 550MW of installed wind generation capacity, Egypt has taken a strong regional lead. How this is affected by the latest political developments in Egypt has yet to be seen. (MEED, 30 September – 6 October)

Jordan has recently shot to the lead as the new 'hot spot' for the clean energy sector. With the headquarters of the new Arab Renewable Energy Commission based in Amman and the development of the successful Jordanian Renewable Energy Society, Jordan has an extensive plan for deployment of renewables, mainly solar and wind with a 10% share of renewable energy share of total energy sources by 2020. Amman hosted the first Global Green Techies Forum in 2010, the next being held in Bahrain in 2012. The proclamation of a Renewable Energy & Energy Efficiency Law in 2010 underpins the view that Jordan is likely to succeed in delivering on their master plan despite no recording of large scale projects being deployed to date.

What characterizes many of the non-GCC states is the desire to pursue clean energy strategies but limited access to capital. While international funding will close this gap, the same barrier does not exist for the GCC States who have been slower in embracing clean energy technologies and investment. Traditionally (at least in the last few years) the funding model for clean energy projects in the GCC States has been the tried and tested Independent Power Production (IPP) model – a tendering of certain generation capacity to the private sector. Oman has had particular success in establishing this model for renewables although the scale of the projects is small. The UAE has recently sanctioned the 100MW Shams1 CSP Project through this tender process and will continue with this model to reach its 7% renewable energy target by 2020. The UAE government stepped in to guarantee the debt of the scheme, in this instance, so the model may not be appealing to other countries in the region.

The drivers for the uptake of clean energy in the GCC states are many and, in some cases unexpected. What is not well understood are the extensive subsidies given to local populations for electricity. Along with healthcare, education, housing and petrol, electricity is one of the subsidies granted in the ruling bargain between many of the royal families in the region and their nationals. It is also one of the most expensive subsidies for the government. As with anything that is free, electricity is not efficiently used – in fact energy **in**efficiency should be one of the key focal points of energy policy development rather than just the strong growth in forecast demand. Strikingly, a characteristic of the energy profile in the region is that the 47% of electricity consumption is for residential use compared to a 25% global average. This contrasts with only 10.5% of electricity being used for industry in 2008 compared to an average of 37.7% globally. See Deloitte's Report titled 'Energy on Demand, the Future of GCC Energy Efficiency'. A re-adjustment of energy use through demand side initiatives is critical for the region to stand a chance of significantly reducing its environmental footprint.

Domestic demand continues to erode valuable fossil fuels for many of the GCC States. Saudi Arabia in particular has a real reason to increase energy efficiency and introduce alternative electricity sources to preserve precious fossil fuels for international markets as well as future generations. If liquid fuels are the Kingdom's primary source of income through sales on international markets then the opportunity cost of using those same resources to meet booming domestic demand is considerable. With such a significant driver, Saudi Arabia could be easily described as the sleeping giant of the clean energy industry in the region which is well and truly waking up. With the introduction of the Saudi Clusters initiative, KACARE and KAUST, Saudi Arabia is well on their way to delivering a comprehensive strategy for capturing industry development and cleantech for the benefit of the local Saudi population. For more information on the plans of the Kingdom, see the report commissioned by KAUST titled 'Saudi Arabia Solar Energy Study – manufacturing and technology assessment 2009'. The report is available on the CEBC website. December 2011 is flagged as the time when all will be revealed in Kingdom of Saudi Arabia (KSA) regarding Solar PV in particular.

When talking about the opportunity for Cleantech in the MENA region, the discussion must include the United Arab Emirates. Abu Dhabi took the lead on the renewables agenda with establishment of Masdar. While Masdar's offshore investments are significant, their success has been mixed in terms of real projects on the ground in the region Shams1 is the largest solar project in the region and reached successful financial close earlier in the year and is now under construction. Initiatives like www.thefuturebuild.com and other partnerships being developed to underpin the construction of Masdar City will drive the development of a cleantech environment. Similarly, international surveys are in the process of being conducted and 2012 is likely to see the establishment of a significant cleantech cluster in Dubai to rival similar schemes that support other industry sectors. It is expected that Dubai will be announcing large energy efficiency/demand side reduction targets to compliment a more modest renewable energy vision with major investments in smart grid and smart city technologies. The Dubai International Finance Centre also has aspirations to establish a Carbon market in the region to drive cleantech investment.

While there are any number of targets and aspirations to drive the uptake of cleantech and renewables in the region, the delivery of projects on the ground has been stymied by the lack of comprehensive supporting policy and regulatory regimes. A sobering fact attributable to Bloomberg New Energy Finance is that 87% of global PV installations have been driven by Feed in Tariff schemes. Extended to all technologies, 64% of renewable technologies have been supported by similar schemes. While Feed in Tariffs are considered to be an expensive policy option – they drive development of the sector. These schemes are not being seriously considered in the MENA region. The reality is that the current policy regimes, particularly in the GCC, where target announcements are made without significant policy back-up have seen a start/stop environment develop that has eroded significant goodwill in the private sector.

It seems that one of the critical barriers to uptake of the technologies is the lack of interest in integrating renewable technologies into main stream residential markets. While a lot is being done to install large stand-alone renewable projects on a tender basis, very little is being seen on the demand side. Further, the traditional models that support public/private/community sector collaboration to shift public opinion, increase awareness and drive a shift in energy use paradigm are not particularly evident in the region.

At a recent Workshop held by the CEBC, a representative for the OECD made the observation that the overall investment climate must be competitive for the successful deployment of renewables and cleantech. It was a critical point to make since the IPP model will make the region a net-importer of technologies and no deepening of the sector is evident with current policies settings – essentially, there is no competitive market to participate in.

The Clean Energy Business Council maintains that countries in the region should be evaluated on five criteria that provide a sufficient level of certainty to support investment:

- A national energy strategy that includes clean energy as an integral part of meeting domestic supply requirements.
- A dedicated body responsible for delivering on this national energy strategy, particularly the development of clean energy options.
- Policies that encourage the private sector to invest in the clean energy sector and regulations to ensure that the private sector develops sustainably and responsibly.
- An industry development framework that looks to develop capability and capacity through research and development, commercialization, market development and market maturity.
- Leadership from government in educating their communities in sustainability, including clean energy and energy efficiency.

On this basis, few countries, particularly GCC countries are in a position to support investment. The Clean Energy Business Council was established by the private sector to create a forum to try and assist regional governments to tackle many of these issues.

The Council was established as a not for profit industry association in the Masdar Free Zone in Abu Dhabi in 2010. Its mandate is to provide support to its members, private sector market participants, to successfully develop the clean energy sector in the MENA region.

To ensure success the Council needs to engage government to provide a platform for collaboration which doesn't traditionally exist in the autocratic regimes that dominate the region. Creating a neutral platform for this dialogue is critical to ensure that

The CEBC is a Not for Profit Council with a mission to:

- Establish a **leading forum** for companies and government entities focused on the development and deployment of clean energy in the MENA region
- **Promote** the clean energy industry beginning to flourish in the region and inform the wider community of the benefits of the sector
- **Collaborate** with government agencies and other stakeholders in policy development and regulation of this rapidly developing and exciting sector
- Develop a series of **strategic alliances** with research institutions, international associations, media and others to drive the delivery of clean energy solutions for MENA
- **Coordinate the gathering of data** and information on the sector to ensure relevant benchmarking and transparency in the sectors development
- Support and assist governments, industry and the community in the region to **meet low carbon targets** and sustainability goals

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governments feel that they are receiving a neutral and constructive view from the private sector and not one captured by specific interests.

Secondly, the private sector is hampered in making investment decisions to benefit the region because of the lack of transparency in information resources. Where possible, the CEBC is providing a holistic and comprehensive view of the Sector across the region that is available to all market participants through the CEBC website.

In November 2011 the CEBC hosted a number of activities that sums up the aspirations of the Council. Firstly, on 13 November the Council hosted an Invitation only event with the International Financial Corporation (IFC) to bring together NGO's, private sector and Donor stakeholders from across the region. The purpose of the event was to build a network between these parties as well as to develop a common lobby across the region to support sector development. The CEBC hopes to form strong alliances with the IFC, RCREEE and the new Arab Renewable Energy Commission. In this regard the CEBC is unique in representing the views of the private sector.

On 14 November, the DIFC, with the International Project Finance Association supported the CEBC in hosting a Workshop on Clean Energy Finance in the MENA region. Hosted in Dubai, the Workshop considered the challenge of meeting future energy demand in the MENA region with clean energy, how finance will be secured to support the broader sector development as well as exploring successful project financings in the region to date. Most notably, the workshop hosted the first cleantech investor forum. Five projects from around the world with technology applications for the middle east were given an opportunity to pitch their ideas to investors. Hopefully this is one more step to building a sustainable clean energy sector in the region.

In summary, the potential for renewables and cleantech is big in the middle-east region but is not well supported either in a general competitive environment that encourages investment or in the specific policies and regulation that would support the maturing of the clean renewables and cleantech sectors. Companies wanting to get involved in the region might be waiting for sometime before the clean tech arab spring kicks off but the signs that it might are encouraging.