

Tapping the potential: Middle East and North Africa embrace the future of cleantech

With an abundance of natural resources and space for large-scale development, the Middle East and North Africa (MENA) region is primed to become one of the fastest cleantech growth markets. There is a mounting demand from financiers who want to invest in this region and from the hundreds of millions who live there.



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The desire to reduce the consumption of, and government subsidies for, fossil fuels is the second most important driver for cleantech development in the GCC and Levant.



Some MENA countries have made great strides in cleantech, with large-scale renewable energy projects under way and plans for further development in the pipeline.

Despite the momentum, the region has yet to take full advantage of the opportunities. Political instability, financing challenges and a continued reliance on fossil fuels continue to thwart progress.

A lack of government policy continues to be a leading barrier to advancement. Until the countries craft consistent regulations, the MENA region will continue to lag in cleantech development, leaving the area dependent upon fossil fuels.

Needs vary across the region

Comprising 18 countries, the MENA region is economically diverse. The price of oil and the legacy of economic policies, reforms and structures influence their fortunes. As of 2013, 321 million called this area home. Between 2010 and 2013, the population grew at an average of 1.9% per year.

Cleantech growth is essential for serving the energy needs of this growing population, whether it is derived from renewable energy, such as solar and wind power, or nuclear energy. It is important to differentiate between the territories in order to better understand the reasons fueling the growing demand. Much depends upon whether the area is a net energy exporter or importer.

► **Gulf Corporation Council (GCC):** Saudi Arabia, United Arab Emirates and other countries in this area are

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energy exporters, but a significant part of their production is consumed locally. It is anticipated that, by 2030, some of these countries will be consuming the majority of their own production, which would, otherwise, have been more profitable on the open market.

- ▶ **Levant:** Jordan and the other countries in this area are net energy importers. The cost of their energy bills are much higher, making renewable energy and other forms of cleantech a basic necessity for both the Government and individuals.
- ▶ **North Africa:** this area is a mix of net energy importers and exporters, thus, the need for cleantech varies even more.

With higher costs at stake, net energy importing countries tend to pursue energy initiatives more aggressively. Earlier this year, Morocco and Egypt ranked 27th and 39th respectively in EY's *Renewable Energy Country Attractiveness Index*.¹ The list ranks 40 countries based on the attractiveness of their renewable energy investment and deployment opportunities. Only three MENA countries made the list, with Saudi Arabia dropping from 35th to 37th in rank.

What is hindering progress?

While political crises continue to hinder renewable energy development in some countries, such as Iraq, Libya and Syria, the main barrier is the lack of consistent policies around cleantech.

Given the demand, financiers are anxious to invest in the region, but they are hesitant to do so because of the lack of guarantees and support from area governments. EY's 2014 MENA cleantech survey,² which gauges the sentiment of senior industry executives regarding renewable energy implementation in the region, again ranked insufficient policy frameworks and regulations as the largest barrier to cleantech development.

Industry groups, such as the Middle East Solar Industry Association, and the Clean Energy Business Council (CEBC) have noted that, while there is great optimism about the potential for renewable technologies, few governments have committed to long-term policy support.³

Another issue is local confidence. Some of the countries, including Saudi Arabia, tap local manufacturers for energy, rather than importing sources from elsewhere, irrespective of the cost. Their goal is to create new jobs and expand the local industry.

In the GCC, governments are sensitive about engaging private industry in the energy sector. They believe natural resources are part of the sovereignty's assets, and the government should retain control.

Officials in countries such as Egypt and Jordan are concerned about the private sector's ability to provide a sustainable source of power.

At what cost?

Cleantech is only a portion of the total power generated in the MENA region, and it encompasses a range of sources, including renewable energy and energy efficiency. About 98% of the region's energy mix still comes from fossil fuels, according to Alice Cowman, CEO of CEBC.⁴ Failing to tap into the potential of cleantech is costly. Most of the countries in the Arab world heavily subsidize energy. The International Energy Agency estimates that subsidies in the MENA region were about US\$178b in 2013, which is 34% of global energy subsidies.⁵

Facing the prospect that those numbers will only increase, cleantech is finding greater acceptance. The desire to reduce the consumption of, and government subsidies for, fossil fuels is the second most important driver for cleantech development in the GCC and Levant.

1. *Renewable Energy Country Attractiveness Index - issue 43*, EY, 2015, <http://www.ey.com/GL/en/Industries/Power---Utilities/Renewable-Energy-Country-Attractiveness-Index>, accessed September 2015.
2. *Cleantech Survey Report, Middle East and North Africa, (fourth edition)*, EY, Clean Energy Business Council and Middle East Solar Industry Association, 2014, [http://www.ey.com/Publication/vwLUAssets/EY-middle-east-and-north-africa-cleantech-survey/\\$FILE/EY-middle-east-and-north-africa-cleantech-survey.pdf](http://www.ey.com/Publication/vwLUAssets/EY-middle-east-and-north-africa-cleantech-survey/$FILE/EY-middle-east-and-north-africa-cleantech-survey.pdf), accessed September 2015.
3. *Cleantech Survey Report, Middle East and North Africa, (fourth edition)*, EY, Clean Energy Business Council and Middle East Solar Industry Association, 2014, [http://www.ey.com/Publication/vwLUAssets/EY-middle-east-and-north-africa-cleantech-survey/\\$FILE/EY-middle-east-and-north-africa-cleantech-survey.pdf](http://www.ey.com/Publication/vwLUAssets/EY-middle-east-and-north-africa-cleantech-survey/$FILE/EY-middle-east-and-north-africa-cleantech-survey.pdf), accessed September 2015.
4. *Cleantech Survey Report, Middle East and North Africa, (fourth edition)*, EY, Clean Energy Business Council and Middle East Solar Industry Association, 2014, [http://www.ey.com/Publication/vwLUAssets/EY-middle-east-and-north-africa-cleantech-survey/\\$FILE/EY-middle-east-and-north-africa-cleantech-survey.pdf](http://www.ey.com/Publication/vwLUAssets/EY-middle-east-and-north-africa-cleantech-survey/$FILE/EY-middle-east-and-north-africa-cleantech-survey.pdf), accessed September 2015.
5. *Cleantech Survey Report, Middle East and North Africa, (fourth edition)*, EY, Clean Energy Business Council and Middle East Solar Industry Association, 2014, [http://www.ey.com/Publication/vwLUAssets/EY-middle-east-and-north-africa-cleantech-survey/\\$FILE/EY-middle-east-and-north-africa-cleantech-survey.pdf](http://www.ey.com/Publication/vwLUAssets/EY-middle-east-and-north-africa-cleantech-survey/$FILE/EY-middle-east-and-north-africa-cleantech-survey.pdf), accessed September 2015.

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Over the next five years, the top three technologies in terms of market potential are water, solar and energy-efficient and green buildings.

Some countries have managed to reduce their subsidies, including Dubai, where government spending on energy is minimal. Saudi Arabia's subsidies have remained unchanged for the past 10 to 15 years. But in Algeria, Egypt and Libya, the governments subsidize between 80% and 90%.

Jordan managed to offset subsidies by welcoming private sector investment in renewable energy. It has implemented the first phase, working with 12 developers on projects, including the Shams Ma'an solar project and the Tafila wind farm. Other countries, however, such as the United Arab Emirates (UAE) and Qatar, have been conservative when involving the private sector.

Governments started feeling the pressure from paying so heavily in 2008 and 2009 during the global financial crisis, but the Arab Spring and the tense political atmosphere prompted governments to delay their efforts to reduce spending. Most of these countries still subsidize energy on an increasing basis.

While the subsidies continue to mount, increasing demand still has to be met. The solution, however, is not to increase fossil fuel production, but to invest more in cleantech – renewable energy, in particular, because of the availability of natural resources in the region. Compared with other technologies, renewables are a proven and affordable option.

Attracting private sector participation

A strong relationship between the private

and public sectors is important across the region, but the preferred mechanism for drawing private investment varies by area.

In the GCC, the primary choices for attracting private money are independent power producers (IPPs) and public-private partnerships (PPPs). Dubai recently announced IPP financing of its new 100MW solar project.

A majority – 47% – of respondents in the EY survey said IPPs, allocated in a government-sponsored bidding mechanism, are the best way to attract private sector participation. While they are more complex, IPPs enable investors to hedge against risk. Jordan, which is one of the more active countries for cleantech development, has led the way with its IPP renewables program, according to the CEBC. PPPs ranked second, preferred by 20% of participants.

While only 14% of respondents believe feed-in tariffs (FITs) are the best way to attract cleantech investment, it is still the leading choice for the Levant and North Africa. Algeria introduced a 20-year guaranteed premium for wind projects, shortly after its solar FIT. Jordan's new law for FITs and new tender frameworks are leading cleantech innovation in the region.

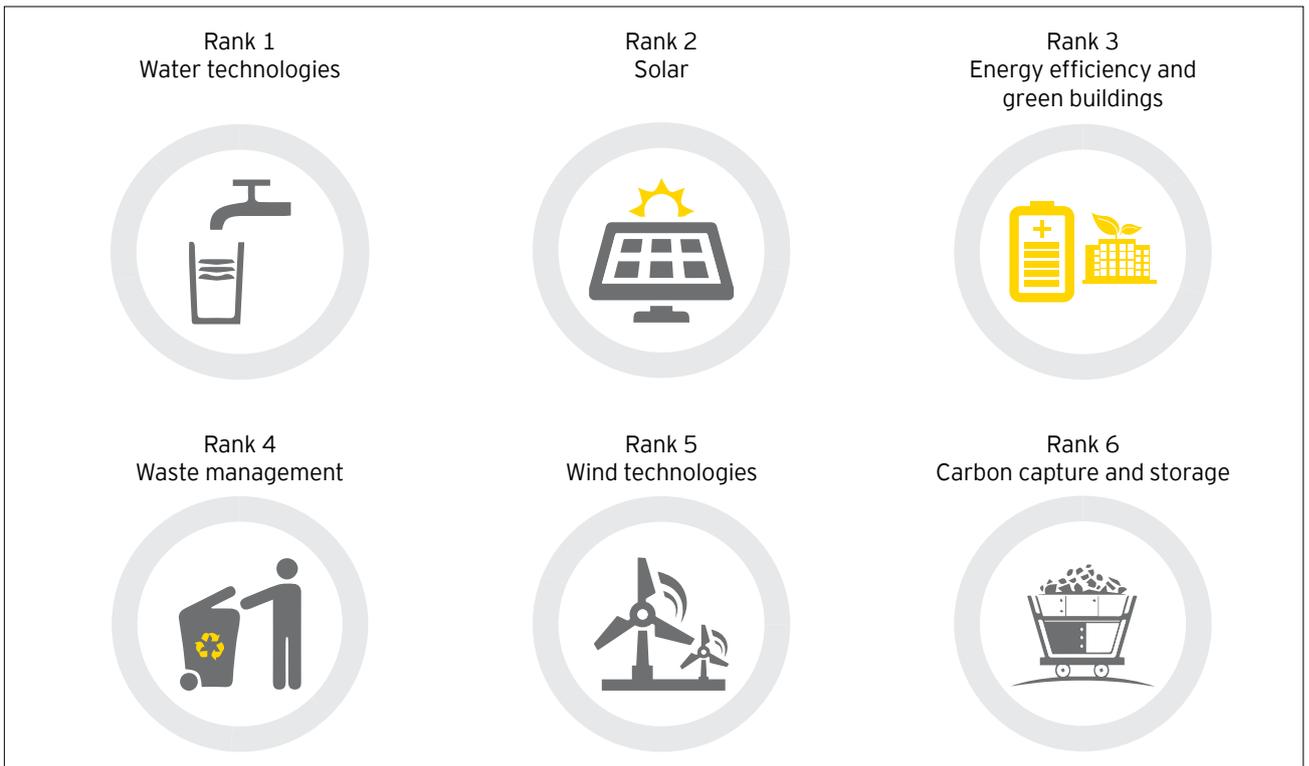
Developments are taking shape

Respondents were highly optimistic about cleantech investment, believing that it will either "increase" or "increase strongly" over the next five years. Several countries have set sizable renewable energy targets.

Saudi Arabia suffered a minor setback because investment and regulatory



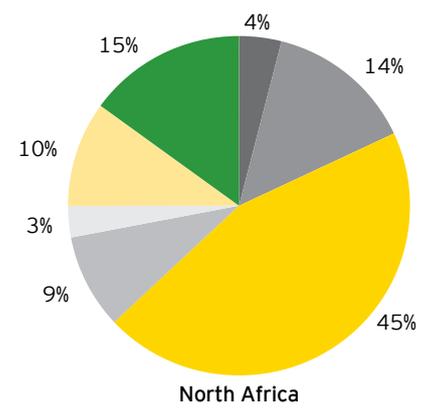
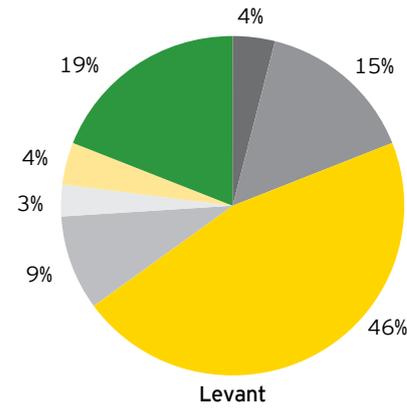
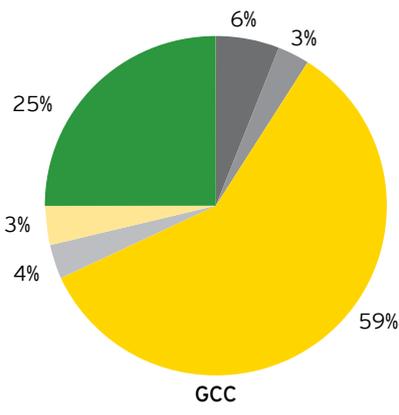
Top technologies by rank across the GCC, the Levant and North Africa



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The most valuable lesson from the past years' learning and experience is that it will take a robust regulatory framework to create confidence among investors and contractors.

Most important barriers and challenges to the development of cleantech in 2014



- Environmental and technology issues (such as dust and humidity)
- Grid infrastructure
- Insufficient government policy frameworks and regulations
- Insufficient private financing and limited financing experience among banks for RE projects
- Lack of global carbon reduction mechanism
- Lack of local capacity (workforce training, domestic contractors, etc.)
- Price competitiveness compared with traditional energy sources



issues delayed its solar megaproject. During the World Future Energy Summit in January 2015 in Abu Dhabi, officials announced plans to postpone their renewable energy program from 2030 until 2040.

A recent spate of developments, elsewhere, that are under way or in the planning phases is bolstering enthusiasm. Among them:

- ▶ Egypt announced a 4.5GW group project, drawing international, national and regional companies to form a consortium to bid for the capacity.
- ▶ UAE announced 100MW in solar power projects in Dubai and Abu Dhabi, and developments continue at Masdar City.
- ▶ Morocco shortlisted bidders for two concentrated solar power projects with a total capacity of 300MW.

As renewable energy projects continue to progress, the type of technology drawing investment is shifting. Confidence in solar had been growing, based on the announcements of new solar projects in the region. Prices and interest rates were low, and confidence in solar power remained high for three years, according to the cleantech survey.

Water, however, has eclipsed solar as the top technology for growth. There is always a demand for water projects, but delays in solar projects have fueled water's popularity.

Despite falling to the second spot, solar continues to enjoy strong confidence amid continuing low prices, falling borrowing costs and policy changes.

Over the next five years, the top three technologies in terms of market potential are water, solar and energy-efficient and green buildings.

Next steps

The idea of renewable energy is firmly on the agenda for countries across the MENA region. And the private sector is ready for an opportunity to work closely with governments, if it is a win-win prospect.

But there are other key factors that need to be addressed if the cleantech market is going to accelerate. In some

areas, there is a need for more technology; in others, there is a greater need for additional funding options.

Opportunities to provide access to affordable and secure low-carbon energy are continuing to increase. Industry executives expect a rapid growth in the cleantech contribution. But the most valuable lesson from the past years' learning and experience is that it will take a robust regulatory framework to create confidence among investors and contractors. ■

For more information, read the full EY survey on which this article is based, [http://www.ey.com/Publication/vwLUAssets/EY-middle-east-and-north-africa-cleantech-survey/\\$FILE/EY-middle-east-and-north-africa-cleantech-survey.pdf](http://www.ey.com/Publication/vwLUAssets/EY-middle-east-and-north-africa-cleantech-survey/$FILE/EY-middle-east-and-north-africa-cleantech-survey.pdf).