

Sustainable energy is in all of our interests

Laura El-Katiri

The past few decades have witnessed a remarkable socio-economic development trajectory in the economies of the Middle East and North Africa (MENA). Despite glaring differences in income and political stability across MENA countries (including the proliferation of violence and political turmoil across parts of North Africa, the Levant, and Yemen over recent years) the region as a whole faces some very tough common challenges in the economic sphere, in the management of its natural capital: its energy and water resources. From the onset of the Middle East's oil and later on its gas exporters' stellar economic growth since the 1960s, fossil fuels have been intimately connected with the region's rising wealth and socio-economic development that has enabled virtually universal access to both modern energy and treated fresh water across the MENA, and turned the Arab Gulf monarchies in particular into some of the wealthiest states in the world.

However, many of the economic opportunities offered by oil and gas-based economies across the MENA region are now also turning into long-term liabilities. Rising living standards, coupled to some of the world's lowest domestic energy prices, increasing vehicle ownership, and universal access to electricity across the region have led to surging rates of energy, as well as water, consumption. Rapid urbanization and industrialization in many parts of the MENA have accelerated the fast-rising draw on the region's natural capital (oil and natural gas) which continues to supply almost all of the region's rapidly growing energy needs. The MENA, alongside the Asia-Pacific region, is already expected to account for the majority

of global energy demand growth for the period up to 2030, according to various global forecasts such as those of the IEA and OPEC. This prospect warrants much closer consideration so that regional strategies can be formulated to respond to the growing natural capital needs of the region's economies, as well as to the way in which this new group of energy consumers will position itself in global forums that deal with issues such as water governance and climate change.

A new economic reality

This new economic reality faced by the MENA economies would not have been predicted several decades ago, when most Arab oil and gas producers' domestic energy demand was marginal in global terms, and growth markets were to be found elsewhere – in Europe, North America, and in parts of Asia. For many decades, fossil fuels both underpinned and formed an essential part of economic growth and industrial diversification strategies in the Gulf states and countries in North Africa. The legacy of this position today is the existence of economies that continue – in contrast to those in all other world regions – to grow in terms of their energy intensity. 'Green' technologies and ideas, and policies aimed at reducing waste while encouraging a more efficient, more sustainable use of energy and water resources have, in this context, been a recent addition to the MENA's economic policy arena. So has the idea that a focus on 'greener', more efficient, energy solutions and management practices could lead to a regionally more sustainable energy footprint, and ultimately towards sustained economic growth.

'Green growth' is more than a buzzword, a label we place on a few megawatts of experimental photovoltaic power cells or LED light bulbs. It will clearly require more than verbal commitment – as important a first step as this is – in many cases it will depend on a fundamental rethinking of the way economies utilize and allocate natural resources. Green growth, the World Bank suggests, is growth that is efficient in its use of natural resources; it is clean in that it minimizes pollution and environmental impacts. It is, the Bank argues, *'necessary, efficient, and affordable'*. And it is *'a vital tool for achieving sustainable development'*. Green growth hence follows in the footsteps of the Brundtland Commission's seminal report of 1987 – *Our Common Future* – which calls economies throughout the world to engage on a sustainable development path that *'meets the needs of current generations without compromising the ability of future generations to meet their own needs'*.

..... 'GREEN GROWTH HELPS ECONOMIES DO MORE WITH LESS.'

But perhaps most relevant for the MENA region are views such as those of the Asian Development Bank, which argues that green growth strategies can help developing and developed economies to *'decouple resource use and waste generation from economic growth and human well-being'*. This is a fundamentally different approach from that followed by proponents of *prosperity without growth*; green growth becomes a concept that, rather than consuming additional resources, helps economies use their valuable natural capital more smartly in the service of long-term



growth. Green growth helps economies *do more with less*.

North Africa invests in green energy

Encouraging first steps have been seen in North Africa, parts of which have been pursuing clean energy projects for many years. Driven by the need to diversify the highly import-dependent energy mix of countries such as Morocco and Tunisia, these markets have already made progress in opening their domestic power sectors to national and international private investors over the last few years, with a number of (often under-reported) success stories.

Morocco has shown remarkable business sense by drawing in foreign investment to forge a series of solar power projects inside the country, including part of the Kingdom's efforts, over the last decade, to increase off-grid electricity access in rural Morocco through new hybrid solutions. Morocco's Solar Plan entails a total of 2,000 MW of future capacity, of which the implementation of the 500 MW Noor Solar Complex (consisting of 460 MW concentrated solar power (CSP) and 40 MW photovoltaic (PV) power) is already well under way and will start operation by end-2015. This project, particularly in the area of CSP, is well in advance of any other schemes in the region. Capitalizing on its own favourable geography, in its own quiet way Morocco has also been expanding its wind parks, with the result that the kingdom's several large-scale wind parks are now its lowest-cost source of electric power, at some of the world's most competitive prices.

Like Morocco, other North African countries such as Algeria, Libya, and Egypt hold plentiful potential for solar power, which could eventually be exported to Europe, and hence provide North Africa with an additional source of revenue. The opening of the

European market for clean power from outside the European Union in the late 2000s, alongside the availability of Climate Investment Funds for countries such as those in North Africa, has helped in forging the position of renewables as an increasingly attractive additional energy source. The potential for green industrial growth is particularly high here because North Africa, in addition to its favourable geography, also offers labour-abundant markets which benefit from a young and comparably well-educated population who could realistically feed into both R&D and manufacturing activities around the sector.

Green leadership in the Gulf

It might surprise many casual observers of Middle East politics that regional green policy initiatives are no longer just the reserve of import-dependent economies. The past few years have seen an unprecedented proliferation of green energy plans, and new weight put on sustainable long-term energy strategies, from a country at the heart of the region's oil producers in the Arab Gulf. The United Arab Emirates (UAE) have, within a mere few years, taken a series of initiatives aimed at raising awareness and finding innovative ways of integrating greener technologies into their energy mix, while promoting parallel policies aimed at raising energy efficiency and establishing the green economy as a separate business sector. Abu Dhabi is home to Masdar City (designed as a regional centre of innovation and research dedicated to clean and alternative energy solutions that include low-carbon solutions for future city design) and, since 2009, to the International Renewable Energy Agency (IRENA). These initiatives clearly signal a shift in the UAE's commitments towards a more diversified long-term energy mix.

That fossil fuels and renewable energy mix very well in the Gulf is a reality that has also begun to be demonstrated in outright commercial terms; earlier this year Dubai's Mohamed Bin Rashid Al Maktoum photovoltaic park brought down the cost of solar to less than US\$6/kWh – among the world's lowest costs. This is a marked success few might have initially expected to come from a Middle Eastern oil producer, and one that also has a realistic chance of contributing to the gradual establishment of photovoltaic power in the markets of neighbouring countries.

.....
'THAT FOSSIL FUELS AND RENEWABLE ENERGY MIX VERY WELL IN THE GULF IS A REALITY ...'

Other Gulf oil and gas producers, such as Qatar, Oman, and Saudi Arabia, have followed with R&D initiatives that include the demonstration of niche technologies such as alternative vehicle fuels, solar-powered desalination, and enhanced oil recovery (EOR). While many of these initiatives are in their early stages, and far from being in a position to establish renewable technologies and energy-conserving measures as an integral part of their energy policies, they are steps in the right direction and lay out the potential of these markets in the future. And while world market prices for competing oil and natural gas have been falling since mid-2014, the parallel fall in technology costs for solar as well as for wind power have much potential to render these technologies cost-competitive with fossil fuels, even in traditional fossil fuel producers.

The motivation behind these recent but seemingly determined steps to gradually change the region's engagement both domestically and internationally, with concepts such as green growth and greater resource efficiency, is partly a response to the region's own changing circumstances

that are felt more in the Gulf than anywhere else. The GCC economies alone account for the bulk of Middle East energy consumption, while Saudi Arabia, alongside Iran, is not only a major producer but also a major consumer market for energy. The region's very high living standards have also taken their toll on cumulative energy consumption, more so as skyscrapers, which require constant access to air conditioning, have become an all too familiar sight in the region's desert-like climate. The conservation of energy at home, together with the reduction of waste, have become synonymous not only with medium-term natural resource management, but also with the preservation of long-term prosperity in the Gulf states – resting as this does on a continued ability to export, rather than consume domestically, the majority of their valuable hydrocarbon production.

But green growth needs many more steps

But as much as the past years' successes in areas such as technology demonstration, far-reaching government agendas with ambitious renewable energy targets, and acts of symbolism for the wider region form part and parcel of a process of a 'green awakening' in the MENA region, they are but the starting points for what is undoubtedly a long-term journey. Ultimately, green growth will be the consequence of policy choices made today in a region where resources such as energy and water remain within the political realm of the state–citizen relationship; this process will likely require a fundamental re-evaluation of how states, industries, and societies allocate resources, as we move beyond those times when an abundance of natural resources, relative to the needs of the peoples of the MENA region, could be assumed.

An important element in this puzzle will undoubtedly be the way in which

markets price energy, including in those parts of the region where energy and water continue to be provided below cost. Granted, offering consumers (including industries) real incentives to conserve energy and rationalize consumption (while ensuring social safety nets provide continued universal access to water, electricity, and transport) will prove a far more complex undertaking, from an institutional perspective alone, than subsidizing prices and setting targets for industry performance. But these are the types of policies that integrate long-term planning in areas such as energy sector management and environmental planning, resource management, and socio-economic long-term development in one of the most rapidly changing regions in the world.

Providing the right framework for green growth will continue to be a government job. Green growth requires infrastructure planning and investment, in areas as diverse as power, utility and secondary industries, public transport, and rural–agricultural development. It will also entail a central role for the state in managing the increasing role of private investment into the sector, ensuring citizens and the economy as a whole derive a fair deal. Regulation, particularly in the area of resource efficiency inside industries, the commercial sector, and in private consumption, is perhaps one of the lowest hanging fruits on the market. Finally, awareness of environmental concerns, resource scarcity, and waste reduction alongside climate change will need to be encouraged across the region, far beyond current acts of symbolism and occasional advertising.

While regional differences in all of these areas are large, there is not one country in MENA for which the management of future natural capital is not, and should not be, a priority. There would hence also be significant potential for further regional cooperation in

the area of resource management and preservation. Regionally unified regulatory frameworks for technical appliances such as air conditioning systems, for instance, could significantly reduce waste at minimal additional cost. Cross-regional investment opportunities, together with complementarities in areas such as alternative energy projects, green industrial development, and training of human resources, could have many positive spill-over effects, including the creation of more green jobs and the use of existing trade networks to foster greater socio-economic prosperity throughout the MENA region.

What happens in the MENA is important for all of us

The future evolution of energy and environmental planning in the MENA is important for all of us, inside and outside the region. At a time when the pivot of global energy market growth is shifting away from traditional consumer markets in Europe and North America towards the Middle East and Asia, developments in energy demand and supply in the MENA region are critical factors influencing future balances on global energy markets. MENA economies, particularly the wealthy oil producers in the Gulf with their growing financial power, will also set important signals with the direction of their investment in alternative energy and green technologies, as will their voice within global forums such as the UNFCCC framework, and inter-governmental commitments to reduce the human impact on climate change. The green economy offers the region many opportunities, although not all come with relative ease. Setting a regional example in green growth could, however, turn the MENA economies from being resource-rich to resourceful – knowing how to make use of all of their natural capital in the smartest possible ways.

