Responsible business newsletter

Green energy in the Middle East

Responsible business | *Empowering sustainable growth*

trowers & hamlins

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Foreword

The Middle East is rich in natural resources and, in recent years, there has been a move towards harnessing what it has in abundance: sunlight.

Solar energy projects have exploded across the region and this is despite a lack of subsidies, demonstrating a keen appetite for what is an efficient power source.

And while it still plays a relatively small part in the overall energy offer, it is seen as integral to helping countries to reach longer-term net carbon reduction goals.

But solar energy isn't the only area of focus, as attention is also being directed towards harnessing wind power.

To fully capitalise on green energy sources, investment is needed in infrastructure that can support this new form of power generation and ensure consistent supply.

In this edition of the Responsible business newsletter, we look at the changing energy landscape in the Middle East. The drivers, challenges and key projects.

We look at the solar project spurt and how it is subsequently influencing R&D for other industries.

Our team in the Middle East also discuss how ESG is impacting construction and how regulations and legislation are changing.

And we take a close look at RCSI Medical University of Bahrain's sustainability projects, talking to Managing Director Stephen Harrison-Mirfield about what he has learned about successful project delivery so far.

We hope you enjoy this edition of our newsletter.

Adapting to deliver ESG targets:
Construction the Middle East

ESG is increasingly on the agenda in Middle East construction and projects. Five of Trowers & Hamlins' team based in the region sat down to discuss what has changed in the last five years, what to look out for and some exciting advances in the sector.

How has the response to ESG in construction and projects changed in the last five years?

Cheryl Cairns, Partner: "ESG is talked about a lot more. Reaching net zero is a high priority in each of the GCC countries' plans with very ambitious targets. It is part of the move to diversify their economies away from a focus on hydrocarbons."

Hasan Rahman, Partner: "Traditionally, the focus in construction was getting the asset built as quickly and cheaply as possible. Now there is an increased awareness of assets being designed and built for longer, more efficient and less carbon intensive operational use. This means ensuring that the assets will have a lower carbon footprint and will not require significant refurbishment or upgrades during their life cycle."

Yuen Phing Choo, Senior Associate: "We are looking at a lot more renewable energy projects in the GCC in line with the broader effort to diversify energy sources, such as solar power, tidal dams (though now still a pilot project), biomass and waste energy."

Thomas Wigley, Partner: "Lenders, particularly international lenders, are imposing ESG requirements and in particular in relation to the 'E' and 'S' elements. They are worried about issues such as carbon intensity and workers' rights and are increasingly attaching conditions to the money they lend, which is flowing down to construction."

What are the key changes in legislation or regulations around ESG to look out for?

CC: "There isn't a lot of regulation detail at the moment to support ESG targets, but it is coming. Global companies currently have more reporting requirements to comply with."

HR: "In some GCC jurisdictions there are green building regulations in place or at least in draft / consultation stage. Even where such regulations do not have the force of law yet, international green building and environmental standards are increasingly being imposed as a contractual requirement."

TW: "In Oman, there is an increase in reporting requirements on stock exchanges. Companies now have to consider ESG reporting, which is already very familiar to European businesses. This reporting was voluntary but will be mandatory this year."

What do businesses tend to overlook with ESG in construction?

HR: "The responsibility for the post-construction, operational phase of the building used to be split from the pre-construction phase. Now we're seeing a move towards build-operate-transfer type models or build-and-operate models where the contractor is incentivised to ensure that the operation of the project is as energy efficient as it can be."

Karie Akeelah, Partner: "One area that gets overlooked in buildings is energy used for air conditioning. Air conditioning tends to be turned up really high, which is often the result of cooling facilities setting minimum usage. Penalties are charged if facilities aren't used to a certain capacity. It means the system currently doesn't support more efficient energy usage."

YPC: "The situation such as the air conditioning oversupply is likely linked to the modelling of the project which informs the demand projection and ultimately influences the financing. There needs to be an understanding of the environment the services are being provided within, which means starting with a feasibility study. Without financial forecasting which may involve minimum contracted amount, banks can't add a value to determine their return on investment."

What drew you to working in the area of construction and projects?

CC: "For me, it is the variety and complexity of projects compared to the UK. In the UK, there's a lot of existing infrastructure, whereas here, we're involved with projects from airports and hospitals to desalination plants, as so much still needs to be built."

YPC: "It's an evolving sector. A few years ago, we were doing a little more of the typical (adversarial) construction contracts, and now we're seeing a shift towards collaborative types of contracting.

"Technology has also changed the nature of the projects from conventional power project like fossil fuel to new clean and renewable energy projects solar, water, wind and nuclear. The fact that it's always new, changing and moving is very interesting."

HR: "I just like the tangible nature of the of the assets. Before I became a lawyer, I was interested in buildings and architecture, so this was a way to have a legal career and follow that interest a little bit."

TW: "My father and grandfather are both engineers, and I think I'm a frustrated engineer because I enjoy the construction and mechanical side of the work. I like the idea of something emerging from the desert following some of my legal work!"

What advance in construction and projects is most exciting?

CC: "Advances are being made in renewable energy particularly in solar. A solar module today is very different from what was produced just two years ago, and I think that it is really interesting for the Middle East to harness this technology because of the sunshine."

"Digitisation and AI are also exciting, from project records and planning to modelling and the ability to see things being constructed in real-time and anticipate where there may be issues."

HR: "The information becoming available via greater use of digitisation, AI and better use of technology will hopefully mean fewer accidents, delays, defects and disputes. It also lends itself to a more efficient, collaborative way of doing construction, which has historically been quite an adversarial industry."

TW: "Off-site modular construction is exciting. It has the potential to address some elements of ESG. I'm also intrigued by alternative construction techniques to reduce carbon, so moving away from reinforced concrete and low carbon forms of concrete."

Renewable energy in the Middle East:

The rise of solar

The last 5-10 years have seen a change in the approach to renewable energy in the Middle East. What is the current landscape for renewables, what challenges remain, and where are opportunities in the region for generating clean power?

There has been an explosion in solar farms in the Middle East, particularly the number of large-scale two-gigawatt-plus projects. While new gas-fired combined cycle power plants (CCGTs) are still being procured, the vast majority of new projects are ground-mount solar.

"In 2010, when we were sitting doing CCGT projects, if I'd said: 'In 15 years, it'll all be solar', I think I would have been laughed out of the room," says Thomas Wigley, Energy and Infrastructure Partner, Trowers & Hamlins.

"It's been a remarkably rapid change, but the interesting thing is that none of it has been subsidised."

This is in contrast to Europe, where solar energy is heavily subsidised. The solar projects in the Middle East went ahead because they provided the cheapest solution for daytime power. The vast scale of these projects and compelling solar resources made large-scale utility projects of this sort attractive to investors.

It hasn't necessarily been an easy path. The oil and gas sector is a huge economic driver of many Middle Eastern countries and also subsidised, so naturally, the move to renewable energy projects took some time.

"The growth of solar is a testament to the fact that solar energy has become a very efficient way of obtaining energy, particularly with the improvements in solar panel technology and the advent of better battery storage technology, says Hasan Rahman, Partner, Trowers & Hamlins.

Wind is the next natural resource to tap in the region, with Egypt, Oman and northwest Saudi Arabia having significant potential. Five potential wind projects are currently being proposed in Oman by NAMA PWP.

As renewable energy forms a bigger part of the energy mix, the need for diverse streams of supply will become more important to provide continuity of power.

"If it's cloudy in one location, it might be windy elsewhere, so what the region needs to develop is an integrated grid to iron out variances in generation," says Wigley.

Sufficient battery and other storage technology is needed to maintain power supply during non-daylight hours and peak usage times, such as the hot summer months when energy demand is high from air conditioning.

While these solar projects are great progress, renewable energy still accounts for a small proportion of overall energy generation in the region.

There is political will, with UAE, Saudia Arabia, Bahrain and Oman setting ambitious net zero targets. However, transitioning away from hydrocarbons is not simple given how much the industry contributes to the economy.

The historic dominance of hydrocarbons creates an additional challenge. Skills, R&D and infrastructure investment have been focused on oil and gas. Different skills, technology and infrastructure are required for renewable energy.

"When it comes to equipment, energy storage and transmission, there's a fair amount of R&D to still do, infrastructure to be built, and expertise to be brought in," says Rahman.

"At the moment, there isn't a homegrown, locally sourced renewable energy industry."

Much of the technology for solar and wind farms is sourced from overseas, but some steps are being taken to address this. Similarly, work is underway to find ways of potentially harnessing excess energy for other renewable projects.

One example is using a solar farm to power a desalination plant and splitting the water into hydrogen and oxygen. At the moment, it's not a commercially viable process.

Other projects may come forward, such as 'green' steel or the greening of other industrial processes.

Should a cost-effective way to transport green hydrogen be found, the Middle East could be in a good position to export the fuel alongside any technology it develops.

While the oil and gas industry is not going to switch off overnight, as part of the transition or intermediate stage, work is underway to make it cleaner.

"We're seeing a lot of new technologies being introduced into the fossil fuel extraction process, for instance, electrification of LNG trains," says Rahman.

There are more regulations on the way that will no doubt also drive the development of, and transition to renewable energy. The UAE has a climate change law coming into force, for example.

Environmental impact assessments are now a prerequisite for major infrastructure projects and often a prerequisite for any third-party financing.

"There's the regulatory compliance but also satisfying your funders and sponsors who are increasingly international companies and hold themselves to more stringent ESG standards than those that might be required of local companies," says Rahman.

An additional but perhaps more subtle driver for decarbonisation is the fact that the Middle East has a proportionately larger young population than Europe.

"The younger generation appears to be much more incentivised by the idea of being more sustainable," says Rahman.

Wigley agrees:

"Summers have been very hot or, strangely, not hot. We've had cyclones hitting Oman more regularly than they used to, so if you've got your adult life ahead of you, then it looks quite worrying."

There is still a long way to go to meet net zero targets, but the rapid adoption of solar energy is an interesting and encouraging development.

Bringing together hearts and minds:

Passion and pragmatism in delivering ESG goals

Stephen Harrison-Mirfield

Managing Director of RCSI Medical University of Bahrain

The biggest lesson Stephen Harrison-Mirfield, Managing Director of RCSI Medical University of Bahrain (RCSI MUB) campus, has learned about delivering sustainability projects is having the right messaging.

It is crucial that the narrative speaks across the spectrum from those passionate about sustainability to those who aren't invested or have limited understanding.

"When you're able to articulate sustainability in a language that people understand, then it becomes very obvious that it's a really critical element of everything we do, whether it's in our personal lives or business lives," he says.

The biggest project RSCI MUB has completed so far is a solar farm, which generates 69% of the campus' electricity. Underway is the construction of a new sustainable academic building, which will increase the size of the campus by 140%.

Harrison-Mirfield's own view of sustainability is personal, shaped by being a father and thinking about his children's future, and pragmatic, having worked for big businesses such as KPMG.

"You need to balance that view of sustainability with a perspective of financial sustainability," he says. "Over the last few years, what I've found fascinating is that the two can be good bedfellows."

This is helpful when convincing those who associate sustainability measures with increased costs that it doesn't have to be that way and can, in fact, mean additional revenue.

The University needs to attract students from a generation more switched on to sustainability and green practices. Making the campus more sustainable is not only the right thing to do but also a good way to connect with the University's target audience.

It is one example of where the solution satisfies hearts and minds. The messaging appeals to the passionate and the practical.

The solar farm is another example of finding the right message. The campus had two different problems: Electricity bills were rising and there was little undercover parking, which was an issue when temperatures could reach 50 ºC in the Bahraini summer.

With almost year-round sunshine, and improved technology, there was an opportunity to create a solar farm that doubled as cover for parked cars.

"The biggest selling point in terms of positioning the case for the solar farm was saving money. Once the investment has been paid for, there's a net profit," says Harrison-Mirfield

In an ideal world, being sustainable would be the main driver behind the project. "But actually, in the world that we live in, you've got to find a way of presenting things in such a way that it appeals to all parties," he says.

The project was completed in 2023, and technological advances mean that solar panels have become more efficient over time, generating nearly 10% more electricity than envisaged in initial plans. As a result, the time to a return on investment being achieved has been reduced by two years.

RCSI MUB does not have battery storage for the electricity generated, which was a decision made because of the cost. However, Bahrain has a net metering system, so any excess energy created goes back to the grid in return for a credit against the costs of electricity used at night.

The solar farm has also given RCSI MUB a flagship project to be proud of. It has won several awards and is referenced on the Bahrain Economic Development Board (EDB) website as it aligns with its Vision 2030 project for more sustainable energy generation.

A second phase will see solar panels installed on the new academic building which has also been designed to be energy efficient. Sustainability measures include glass that reduces heat transfer inside to reduce the use of air conditioning and LED lighting.

Its landscaped courtyard will have drought-resistant shrubs, and the campus's existing sewage treatment plant will take the water used and clean it to a standard suitable for irrigation. The target is for the campus to get to net zero carbon.

Navigating audiences with different motivations and perspectives on sustainability also requires finding a language that appeals to the target audience. For example, the solar generated electricity removes 2,249 tonnes of carbon annually, but that doesn't mean much to most people.

Harrison-Mirfield tries to convert the numbers into something more easily understood, such as how many trees would need to be planted or the number of cars taken off the road.

"You have to find a narrative that you can adapt to the various audiences," he says. "The University has a wide variety of audiences from local and international students and staff, stakeholders in Dublin, the EDB and other partners… it's about finding an underlying theme that people can connect with."

One simple idea for building staff investment in sustainability at work has been tagging actions to UN sustainability development goals (SDGs). It doesn't require any extra work, just a check in a box, but it's an acknowledgement of the contribution they are already making.

"We're nowhere near as far down the road as I want to be, but I'm starting to see a snowball effect. People are appreciating it and speaking about it with pride."

Social value is another area where the University strives to meet UN SDGs, and local connections are particularly important.

The University opens up the opportunity of a career in medicine to more Bahrainis. It provides a high-quality education locally where studying is cheaper than travelling abroad. Harrison-Mirfield highlights that two-thirds of the University's 3,300 graduates work and contribute to healthcare in Bahrain.

Medical research undertaken on campus also focuses on issues that have the biggest benefits locally, such as diabetes and sickle cell. The University also has a mobile diabetes unit doing outreach and education in schools.

RCSI MUB demonstrates that whether delivering social value or sustainability goals, getting the messaging right to bring hearts and minds together is vital.

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