



ARTICLE

Meeting the growing energy demand

How the Middle East is diversifying for the future

The development of alternative energy sources is an integral element of the national strategies of countries in the Gulf Cooperation Council (GCC). Clean energy has made striking gains in the GCC over the past five years. From niche technologies with limited application beyond small-scale pilot projects, the project pipeline has grown to almost 7 gigawatts (GW) of new power generation capacity.¹ Assuming a house uses 10,000 kilowatt-hours (kWh) per year, one GW is enough to power 100,000 homes.



FTI Consulting looks at the fast-paced growth of clean energy in the Middle East and some of the projects helping to meet the region's power demands in the years ahead.

Location, Location, Location

The countries of the GCC are situated in one of the most energy resource-rich regions in the world. Home to nearly a third of the world's oil and more than a fifth of global gas reserves – most of which are concentrated amongst the Kingdom of Saudi Arabia (KSA), the United Arab Emirates (UAE), Kuwait and Qatar - this remains one of the world's key centres of conventional oil and gas supply.² However, to meet the demands associated with population and economic growth, there is a recognisable shift towards alternative sources of energy such as solar, wind and nuclear.

1 IRENA. Renewable Energy Market Analysis: GCC 2019, International Renewable Energy Agency. https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/Jan/IRENA_Market_Analysis_GCC_2019.pdf [Accessed 02 May 2021]

2 Laura El Katiri and Muna Husain, Prospects for Renewable Energy in GCC States: Opportunities and the Need for Reform <https://www.oxfordenergy.org/wpcms/wp-content/uploads/2014/09/MEP-10.pdf> [Accessed 02 May 2021]

A growing shift towards alternative energy sources

KINGDOM OF SAUDI ARABIA

KSA, the largest country in the Arab Peninsula, has stated its commitment to becoming carbon neutral; its goal is to derive 50% of its electricity from renewables and nuclear by 2030.³ Under its Vision 2030, KSA aims to become a leading diversified economy and an example for sustainable development.⁴

The National Renewable Energy Program (NREP) is a strategic initiative under Vision 2030 that aims to maximise the potential of renewable energy in the Kingdom.⁵ The Renewable Energy Project Development Office (REPDO) within the Ministry of Energy was established to deliver the goals of the NREP.⁶

An example of this commitment is 'The Line', a \$100+ billion megaproject located in NEOM, North-Western Saudi Arabia. The Line is a 170km-long linear urban development of multiple, hyper-connected communities and will be powered by 100% renewable energy.⁷

Further, the first phase of Dumat Al Jandal, the Kingdom's first wind project with 99 turbines located in the Al Jouf region, is 50% complete with full completion expected in 2022, powering up to 70,000 homes.⁸

UNITED ARAB EMIRATES

In 2017, the UAE launched its 'Energy Strategy 2050' which aims to increase the contribution of clean energy in the total energy mix from 25% to 50%. The Energy Strategy combines renewable, nuclear and clean energy sources to meet the UAE's economic requirements and environmental goals. The UAE plans to invest AED 600 billion by 2050 to meet its growing energy demand.⁹

The UAE is the second GCC state that has incorporated nuclear energy as part of its future energy policy. Located

in the Emirate of Abu Dhabi, the Barakah nuclear power plant, comprising of four APR1400 units, is the first nuclear power station in the UAE.¹⁰ Unit 1 of the Barakah plant is now operational and is the largest single generator of electricity in the UAE.¹¹ When all four units are completed, it is estimated that they will produce 25% of the UAE's electricity.

Progress is also continuing on the Al Dhafra solar power plant which will be the world's largest single-site solar plant, using approximately 4 million solar panels to generate electricity for approximately 160,000 homes.¹²

BAHRAIN

Many readers will remember that in 2008, Bahrain set a world-first with its World Trade Centre skyscraper located in its capital Manama by integrating wind turbines into its design. The two towers are linked via three sky bridges, each holding a twenty-nine-meter wind turbine.

Now the focus is on Bahrain's Economic Vision 2030¹³, a comprehensive plan focusing on shaping the vision of the government, society, and economy, based around three guiding principles: sustainability, fairness, and competitiveness. An important goal is linked to affordable clean energy with a national renewable energy target of 5% by 2025 and 10% by 2035. Currently, Bahrain is pushing ahead with several solar power initiatives, the largest being the 2 million m² plant in Askar.

OMAN

The Sultanate of Oman has a Vision 2040 of which one of the objectives from its national energy strategy is to derive 30% of its electricity from renewable sources by 2030. Oman is proceeding with a mixture of wind and solar projects in Duqm, Manah and Dhofar with completion ranging from 2021 to 2024.¹⁴

3 <https://www.rechargenews.com/energy-transition/we-will-be-pioneering-saudi-arabia-reveals-50-renewables-goal-by-2030-but-is-that-realistic-/2-1-954094>

4 Saudi Vision 2030 - <https://www.vision2030.gov.sa/v2030/overview> [Accessed 02 May 2016]

5 <https://www.powersaudi Arabia.com.sa/web/index.html>

6 <https://energy-utilities.com/repdo-saudi-arabia-comp292540.html>

7 <https://www.neom.com/en-us/whatistheline>

8 <https://www.thenationalnews.com/business/energy/saudi-arabia-s-first-wind-project-is-50-complete-1.1201353>

9 <https://u.ae/en/about-the-uae/strategies-initiatives-and-awards/federal-governments-strategies-and-plans/uae-energy-strategy-2050>

10 <https://www.power-technology.com/projects/barakah-nuclear-power-plant-abu-dhabi/>

11 <https://www.linkedin.com/company/emirates-nuclear-energy-corporation/posts/?feedView=all>

12 <https://www.evwind.es/2020/07/27/jinco-power-consortium-is-awarded-the-worlds-largest-solar-power-project-in-abu-dhabi/76044>

13 Bahrain 2030 - The Economic Vision - <https://ftiamea.to/Bahrain-Vision>

14 <https://www.trade.gov/country-commercial-guides/oman-renewable-energy>

The key challenges of renewable energy projects

All these projects are being fast-tracked and are often the first of their kind for many jurisdictions. This can present significant challenges for the parties involved.

1. **Higher competition:** Firstly, the level of competition between contractors often means the successful tenderer is working on small margins and often with little or no contingency.
2. **Ambitious timescales:** Despite the structural, regulatory, and technical obstacles, the project time schedules are often very ambitious and require careful and focused management and the appropriate mindset. All parties must recognise that delay of any kind must be avoided if possible.
3. **Volume of claims:** This leads to perhaps the biggest challenge facing parties: claims for additional time and payment, which can delay delivery and negatively impact cash flow.

Taking a strategic approach

As most projects are exposed to significant risks of project delay and additional costs, it is crucial to identify risks at an early stage and implement measures to avoid or mitigate the risks as appropriate. A collaborative approach between all concerned parties and project stakeholders should be considered as project success will benefit both the employer and the contractor.

The pre-contract and execution stages are invaluable periods to implement proper budgetary, planning and commercial procedures. The earlier that risks are identified and planned for, the greater the chance of overall success.

PRE-CONTRACT

The pre-contract stage of any project provides the foundations for effective and post-award contract management. Key areas to address are:

- **Contract drafting, execution, and advice:** Clear drafting, avoiding repetition and reducing ambiguity leads to more certainty in the pricing and project schedule.
- **Critical success factors:** Assessing project targets, interim milestones, and project KPIs to keep the project on track.
- **Procurement advice:** The right procurement methodology with the correct suppliers is crucial. Management of provisional sums and long lead items is particularly important.

- **Risk allocation:** Review and understand risk allocation and the party in control of that risk to prevent misunderstandings.
- **Bonuses:** Consideration of milestone bonuses and not just employer damages.

PROJECT EXECUTION

To ensure effective project execution, leading to successful project completion, many aspects need to be considered during construction and commissioning. Key areas to address are:

- **Project controls:** Evaluation of budget, schedule, procurement, and risk assessments.
- **Project records:** Accurate records are essential but are of little use if they get lost. Use industry-leading software to store and collate necessary project documents (See article '[Construction claims: no records, more disputes?](#)' authored by quantum expert, Simon Chandler).
- **Contract administration and management:** Project correspondence must be drafted appropriately, including daily protection of interests by robust administration of the contract.
- **Change management:** Changes on construction projects are inevitable and may result in additional costs and/or additional time. Effective management of such changes will assist the parties and reduce the risk of disputes arising.
- **Dispute avoidance and resolution:** Effective and swift resolution of disputes is essential to give construction the best chance to stay on track, boost confidence, and protect all the parties involved. Hold regular meetings and aim to close out matters on a quarterly basis or sooner.

Strong leadership and collaboration are key

A successful construction project delivered on time and within budget relies on strong leadership, ongoing team collaboration, as well as the implementation of an effective management strategy. Whilst every construction project is unique and holds its own significant challenges, FTI Consulting provide flexible solutions to match our clients' specific requirements. We are a global leader in effectively implementing the above services, either as part of clients' existing teams or by providing a dedicated consultancy solution. To learn how FTI Consulting can help you to successfully execute your project, whether you are an employer or contractor, please feel free to contact us on the details below.

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