

PROPERTIES | SUSTAINABILITY

RENEWABLE ENERGY WHITE PAPER



RENEWABLE ENERGY & OUR LEADERSHIP APPROACH

Majid Al Futtaim Properties has consistently made bold public commitments to sustainability. Since 2010 we have taken a strategic approach to sustainability delivery, and in 2013 we launched our second sustainability strategy focusing on Pioneering Standards, Prosperous Communities and High Performance Assets. As part of this approach to sustainability, Majid Al Futtaim Properties has made a commitment to apply international best practice across our assets. This includes creating exemplar public spaces both within and around our assets and building and operating all assets to best practice green building standards in the MENA region. Underpinning this is the ambition to be a regional sustainability leader. We are publishing this paper under this leadership banner, which requires us to demonstrate and share best sustainability practice.

By making public not just our commitments, but the business case, feasibility and strategic drivers which form the foundations of these commitments, we seek to lead by example, pioneering sustainability efforts across the real estate sector in the Middle East and spearheading regional improvements.

In line with these commitments Majid Al Futtaim Properties has developed an approach to renewable energy which demonstrates its commercial viability, addresses climate change, and drives positive change across the MENA region. Responsible businesses the world over are increasingly acting to minimise the environmental impact of their operations. In this context, a number of international companies have made commitments to enhance their energy independence through investment in renewable energy, principally by implementing on-site renewable energy.

Sustainable businesses today need to demonstrate to their stakeholders (including local, national and

regional governments, NGOs, peers, customers, supply chain and contractors and the communities in which they operate) how they are going beyond limiting their environmental impacts to start to contribute to creating a cleaner world. Being a sustainability leader in today's business world requires companies to set bold renewable energy commitments, and to produce renewable energy both off and on-site.

As such, following a comprehensive internal feasibility study, we have adopted a series of targets which reflect our overall ambition to enhance our positive impacts on society and the environment. We have historically focussed on reducing our negative environmental impacts through energy, water and waste reduction and efficiency projects.

We are now determined to develop an approach which identifies opportunities to create energy across all our existing assets and new developments.

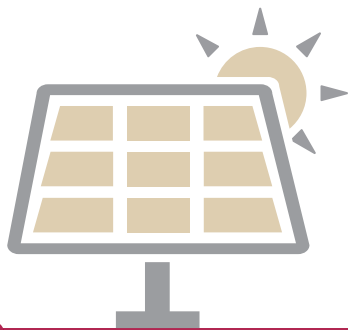
We hope that in publishing our approach, and demonstrating viability, we can inspire others to invest in and install renewable energy technologies.

This approach is in keeping with the Group's long term vision for a sustainable future, which is currently under development, in which we seek to maximise our positive impacts. By making public not just our commitments, but the business case, feasibility and strategic drivers which form the foundations of these commitments, we seek to lead by example, pioneering sustainability efforts across the real estate sector in the Middle East and spearheading regional improvements.



OUR TARGETS

The renewable energy targets which we have set, shown below, are based on the practical feasibility assessment which we conducted. Within the context of this paper they serve as a demonstration of the level of ambition which we think is in keeping with our corporate sustainability agenda at this stage. They also show how, through high level feasibility work, a practical and robust roadmap can be developed to support positive change.



Feasibility assessments will be carried out into concentrated solar power, wind power plants and large scale solar PV power installations

Power Purchasing Agreements (PPA) will be established with identified partnership opportunities that would support the growth of renewable energy across the region

TARGETS FOR OFFSITE RENEWABLE ENERGY



7.5% (minimum) of total energy consumption will be generated from solar PV at each new development

Solar thermal technology will be incorporated into all new developments where feasible (with a particular focus on assets where the hot water consumption is high, e.g. hotels)

Ground source cooling potential will be assessed at all new developments and, where feasible, we will implement the technology

TARGETS FOR NEW DEVELOPMENTS



5% (minimum) of total energy consumption will be generated from solar PV within the next 24 months

Solar thermal technology will be installed where feasible (with a particular focus on assets where the hot water consumption is high, e.g. hotels)

TARGETS FOR EXISTING BUILDINGS

THE BUSINESS CASE FOR RENEWABLE ENERGY

Investing in renewable energy technology aligns with Majid Al Futtaim Properties' existing ambitions and represents sound business sense. Committing to renewable energy was therefore deemed the natural next step in our sustainability journey. Below we explore some of the key business drivers for renewable energy investment, which align with the business thinking behind our strategic corporate sustainability approach. Whilst, of course, our own drivers and objectives are unique to Majid Al Futtaim Properties, they also readily apply across the wider business community within the MENA region, and so our approach can serve as a blueprint for others.



MEETING STAKEHOLDER EXPECTATIONS & ENHANCING REPUTATION

Stakeholders, particularly customers, tenants, and prospective employees, increasingly expect businesses to make meaningful corporate sustainability commitments. Reputation and brand value can be enhanced by investment in renewable energy technologies, through public commitments on renewable energy, and by installing renewable technologies.

- Research suggests that there is a growing appetite for green products, and that brand loyalty is an increasingly key factor in buying decisions.
- Implementing renewable energy across the portfolio makes a very visible, impactful demonstration of renewable energy commitments to a range of stakeholders.
- Reputational benefits extend beyond the consumer base to prospective employees who, research suggests, are likely to attach much greater importance to the sustainability credentials of a company than ever before.
- These reputational benefits could also extend to tenants who may themselves have targets around renewable energy and thus be keen to collaborate, or may be interested in gaining brand value from the scheme, through initiatives such as renewable energy investment.



MORAL OBLIGATION

Climate change is increasingly seen as a global challenge which must be addressed by all of society. Transparent commitments to tackling it, such as reduction in fossil fuel dependence through the use of renewable energy, demonstrate strong corporate ethics.

- The Earth is warming and events linked to climate change are already occurring around the world. Scientific consensus indicates that human activities such as deforestation and burning of fossil fuels are causing this increase in worldwide temperature.
- A recent study by the International Energy Agency (IEA) found that current national commitments to cut greenhouse gases are insufficient to keep the world below 2°C of warming above preindustrial levels.
- Business operations, including through supply chains, are increasingly being affected by climate change impacts such as droughts or floods, resulting in significant financial impacts. As a consequence, companies are starting to adapt their financial models and invest in making their businesses more resilient to the impacts of climate change.
- There is an increasing consensus that, in the absence of a clear, legally binding trajectory, businesses should take the initiative and lead the charge against climate change.





INTERNATIONAL BEST PRACTICE

A number of large international businesses have made ambitious commitments to renewable energy use. These examples of best practice can be used to guide ambitions.

- In light of the perception that the international community is not doing enough to limit warming to avoid catastrophic climate change, a number of companies have adopted leading approaches, setting ambitious renewable energy targets.
- To date (April 2016), 58 companies have signed up to the RE100 initiative which encourages its members to procure 100% of its electricity needs from renewable sources by an agreed date. Many of Majid Al Futtaim Properties' hotel operators and tenants are also setting renewable energy targets, with H&M, M&S, Starbucks and Nike signing up to the RE100 initiative.
- Subsidies to the fossil fuel sector (estimated to be \$548 billion in 2013) have been in existence for generations but are now decreasing year on year, while subsidies to the renewables sector (estimated to be US\$121 billion in 2014) are gradually increasing. As fossil fuel subsidies drop and the price of energy corrects itself, renewable energy will become a more attractive investment, providing a relatively cheaper alternative to fossil fuels.
- Furthermore, as global momentum for a carbon tax builds, on-site renewable energy represents a means of providing a level of protection for the business from any associated carbon tax costs.
- By considering demand management, and reducing its peak demand by using renewable energy rather than relying on the grid, Majid Al Futtaim Properties will also reduce the likelihood that it will be subjected to brownouts and blackouts which are most likely to occur when the grid is running at close to maximum capacity.



A LANDSCAPE SUPPORTIVE OF RENEWABLE ENERGY

Investment in renewable energy is an increasingly viable option as a result of a market and legislative mechanisms which make the use of finite resources less attractive. By reducing the pressures associated with finite and unstable energy sources, and increasing renewable energy capacity, price volatility can be avoided, thereby supporting long term resilience.

- The price of oil can fluctuate by more than 50% within months. It is hard to reduce consumption quickly when prices rise and it can have serious consequences for a company's bottom line.
- In contrast, since renewable energy resources (with the exception of biomass) do not require purchased fuel, the operating costs over time (i.e. the cost of installation and maintenance) are very predictable.



FINANCIAL CASE FOR RENEWABLES

Our study demonstrated that implementing appropriate renewable energy technologies can be commercially viable. Through our desk-based research, we found that while a commitment to on-site renewable energy would require a significant capital investment, the project makes good financial sense. The figures below support the business case for investment, and provide a benchmark for other businesses seeking to invest.

- Our research found that investing in on-site renewables across Majid Al Futtaim Properties' portfolio would require capital investment of approximately 152 Million AED. However the project has a net present value (NPV) of 35 Million AED (over a period of 20 years and assuming a 7.5% discount rate).
- In this context, Majid Al Futtaim Properties would be able to exceed 5% of its energy needs through renewable sources.

The project's payback period would be 9 years and the internal rate of return (IRR) is 10.6%. However, should the legislative context change, for example with the introduction of feed-in tariffs, the payback period of the project would reduce.



LEGISLATION

Globally, legislation pertaining to renewable energy is becoming increasingly stringent, with targets and feed-in tariffs (FiTs) proving the most popular forms of regulatory support. On a regional level, the Middle East is increasingly starting to develop its own legislative response to renewable energy.

- The majority of countries where Majid Al Futtaim operates have legislative drivers in place. Given the momentum behind policy mechanisms across the world, particularly in light of the commitments made at the 2015 UN Climate Change Conference, it makes sense for us to develop our own targets for renewable energy.



LEBANON

Lebanon has a National Energy Efficiency Agency target of 12% of electricity through renewable energy by 2020 (125 - 165 MW), of which 10 MW is from PV, with Bahrain committing to produce 5% of its total electricity output from renewable source by 2020.



ABU DHABI

Abu Dhabi has a target of 7% renewable energy to reach by 2020.



DUBAI

Dubai increased its renewable electricity target from 5% by 2030 to 15% by 2030.



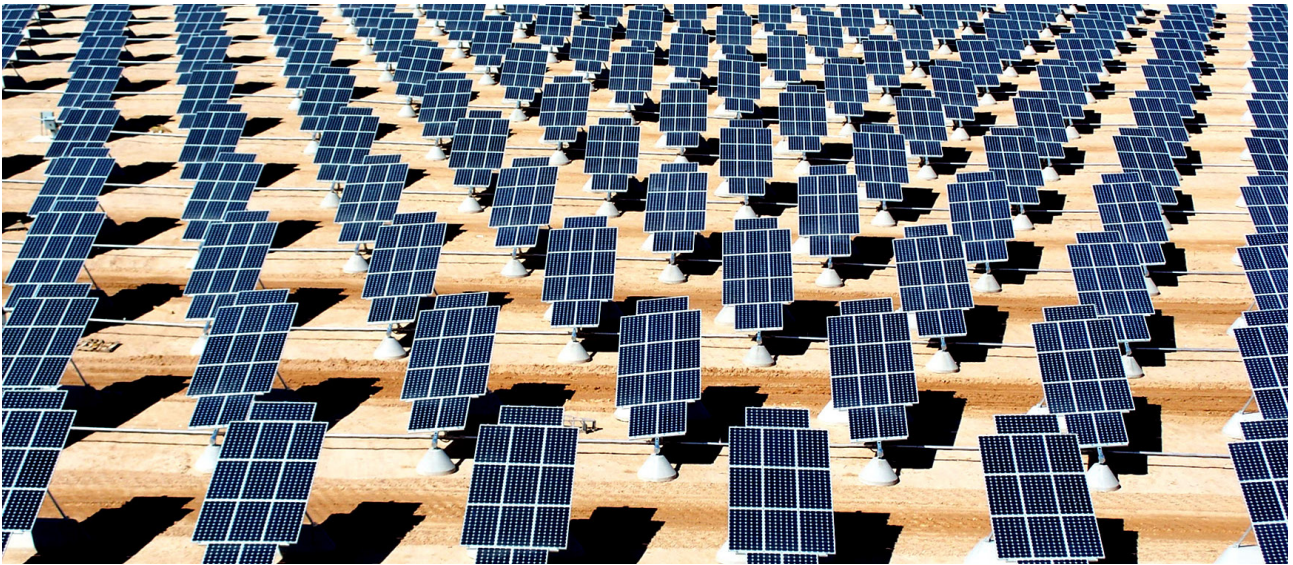
UNITED ARAB EMIRATES

Regionally, the UAE has set a target of increasing clean energy contribution to the total energy mix from 0.2% in 2014, to 24% by 2021. This will be achieved through renewable and nuclear energy, and is underpinned by detailed Emirate level targets and policies.



EGYPT

Egypt's National Renewable Energy Strategy introduced a target of 20% renewable energy (9,500 MW) by 2020. At least 2,300 MW is to be generated from solar PV. Egypt also introduced a feed-in policy in 2014.



TECHNICAL & FINANCIAL FEASIBILITY

Renewable Energies Technology Appraisal

Majid Al Futtaim Properties conducted a preliminary assessment of the feasibility of a range of renewable energy technologies within the key markets of the UAE and Egypt. This initial feasibility study assessed the practicality of the technology within the MENA region, associated capital costs, installation costs and ongoing maintenance costs to rule out unfeasible technology options and determine the most suitable technologies for consideration. Following this initial study, the following technologies were chosen for a more detailed feasibility assessment:

- Solar PV for new build and developments
- Solar Thermal for new build and developments
- Ground Source Heating and Cooling for new build only

CONCLUSION

Our analysis demonstrates that the renewable energy market is already well-established in parts of the Middle East, and is becoming increasingly well-supported by governments. An in-depth analysis of the drivers helped us to recognise the clear opportunities presented by an ambitious, coordinated internal approach towards renewable energy, while the feasibility study helped to highlight the most pragmatic approach for investment and installation.

Given the supply of solar energy available in the Middle East and the associated financial benefits, solar power emerged from the feasibility study as the leading technology with the shortest potential payback period. It therefore forms the focus of Majid Al Futtaim's internal renewable energy roadmap, though the company will continue to consider the integration of other renewable energy types on an asset-by-asset basis. Going forward, we will seek to incorporate this Properties-level approach to renewable energy investment and installation into our wider Group ambitions.

We hope that this high level business case and feasibility approach is one which will be adopted across the region, encouraging the take up of renewable energy investment and generation.

PROPERTIES

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