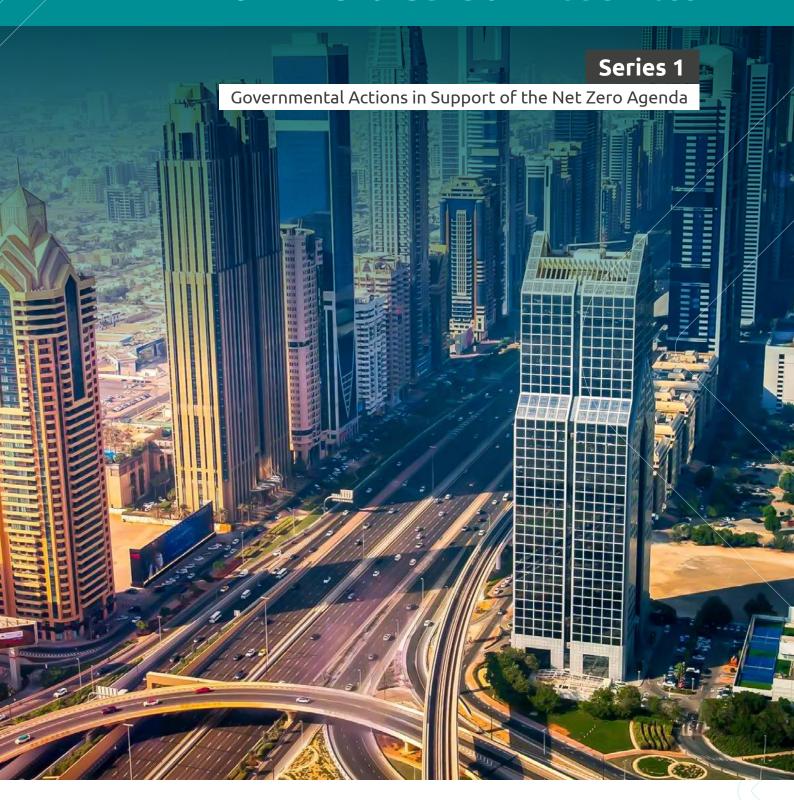
UAE **Zero Carbon** Readiness



In partnership with

WORLD
GREEN
BUILDING
COUNCIL



Table of Contents

Pg. 4 Foreword

Pg. 6 The Progress

Pg. 8 The Learnings

Pg. 9 The Opportunity



Foreword

This article has been created by AESG in collaboration with the World Green Building Council (WorldGBC) and its Middle East North Africa Regional Partners and Net Zero Collaborators through interviews and surveys from industry experts. It is the first of four articles that highlight the achievements of advancing net zero in the built environment.

As the world is coming together for the stocktaking <u>COP28 Conference in the UAE</u>, this report highlights the achievements of advancing net zero in its build environment.

The UAE built sector has made progress and is called to continue on its enhancement of building and construction performance.

The efforts are driven by the number of actors across the value chain, developers, construction companies, and solution providers.

Nevertheless, the UAE Government has announced the <u>UAE Net Zero 2050 Strategic</u> <u>Initiative in October 2021</u>, and is continuously working on detailing these targets and providing enabling mechanisms to the industry.

This report is a result of interviews and surveys with industry experts in the UAE:

- A³&Co
- AD Ports Group
- AESG
- Bee'ah Group
- Expo City Dubai
- Dar Al Handasah
- Department of Energy, Abu Dhabi
- Dubai Holding Group and Dubai Holding Real Estate
- ICD Brookfield Place
- Linxion / Bartec Group
- Majid Al Futtaim
- Masdar
- Saint Gobain





The Progress

UAE Leadership is mobilising for sustainability & decarbonisation actions through the UAE-wide target to reduce emissions by 40% by 2030, UAE Net Zero 2050 Strategy, and sustainability requirements within the stock exchange market.

The UAE has been setting targets and implementing a wide range of climate related strategies and initiatives:

- National Climate Change Plan 2050 (with establishment of the Council of Climate Change and Environment)
- National Climate Change Adaptation Program 2050 (with a focus on energy, infrastructure, health, and the environment)
- UAE General Environmental Policy
- UAE Green Growth Strategy
- UAE Sustainable Financing Framework
 & Green Bond / Sukuk Program
- UAE pledged to invest an additional US\$50 billion by 2032 to scale up climate action through the deployment of clean energy solutions
- The UAE's updated second NDC projects with a target of 54% reduction in total emissions of electricity generation activities by 2030

- UAE Circular Economy Policy followed by the development of Sharjah Wasteto-Energy plant and Warsan Waste Management Centre (WWMC)
- The aluminium industry, reliant on natural gas for the generation of electricity for manufacturing needs, has set emission intensity targets that cover the complete range of industrial processes
- The steel industry is leveraging technology interventions to increase the efficiency of energy use in reheating of steel billets, heating of metal scrap in electric arc furnaces, as well as casting. In addition, Emirates Steel has begun the implementation of a two-phase green hydrogen project
- Cement industry, where most emissions come from clinker production, is shifting to alternative fuels, including refuse derived fuel (RDF), for powering furnaces and generators







Dubai, Abu Dhabi and Ras al Khaimah

have been implementing Energy Efficiency (Demand Side Management) strategies for almost 10 years, achieving great results, and continuously improving requirements via governmental policies. This will be the key fuel for the change of companies' way of designing to include more energy efficient practices.



Urban Planning

There is a greater focus on urban planning solutions, such as the '15 minute city' concept, which created urban districts that encourage walking, cycling and other micro-mobility solutions – a concept being implemented at Expo City Dubai. These will have a substantial positive impact on emissions reductions.

The UAE has focused on sustainable urban planning, sustainable building certifications, and technology to reduce energy demand. There are many examples, such as the Dubai 2040 Structure Plan, that will create more sustainable urban development, integrating passive design strategies, walkable communities, nature-based solutions, and sustainable transport to reduce energy consumption at an urban scale.

The Learnings



The UAE has invested heavily in renewable energy, and this has helped to reduce the country's reliance on fossil fuels. In 2021, renewable energy accounted for 14% of the UAE's total energy mix.

The target for the 2050 energy mix is as follows: 44% clean energy, 38% gas, 12% clean coal and 6% nuclear.

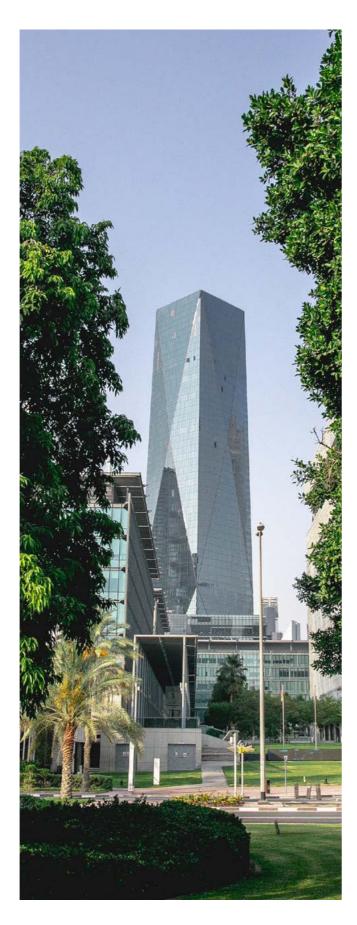
The current energy needs are met by a mix including over 90% natural gas. The overall target of the UAE iNational Energy Strategy is Carbon Neutrality by 2050.



The UAE's journey highlights the importance of public awareness and engagement.

Effective communication and education campaigns foster a culture of responsible energy use, inspiring individuals, tenants, visitors to actively participate in the decarbonisation agenda.

There is an importance of engaging with other sectors as well like the oil & gas industry to integrate the energy transition from energy efficiency to renewables into the overall energy mix and optimization approach.





The Opportunity

UAE Regulations

The regulatory frameworks play a pivotal role in shaping the construction landscape. Net Zero policies, incentives, and standards can provide a solid foundation for businesses to align their strategies with sustainable practices.

There is an opportunity for the UAE to develop more stringent building codes or standards to reduce the embodied carbon and enable life cycle assessments of the building and construction industry.

Globally, incentives can be used as a tool to support the regulatory enforcement and compliance (e.g. carbon taxes, building labelling schemes, utility discounts) and ensure the buildings are built in line with the codes, regulations, and development compliance is monitored systematically.

To further understand the market needs, governments are engaging with global and local Green Building Councils with an aim to catalyse the uptake of sustainable and built environment regulations.

Energy Efficiency

To maximise the reduction from operational carbon emissions, the UAE government has developed multiple strategies to drive the direction for policies and regulations.

With a strong focus on reducing the demand of energy and water, Dubai, Abu Dhabi, Ajman, Sharjah and Ras al-Khaimah, driven by their Demand Management Strategies, have set strong regulatory frameworks and policies on building design, energy auditing, building retrofitting, efficient cooling (district cooling) but also on energy-efficient equipment and appliances and others.

Renewable Energy Regulations

The deployment of renewable energy is essential for decarbonization.

With utility decarbonisation measures, the UAE has the opportunity to provide incentives and tools for businesses to implement renewable energy and decarbonise further.

The market is in need of policies and regulations supporting the renewable energy adoption and reduction of Scope 2 carbon emissions.

Carbon Emission Disclosure

Disclosing the emissions by companies within the public and private sector would support other market players to follow the same path and provide a driver to implement climate action and decarbonisation initiatives to impact the emission reduction.

Mandatory disclosure policies and regulations are needed



AESG is a specialist consultancy, engineering and advisory firm with offices in London, Dubai, Abu Dhabi, Riyadh and Singapore working on projects throughout Europe, Asia and Middle East.

We pride ourselves as industry leaders in each of the services that we offer. We have one of the largest dedicated teams with decades of cumulative experience in sustainable design, sustainable engineering, fire and life safety, façade engineering, commissioning, digital delivery, waste management, environmental consultancy, strategy and advisory, acoustics, cost management and carbon management.



Tamara Bajic
Associate Director Strategy and Advisory, AESG

Tamara is an Associate Director – Net Zero Advisory at AESG. She holds a Masters' degree in Environmental Engineering with specialization in the fields of Energy Efficiency, GHG Emissions and Decarbonisation. Her sustainability journey in the UAE started with a 6-year engagement with Dubai Government, as part of the DSM PMO office, implementing the Energy Efficiency (DSM) Strategy in Dubai across 11 programmes and more than 10 key government sector stakeholders and private sector market players.

She has led and supported with the design and execution of key activities: DSM PMO office establishment (institutional mechanisms & procedures, organisational objectives, priorities, budget requirements), implementation of operational plans and roadmaps, DSM savings monitoring and evaluation (via data collection, modelling, top management presentations), Capacity and Awareness Programmes.

As part of the AESG Strategy & Advisory team, she has expanded her expertise to accompany government and private sector to plan and implement their Net Zero/Decarbonisation, ESG and Sustainability Journey as it evolves over time. She supports clients to understand their key Net Zero drivers, reporting requirements, following with the design of a tailored Net Zero strategies, roadmaps, action plans, timelines, budget requirements and supporting tools to successfully implement their decarbonisation initiatives and achieve Net Zero goals.

For more information or to arrange a meeting with Tamara Bajic, please email t.bajic@aesq.com

London | Dubai | Singapore | Riyadh | Abu Dhabi









