Securing the UAE's regional leadership in environmental sustainability

Agility Global

2024

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Executive Summary

The UAE has shown great foresight and commitment in establishing its place as a regional leader in sustainable development. It outscores the average of GCC countries on all six dimensions of the Middle East and Africa Environmental Sustainability Scorecard, compiled in 2023 by Agility in partnership with Horizon Group. These are: Green Investment, Innovation, and Technology; Sustainable Infrastructure and Transport; Governance and Reporting; Energy Transition; Environmental Ecosystems; and Circularity.

Since the publication of the scorecard, the UAE has further bolstered its position through new initiatives. It has set ambitious targets, recognizing that these can be met only through effective collaboration between the government and private sector. Illustrations of the UAE's environmental leadership role include:

- The UAE was the first country in the region to announce its commitment to Net Zero by 2050, and remains on trajectory to meet this goal.
- The National Hydrogen Strategy aims to establish the country as a leading producer and supplier of low-emission hydrogen by 2031.
- Energy transition initiatives could create about 160,000 new jobs, with the Green Agenda 2030 aiming to generate up to 5 percent GDP growth.
- Procurement for government projects requires the use of green cement, while Dubai's building code includes sustainable concrete blends.
- Dubai aims to install over 1,000 electric vehicle charging stations by 2025, while 42% of Abu Dhabi's buses meet low emission standards.
- Almost 16% of the country's territory and 12% of territorial waters are covered by environmental protection zones.
- Some 7,500 hectares of coastal areas have been restored, with a further 4,500 hectares to follow by 2030.

Despite these achievements, the UAE still faces some profound challenges – most notably in the Energy Transition, the only dimension of the scorecard in which the UAE lagged behind the overall average due to underperforming peers in the Africa region. Areas with most room for improvement include:

- Continuing to fill regulatory gaps in energy, economic, industrial, and regulatory policies to incentivize energy efficiency and promote new energy sectors.
- Exploring ways to lower barriers to entry in the energy generation and utilities market.
- Improving access to green finance.
- Enhancing the use of foresight exercises to explore the use of new technologies.

Proactively driving the paradigm shift from being a major fossil fuel-dependent economy towards cleaner alternatives will require long-term thinking on issues beyond economic growth, such as environmental impact, socioeconomic resilience and wellbeing. With renewed effort and focus from public and private sectors alike, the UAE can build further on its regional leadership role.

UAE

country in the region to announce its commitment to Net Zero by 2050

Energy transition initiatives could create...

c160,000
new jobs

up to 5%
GDP growth

>1,000
electric vehicle charging points installed in Dubai by 2025

c7.5k hectares
coastal areas restored
a further 4,500 hectares to follow by 2030

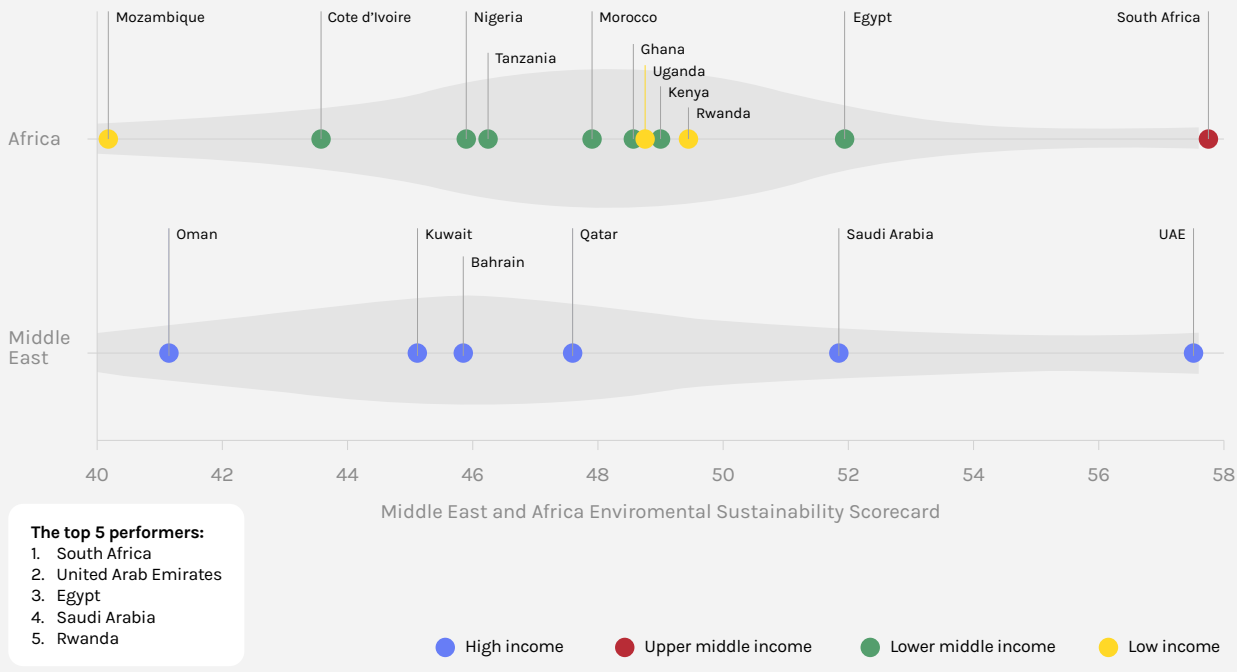
Introduction

Environmental concerns – notably climate change – are rising on the global agenda as extreme weather events become more frequent around the world and the impact of economic activity on the environment and people is more palpable. The COP28 meeting in the UAE focused attention on commitments made by countries in the Middle East towards a more sustainable future. This paper highlights the UAE's efforts in this respect and identifies areas for improvement, based on the Middle East and Africa Environmental Sustainability Scorecard (MEA ESS, The Scorecard).

The Scorecard was published in November 2023 by Agility, a leading global logistics company, in partnership with Horizon Group. It aimed to identify strengths and areas for improvement in the environmental sustainability performance of 17 countries in the Middle East and Africa, looking at six dimensions of sustainability: Green Investment, Innovation and Technology; Sustainable Infrastructure and Transport; Governance and Reporting; Energy Transition; Environmental Ecosystems; and Circularity. Its scores are based on a unique set of 48 indicators which combine quantitative data with policy assessments and survey responses from executives to paint a holistic picture.

> Environmental concerns – notably climate change – are rising on the global agenda

Figure 1. Middle East and Africa Environmental Sustainability Scorecard 2023 results



Note: Middle East and Africa Environmental Sustainability Scorecard results are based on six pillars. Scores range from 0 to 100, 100 being the best performer.
Source: MEA ESS (2023)

Although the UAE is a relatively young nation that was initially dependent on oil exports, it has made significant advancements in economic diversification in a short amount of time. In recent years, the UAE is now also pursuing an ambitious environmental agenda. Sixty percent of the country's fiscal revenue is generated from hydrocarbon production. At the same time, the UAE's geographic position and arid climate puts it at the forefront of risk from climate change[1]. It therefore stands to gain from a successful global energy transition and to tackle the potential negative economic and social consequences of such a transition. In this respect, the UAE showed foresight in 2021 by becoming the first country in the Middle East and North Africa (MENA) region to announce its commitment to Net Zero by 2050[2].

Managing the transition will be a challenge for the UAE, because it requires a profound structural overhaul of the economy towards a more innovative, sustainable and resilient model. Creating new sources of growth takes time and the country intends to increase fossil fuel production and consumption by 2030[3]. However, major green investments and strategic policy initiatives are underway and are expected to boost the economy in the longer term, through cost savings and by creating new sources of growth[4]. It is estimated that the related initiatives could create around 160,000 new jobs[5]. The revised Energy Strategy 2050 alone contributes AED 600 billion investment into renewables and clean energy[6]. The UAE's Green Agenda 2030 aims to generate up to 5 percent GDP growth and up to AED 25 billion in exports, while reducing emissions to below 100 kWh[7].

> In 2021 the UAE became the first country in the Middle East and North Africa (MENA) region to announce its commitment to Net Zero by 2050

Estimated benefits

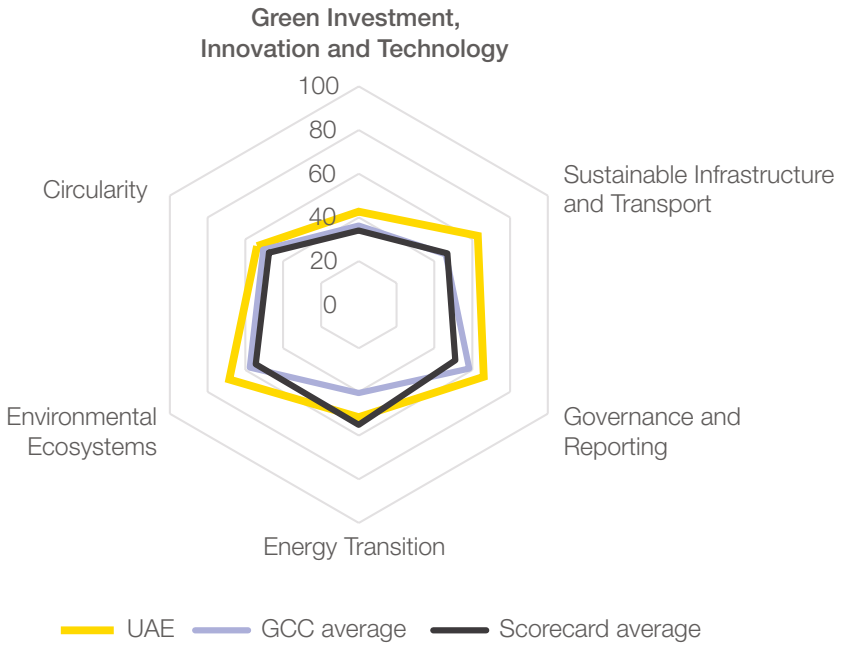
AED600bn
renewable and clean energy investments

up to 5%
GDP growth

AED25bn
exports

<100kWh
emissions

Figure 2. Middle East and Africa Environmental Sustainability Scorecard 2023 results for the UAE



Note: Middle East and Africa Environmental Sustainability Scorecard results are based on six pillars. Scores range from 0 to 100, 100 being the best performer.
Source: MEA ESS (2023)

The paper reviews the country's performance in the six dimensions of the MEA ESS. The findings provide fresh insights on actions taken since the Scorecard was compiled in mid-2023. As shown in Figure 2, the UAE outperforms the average of Middle Eastern countries on all dimensions of the Scorecard. It also outperforms the overall average in all but one dimension – the exception being energy transition, where Middle Eastern countries lag behind many of the African countries in the sample.

1 IMF (2023) United Arab Emirates. Country Report No. 23/224. www.imf.org/-/media/Files/Publications/CR/2023/English/1AREEA2023002.ashx
2 Climate Action Tracker (2024) UAE. https://climateactiontracker.org/countries/uae/net-zero-targets/
3 Climate Action Tracker (2024) UAE. https://climateactiontracker.org/countries/uae/
4 UAE Ministry of Climate Change and Environment (2023) The United Arab Emirates' First Long-Term Strategy (LTS) - Demonstrating Commitment to Net Zero by 2050. https://unfccc.int/sites/default/files/resource/UAE_LTLEDS.pdf
5 UAE Ministry of Climate Change and Environment (2023) Third Update of The Second Nationally Determined Contribution for the UAE. https://unfccc.int/sites/default/files/NDC/2023-07/Third%20Update%20of%20Second%20NDC%20for%20the%20UAE_v15.pdf
6 IMF (2023) United Arab Emirates. Country Report No. 23/224. www.imf.org/-/media/Files/Publications/CR/2023/English/1AREEA2023002.ashx
7 UAE (2023) UAE's Green Agenda - 2030. https://u.ae/en/about-the-uae/strategies-initiatives-and-awards/strategies-plans-and-visions/environment-and-energy/the-uaes-green-agenda-2030

The UAE's current environmental sustainability performance

a) Green Investment, Innovation and Technology

Green investments and the innovation ecosystem – which includes the development of sectors, technologies and innovations enhancing environmental sustainability – are the foundations for progress on sustainability. The UAE's score of 42.59 ranks second only to Qatar (42.89) and is significantly higher than the average of Gulf Cooperation Council countries (36.29). The UAE performs well on both sub-pillars: investment capacity, and innovation and technology development.

These results are driven by a strong base of technological and human capacities, and government policies that support the ecosystem with dedicated incentives.

Figure 3: Results in Green Investments, Innovation and Technology for the UAE 2023

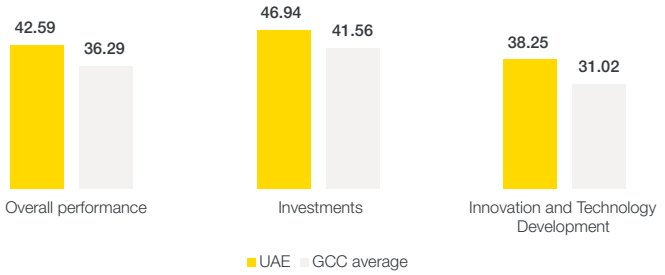
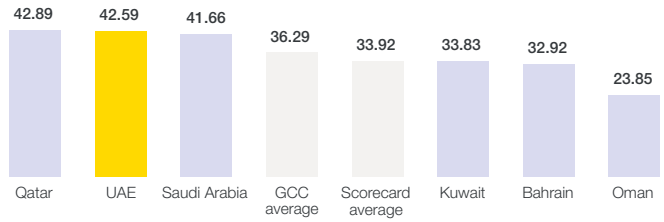


Figure 4: Green Investment, Innovation and Technology pillar overall scores 2023



Source: MEA ESS (2023)
Note: The main pillar score, 'Green Investment, Innovation and Technology', is composed of the average of the two sub-pillar scores: 'Investments' and 'Innovation and Technology Development'. Score range from 0 to 100. Best=100.

The government has been championing innovative clean energy solutions with a recently announced further commitment of USD 50 billion. The newly launched UAE Hydrogen Leadership Roadmap aims to make the country a major producer and exporter of green and blue hydrogen[8]. It is the first country in the GCC to launch green hydrogen pilot projects, at both the MBR Solar Park in partnership with Siemens Energy, Dubai Electricity and Water Authority (DEWA) and Expo 2020 Dubai[9].

between 5-20% capex

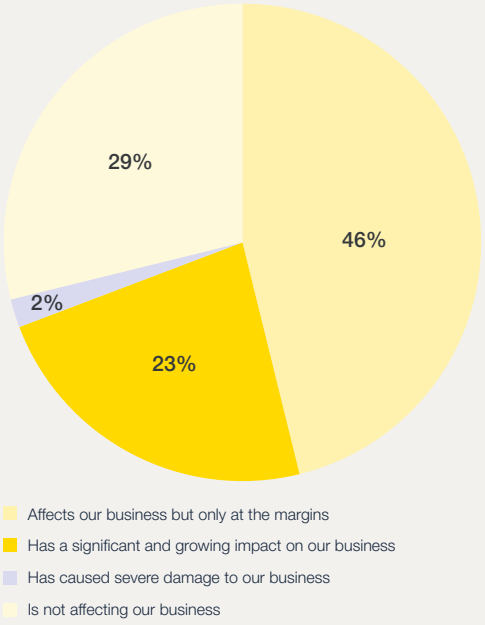
to be allocated towards achieving environmental sustainability targets by c.50% of UAE respondents

Investment is driven by the private sector as well as the government: 93 percent of UAE investors demonstrate interest in climate investment, with 87 percent seeking to increase capital flows for climate-related investments[10]. In the MEA ESS executive survey, approximately half of respondents in the UAE said that they plan to allocate between 5% and 20% of their capital expenditure towards achieving environmental sustainability targets. However, the Scorecard identified room for improvement, especially in corporate innovation and investment capacity, awareness and implementation (See Box 1). Significant further funding will be required for transforming resource consumption, energy production, manufacturing and other economic systems. To meet the Nationally Determined Contributions (NDCs) for reducing Greenhouse Gas emissions by 19% for 2030, the UAE will require an estimated USD 36 billion from 2023 to 2030[11].

8 World Future Energy Summit (2023) Middle East investment, innovation and technology to overcome climate change challenges. www.worldfutureenergysummit.com/en-gb/future-insights-blog/blogs/middle-east-investment-innovation-and-technology-to-overcome-climate-change-challenges.html
9 World Bank Group (2022) Gulf Economic Update. https://documents1.worldbank.org/curated/en/099337010182222173/pdf/IDU16928b14e11cef1492f1a4481263a1f40d4c4.pdf
10 Standard Chartered (2023) Sustainable Banking Report 2023. https://av.sc.com/corp-en/nr/content/docs/SC-Sustainable-Banking-Report-2023.pdf
11 World Bank Blogs (2024) Embracing climate opportunities for a greener GCC. https://blogs.worldbank.org/en/arabvoices/embracing-climate-opportunities-greener-gcc

Box 1: The estimated impact of climate change and environmental sustainability actions in the UAE

Figure 5.A. Climate change, UAE executive survey results 2023



Source: Horizon Group Business Executives' Survey 2023

Figure 5.B. Share of capital allocated towards achieving environmental sustainability targets in the company, UAE executive survey results 2023

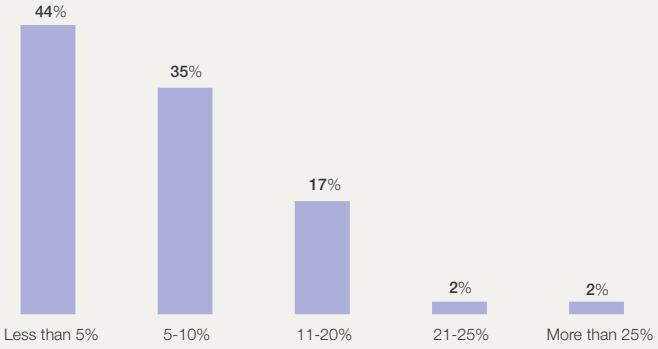
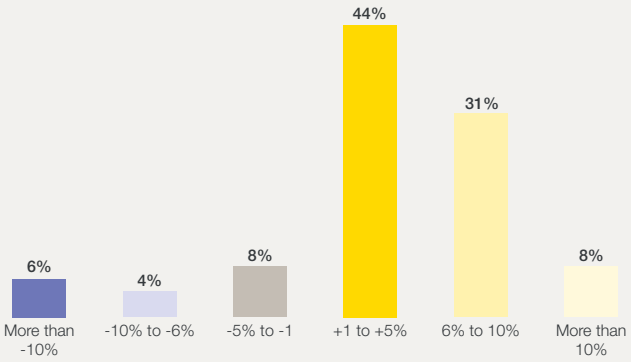


Figure 5.C. Expected change to company's operating costs in the next twelve months if acting to achieve all environmental sustainability-related targets, UAE executive survey results 2023



b) Sustainable Infrastructure and Transport

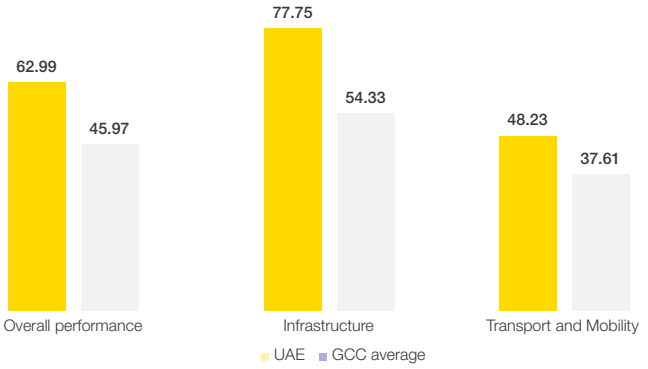
The availability of sustainable infrastructure (buildings/utilities/electricity) and transportation systems (airports/roads/railways/ports/highways) both motivate and enable more environmentally friendly business practices. The UAE is a clear regional leader, scoring 62.99 compared to the GCC average of 45.97). It scores especially well on the infrastructure sub-pillar, scoring 77.75 – the highest in the Scorecard.

Box 2. Masdar's Catalyst – an innovative and disruptive approach

The UAE government acknowledges the importance of green tech start-ups in combating climate change and fostering a green economy. It aims to provide a supportive ecosystem through sustainability commitments and policies to boost consumer demand. The Abu Dhabi Future Energy Company, Masdar, launched Catalyst – the country's first tech startup accelerator for sustainability – which has so far invested over $900k in start-ups. Masdar aims to surpass 100 GW of green energy capacity by 2030, with a long-term target of 200 GW, and generate 1 million tons of green hydrogen by 2030. These efforts are playing a crucial role in achieving SDG goals and moving the UAE towards a sustainable economy.

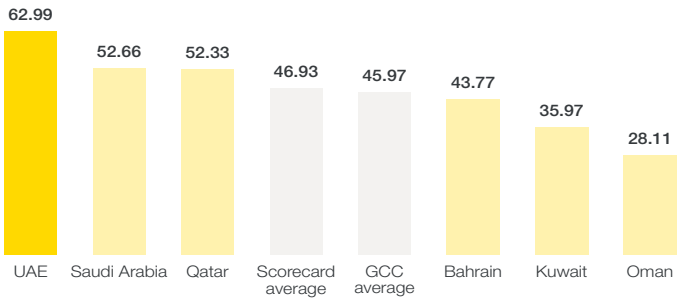
Source: Masdar Green Finance Framework

Figure 6. Results in Sustainable Infrastructure and Transport for the UAE 2023



Source: MEA ESS 2023

Figure 7. Sustainable Infrastructure and Transport overall scores 2023



Note: The main pillar score, 'Sustainable Infrastructure and Transport', is composed of the average of the two sub-pillar scores: 'Infrastructure' and 'Transport and Mobility'. Score range from 0 to 100. Best=100.
Source: MEA ESS 2023

The UAE is investing heavily in increasing the sustainability of infrastructure, for example by developing "five-minute cities" to reduce car dependency[12]. Procurement for government projects now includes the requirement to use green cement[13], while the Dubai government has included sustainable concrete blends in its Building Code[14].

Various sustainability initiatives in the transportation sector aim to ease congestion, expedite the shift towards green vehicles and improve public transport[15]. For example, the Dubai Electricity and Water Authority aims to install over 1,000 electric vehicle charging stations by 2025, and make public transport in Dubai emission-free by 2050[16]. In Abu Dhabi, 40 percent of taxis are hybrid (though only 0.5 percent are fully electric) and 42% of buses meet low emission standards[17]. Buses provide space for cycles, and startups such as Careem, Lime, and Fenix are also contributing to the last-mile connectivity challenge through micro-mobility services such as e-scooters[18].

in Abu Dhabi...

40% taxis are hybrid

42% buses meet low emission standards

> The Dubai Electricity and Water Authority aims to install over 1,000 electric vehicle charging stations by 2025

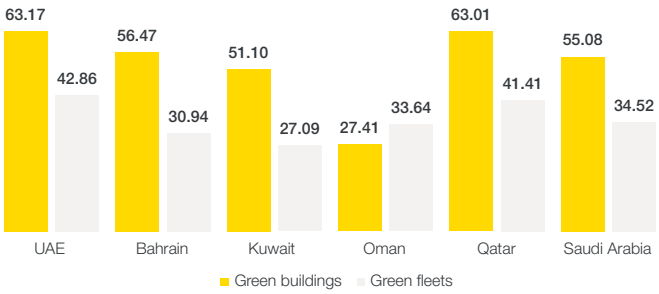
The UAE leads the region in the Scorecard on both green buildings and green fleets, which cover factors such as GHG emissions as well as certifications, targets and government policies. The UAE has been aggressive in its use of policy tools to reduce emissions from buildings and vehicles, including through targets for fleet electrification and plans for using biofuels.

c) Governance and Reporting

National regulatory frameworks and Nationally Determined Contributions (NDCs) to the United Nations with clearly defined strategies and targets are key for achieving environmental sustainability, along with efficient and transparent mechanisms for collaboration between public and private sector. The UAE outperforms its peers in the Scorecard's governance and reporting dimension, scoring 66.12 compared to the GCC average of 58.45. However there is room for improvement, especially in corporate governance.

12 Ali, M. et al. (2023) Fifteen-, Ten-, or Five Minute City? Walkability to Services Assessment: Case of Dubai, UAE. www.mdpi.com/2071-1050/15/20/15176
13 UAE Ministry of Climate Change and Environment (2023) The United Arab Emirates' First Long-Term Strategy (LTS) - Demonstrating Commitment to Net Zero by 2050. https://unfccc.int/sites/default/files/resource/UAE_LTLEDS.pdf
14 International Cement Review Research (2023) Going green in Dubai. www.cemnet.com/Articles/story/174279/going-green-in-dubai.html
15 UAE (2023) Abu Dhabi Transportation Mobility Management Strategy. https://u.ae/en/about-the-uae/strategies-initiatives-and-awards/strategies-plans-and-visions/transport-and-infrastructure/abu-dhabi-transportation-mobility-management-strategy
16 Government of Dubai (2023) DEWA fosters green mobility by supporting electric, hybrid, and hydrogen vehicles. www.dewa.gov.ae/en/about-us/media-publications/latest-news/2023/12/dewa-fosters-green-mobility-by-supporting
17 Abu Dhabi Mobility (2023) The Integrated Transport Centre Intensifies Efforts of Sustainable Transport According to Abu Dhabi's Vision and Sustainable Development Goals. https://admobility.gov.ae/en/news/intensifies-efforts
18 Fast Company (2023) Why are e-scooters popular? How micro-mobility is booming in the Middle East. https://fastcompanyme.com/impact/why-are-e-scooters-popular-how-micro-mobility-is-booming-in-the-middle-east/

Figure 8. Green buildings and green fleets in the GCC 2023



Score range from 0 to 100. Best=100.
Source: MEA ESS 2023

Box 3. Tilal Al Ghaf – a livable and sustainable community

Tilal Al Ghaf is a "net positive" community in Dubai developed by Majid Al Futtaim. As well as offering restaurants, retailers and proximity to a renowned school, it goes beyond merely balancing energy load and generation and contributes excess energy back to the grid.

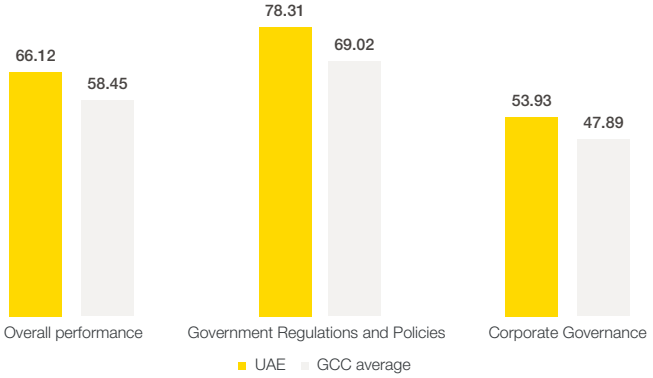
Source: Tilal Al Ghaf, World Economic Forum

The government declared 2023 as the '*Year of Sustainability*', launched several related regulatory initiatives and hosted international conferences, including COP28. In May 2023, UAE's Securities and Commodities Authority (SCA) issued a new regulatory framework for green and sustainability-linked bonds and *sukuk*, or sharia-compliant bonds. It requires bond issuers to provide a prospectus with information on a project's sustainability, selection and financing, and submit a semi-annual report detailing the project's environmental impacts in line with standards set by the Global Reporting Initiative and International Sustainability Standards Board[19].

Patrick Allman Ward, Advisor and former CEO of Dana Gas, shared that companies in the UAE are not required to deliver sustainability reports unless listed on the ADX stock exchange. Dana Gas, which started its sustainability reporting in 2017 on a voluntary basis, was recently highlighted by ADX[20] as best-in-class example of sustainability reporting. Improving the quality of these reports across the board is an important driver to achieving the country's energy transition goals. A huge step in this direction is the ESG (Environmental, Social, and Governance) benchmark index of the ADX, launched in November 2023, to promote transparent and sustainable business practices and greater investments into responsible companies[21].

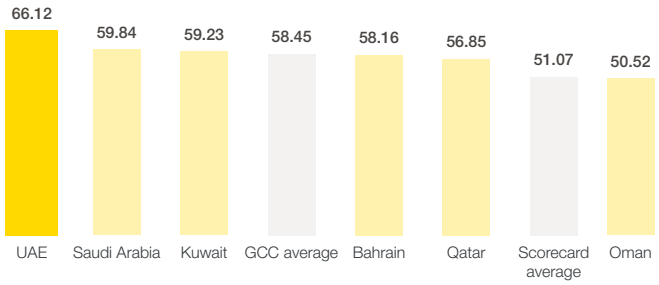
The Scorecard also confirmed the governance gap between government-level and corporate actions. Horizon Group's Business Executives' Survey 2023 concluded that the sustainability reporting practices of the companies are to be improved: about one-quarter of the sustainability reports follow some international reporting standards, and about one-third are audited by an external auditor/organization. The lack of regulatory frameworks (70 percent) and low level of collaboration among different stakeholders (62 percent) were identified by the executives surveyed as the main barriers to implementing sustainability practices.

Figure 9. Results in Governance and Reporting for the UAE 2023



Source: MEA ESS 2023

Figure 10. Governance and Reporting overall score 2023



Note: The main pillar score, 'Governance and Reporting', is composed of the average of the two sub-pillar scores: 'Government Regulations and Policies' and 'Corporate Governance'. Score range from 0 to 100. Best=100.
Source: MEA ESS 2023

> Listed companies must report on sustainability progress per local regulation in the UAE

19 Macbeth, C. et al. (2024) Sustainable Finance Law – United Arab Emirates. www.clearygottlieb.com/-/media/files/lexology-in-depth-sustainable-finance-law-united-arab-emirates.pdf
20 Abu Dhabi Securities Exchange (2024) Dana Gas Sustainability Report. www.adx.ae/english/pages/aboutadx/sustainability/lc-reports.aspx
21 Abu Dhabi Securities Exchange (2023) ADX launches FTSE Russell ESG Screened Index, ahead of COP28. https://adxservices.adx.ae/cdn/contentdownload.aspx?doc=3000782

The UAE is aiming to introduce regulations to support its push for eco-friendly investments, as without an appropriate regulatory framework the country risks compromising its reputation and undermining its sustainability policies[22]. Regulations could include applying anti-money laundering laws to sustainability or adjusting due diligence requirements for climate-friendly investments.

The UAE is working to establish an institutional framework for its Net Zero Monitoring, Reporting and Verification mechanism to enhance transparency and accountability. The system measures progress in reducing greenhouse gas emissions and in adaptation efforts and identifies areas for improvement. The institutional framework will define roles and responsibilities and create an agency to co-ordinate data gathering and technical audits[23].

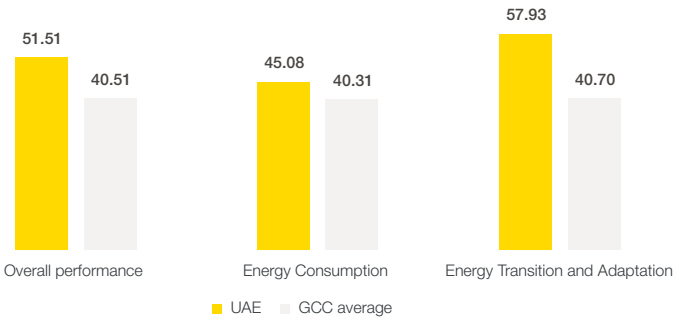
The UAE's National Data Action Plan to achieve the Sustainable Development Goals further showcases its regional leadership. The country has already achieved a 42 percent rate of SDG implementation, surpassing the regional average of 14 percent[24].

d) Energy Transition

The energy transition pillar of the Scorecard addresses the top item on the global agenda for tackling climate change, by assessing the use of non-renewable and renewable energy alongside energy transition commitments, including net zero targets. Whilst again outperforming its regional peers (51.51 vs 40.51), the UAE has room for improvement as it lags behind the African countries in the Scorecard. There are clear differences between the sub-pillars: the UAE scores lower on energy consumption due to the economy's reliance on fossil fuels, especially during harsh summers that require significant energy usage, but it also shows greater progress on energy transition and clean energy adoption. For the UAE, the energy transition is more about energy requirements than its appetite for transitioning to cleaner energy technologies.

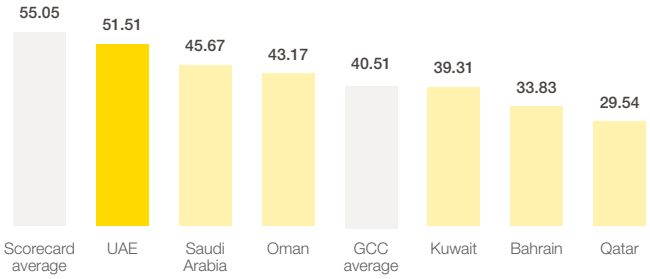
The UAE is a clear regional leader in the energy transition due to the high-level decarbonization commitments it has made in its Long-Term Strategy, Energy Strategy and National Hydrogen Strategy. These plans align with the broader goals of the National Centennial Plan by promoting new technologies, contributing to economic growth, enhancing education and improving the well-being of UAE citizens[25].

Figure 11. Results in Energy Transition for the UAE 2023



Source: MEA ESS 2023

Figure 12. Energy Transition overall scores 2023



Note: The main pillar score, 'Energy Transition', is composed of the average of the two sub-pillar scores: 'Energy Consumption' and 'Energy Transition and Adaptation'. Score range from 0 to 100. Best=100.
Source: MEA ESS 2023

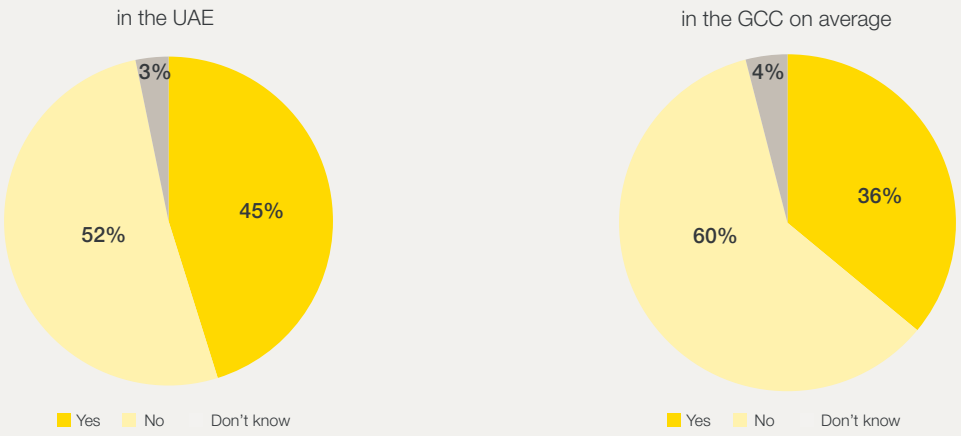
In 2023, the UAE revised its Energy Strategy 2050, setting out more ambitious targets to meet its climate change goals. These include increasing the efficiency of energy consumption and tripling the share of renewables in the energy mix[26]. The National Hydrogen Strategy aims to establish the country as a leading producer and supplier of low-emission hydrogen by 2031, targeting 15 million tons annual production, by developing supply chains and production hubs along with a national research and development center[27]. Combined with ambitions to further develop solar parks, nuclear energy capacity and carbon capture utilization and storage (CCUS), the UAE is on a trajectory to become carbon-neutral by 2050[28].

> The National Hydrogen Strategy aims to establish the country as a leading producer and supplier of low-emission hydrogen by 2031, targeting 15 million tons annual production

22 Risk Advisory (2024) UAE's focus on sustainable investments and the consequences for its regulatory environment. www.riskadvisory.com/news/uaes-focus-on-sustainable-investments-and-the-consequences-for-its-regulatory-environment/
23 UAE Ministry of Climate Change and Environment (2023) The United Arab Emirates' First Long-Term Strategy (LTS) - Demonstrating Commitment to Net Zero by 2050. https://unfccc.int/sites/default/files/resource/UAE_LTLEDS.pdf
24 United Nations ESCWA (2024) Arab SDG Monitor. https://arabsdgmonitor.unescwa.org/#
25 UAE Cabinet (2024) UAE Centennial Plan 2071. https://uaecabinet.ae/en/uae-centennial-plan-2071
26 Emirates News Agency (2024) MoEI to highlight UAE's efforts to achieve energy transition, climate neutrality at WFES 2024. www.wam.ae/en/article/b2ni9k8-moei-highlight-uae%E2%80%99s-efforts-achieve-energy
27 UAE Ministry of Energy and Infrastructure (2023) Updated UAE Energy Strategy 2050. https://u.ae/en/about-the-uae/strategies-initiatives-and-awards/strategies-plans-and-visions/environment-and-energy/-/media/MoEI-recent-docs/Updated-UAE-Energy-Strategy-2050-Eng.ashx
28 Embassy of the United Arab Emirates in Washington DC (2024) UAE Energy Diversification. www.uae-embassy.org/discover-uae/climate-and-energy/uae-energy-diversification#:~:text=In%202023%2C%20the%20UAE%20updated,mix%20to%2030%25%20by%202031

Box 4. Perceptions about commitments and actions

Figure 13. Does the government have enough resources and access to financing to meet its COP commitments? Results for the UAE and the GCC region 2023



Source: Horizon Group Business Executives Survey 2023

Patrick Allman Ward, Advisor and Former CEO of Dana Gas, pointed out that at the most senior government levels there is a clear commitment to the energy transition together with policy initiatives. However, there is a gap between the commitment from leadership and the execution in practice by companies in the UAE. Businesses can be split into three groups: the international companies that are taking necessary steps towards global energy transition targets; local companies quoted on the ADX stock exchange which has a sustainability reporting requirement; and others in the local business community with less focus on the energy transition. To close this gap and improve overall compliance, Dr. Allman-Ward suggests that "a reporting requirement is needed for all companies operating in the UAE, with a specific commitment to an energy transition plan. Its progress should be externally validated with a percentage of Board remuneration linked to this.

"The UAE Energy Strategy 2050 is a great starting point. Frankly, the UAE has the potential to be a poster boy for energy transition globally. The challenge is to turn the ambition of the senior leadership into executable reality. Industries in the UAE are in general energy intensive. It is a challenge for these to move down the decarbonization path, but the commitment is there. An area of increasing interest could be the carbon capture utilization and storage in the UAE."

Table 1: National Net Zero and renewable energy targets in the GCC

Country	Share of renewable energy in total electricity capacity	Net Zero target	National renewable energy targets
UAE	7%	2050	44% by 2050
Bahrain	0.10%	2060	Electricity generation of 5% by 2025, 10% by 2035
Kuwait	0.40%	2060	15% of electricity generation from renewables
Oman	0.40%	2050	10% of electricity generation from renewables
Qatar	0.10%	no target	Add 2-4 GW of renewable energy by 2030
Saudi Arabia	0.20%	2060	50% of electricity by 2030

Source: IRENA[29]

"The UAE is an example of a country that has made an outstanding commitment to the deployment of renewable energy. Solar power deployment in the UAE is now in the top 20 in the world on a per capita basis and solar parks continue to grow in Dubai and Abu Dhabi. With the increase of renewable sources, the challenge now becomes one of stabilizing the grid and managing the flow of electricity."

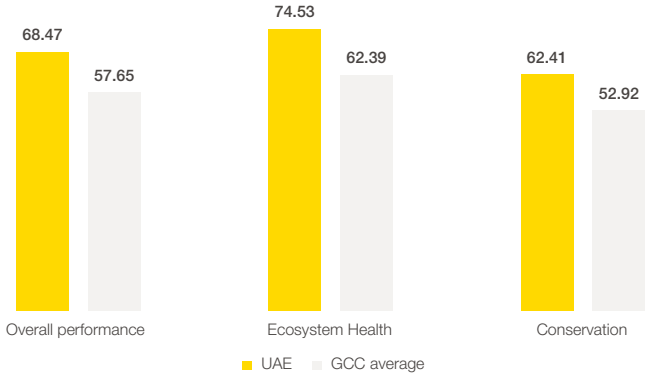
— **Patrick Allman Ward**
Advisor and Former CEO of Dana Gas

29 IRENA (2023) Renewable Energy Markets GCC 2023. https://mc-cd8320d4-36a1-40ac-83cc-3389-cdn-endpoint.azureedge.net/-/media/Files/IRENA/Agency/Publication/2023/Dec/IRENA_Rnewable_energy_markets_GCC_2023.pdf?rev=1da47fd0507747a1b60b852ff9636a1b

e) Environmental Ecosystems

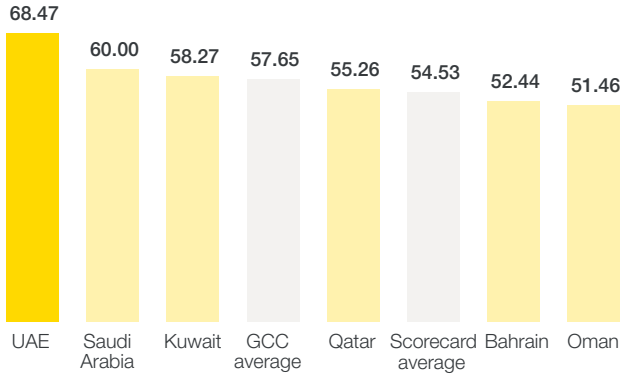
Supporting the health of environmental ecosystems – including air, soil and water systems, together with environmental protection and conservation efforts – is essential to mitigate and adapt to climate change and promote long-term prosperity. The UAE leads these efforts in the region, performing significantly higher than the GCC average overall (68.47 vs 57.65) and in both sub-pillars: ecosystem health and conservation efforts.

Figure 14. Results in Environmental Ecosystems for the UAE 2023



Source: MEA ESS 2023

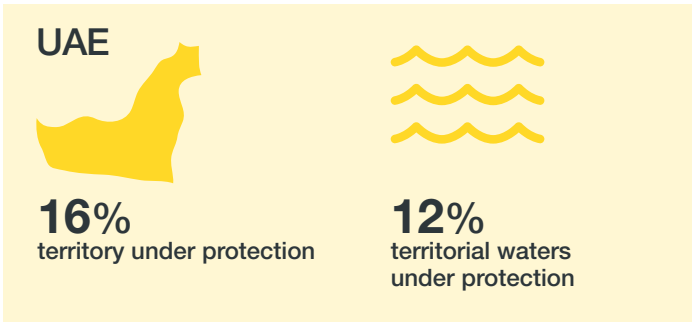
Figure 15. Environmental Ecosystems overall scores 2023



Note: The main pillar score, 'Environmental Ecosystems', is composed of the average of the two sub-pillar scores: 'Ecosystem Health' and 'Conservation'. Score range from 0 to 100. Best=100.
Source: MEA ESS 2023

With a landscape featuring deserts, sand dunes, oases, mountains, valleys, marshes, mangroves and salt plains, the UAE is especially at risk of the impacts of climate change. Its temperature has so far increased by 1.8°C compared to the global average of 1.1°C. Human activities such as overgrazing and urbanization cause further risk to the country's natural ecosystems through loss of vegetation, soil degradation and harm to wildlife and water resources[30].

Nonetheless, the UAE has emerged as the leader in the region by taking significant strides to preserve its natural environment. The Ministry of Climate Change and the Environment, together with emirate-level authorities, enforce industrial emission regulations and monitor air quality through the National Air Quality Platform. The UAE Air Quality Index smart app offers real-time data from monitoring stations nationwide, to help people in urban areas manage the impacts on air quality of desert dust, transportation pollution and industrial emissions[31].



Box 5. Mangrove restoration

COP28 made strides towards the objectives of Mangrove Breakthrough, a joint effort by the Global Mangrove Alliance and the UN Climate High-Level Champions. These include halting the loss of mangroves, restoring 15m hectares of mangroves, and investing USD 4 billion globally in conserving mangroves by 2030. The UAE has 183km^2 of mangroves, which capture 43,000 tons of CO_2 annually.

Source: The National News UAE

30 UAE Ministry of Climate Change and Environment (2023) The United Arab Emirates' First Long-Term Strategy (LTS) - Demonstrating Commitment to Net Zero by 2050. https://unfccc.int/sites/default/files/resource/UAE_LTLEDS.pdf
31 UAE (2024) United Arab Emirates Air Quality Index. www.aqi.in/dashboard/united-arab-emirates

The UAE is also taking steps to tackle the problem of water scarcity. Limited natural resources necessitate strict regulations on groundwater use, while the extraction, desalination, and transportation of water also consume significant amounts of energy. Abu Dhabi's Department of Energy aims to improve the efficiency of desalination plants to enhance water security, while the Emirates Water and Electricity Company plans to invest in innovative projects to reduce the emissions involved in desalination. The UAE's Water Security Strategy 2036 aims to improve the efficiency of water management, reduce pollution and promote the safe reuse of treated water.[32]

The UAE's biodiversity and natural ecosystem conservation efforts are mainly guided by the National Biodiversity Strategy and the National Strategy for Coastal and Marine Environment. Almost 16 percent of the country's total territory and 12 percent of its territorial waters are under protection[33]. One of the most pressing issues remains the severe overexploitation of the UAE's fisheries stocks, which have been recently addressed as national priority, by seasonal fishing bans, strict license requirements, fish size limitations, no take zones and recovery targets by 2030[34]. Some 7,500 hectares of coastal areas have already been restored, with another 4,500 hectares under restoration for 2030[35].

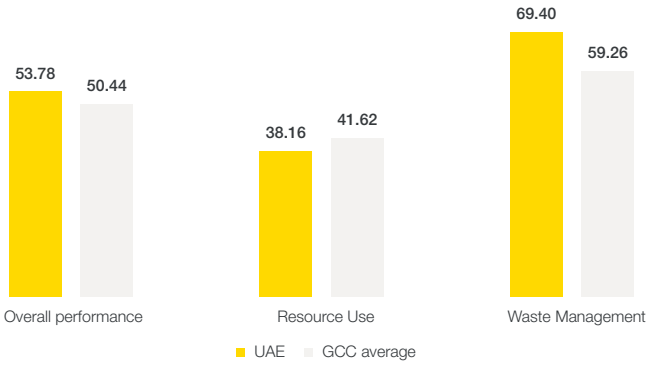
f) Circularity

The transition to a circular economy is central to reducing waste and making production and consumption more sustainable. Again, the UAE emerges as the regional frontrunner, performing better than the GCC average (53.78 vs 50.44). However, its advantage comes in the waste management sub-pillar – it lags the regional average on resource use, pointing to significant room for improvement.

The UAE's strong progress in circularity and waste management is evident in the Circular Economy Policy, launched in 2021 as first in the GCC region, which focuses particularly on SMEs and startups[36]. The country is committed to supporting innovation in circular design, eco-friendly manufacturing, waste management and sustainable consumption[37].

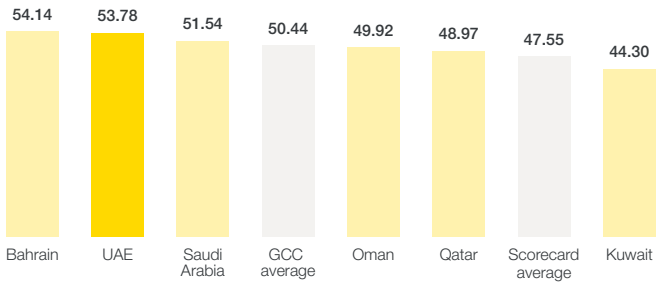
Dr. Kistin Morrison, Senior Green Growth Analyst at the Global Green Growth Institute, pointed out that the Ministry of Climate Change and Environment launched the Circular Economy Landscape Report during COP28. The Ministry internally monitors data (i.e. materials usage/generated waste) and keeps track of the progress and trends related to circularity over the past 10 years. Particularly since 2015, when the Sustainable Development Goals were introduced, there have been a number of policies introduced

Figure 16. Results in Circularity for the UAE 2023



Source: MEA ESS 2023

Figure 17. Circularity overall scores 2023



Note: The main pillar score, 'Circularity', is composed of the average of the two sub-pillar scores: 'Resource Use' and 'Waste Management'. Score range from 0 to 100. Best=100.
Source: MEA ESS 2023

by the UEA related to the environment and circularity. "The performance and outcomes, when properly measured, can be an important indicator for action," emphasized Dr. Morrison.

Other recent noteworthy initiatives include Dubai's ban on single-use plastics in January 2024[38], as part of regulations that cover a wide range of single-use products from food delivery packaging to fruit and vegetable wrapping, containers and bottles. The UAE also initiated "Waste to Zero" at COP28, which aims to decarbonize waste management and convert waste into resources, with participation from governments, NGOs and the private sector[39].

Dubai banned single-use plastics in January 2024

32 UAE (2023) The UAE Water Security Strategy 2036. https://u.ae/en/about-the-uae/strategies-initiatives-and-awards/strategies-plans-and-visions/environment-and-energy/the-uae-water-security-strategy-2036
33 UAE Ministry of Climate Change and Environment (2023) Third Update of The Second Nationally Determined Contribution for the UAE. https://unfccc.int/sites/default/files/NDC/2023-07/Third%20Update%20of%20Second%20NDC%20for%20the%20UAE_v15.pdf
34 Environment Agency Abu Dhabi (2019) The National Framework Statement for Sustainable Fisheries (2019-2030). www.moccae.gov.ae/assets/download/749e9268/UAE%20National%20Framework%20Statement%20for%20Sustainable%20Fisheries%20(2019-2030)%20English.pdf.aspx?view=true
35 UAE Ministry of Climate Change and Environment (2023) The Circular Economy Landscape Report. www.moccae.gov.ae/assets/download/774b7e5d/UAE%20Circular%20Economy%20Landscape%20Report_2023.pdf.aspx
36 UAE (2021) UAE Circular Economy Policy 2021-2031. www.moccae.gov.ae/assets/download/d15b52b/UAE%20Circular%20Economy%20Policy.pdf.aspx
37 UAE Ministry of Climate Change and Environment (2023) The Circular Economy Landscape Report. www.moccae.gov.ae/assets/download/774b7e5d/UAE%20Circular%20Economy%20Landscape%20Report_2023.pdf.aspx
38 Government of Dubai (2023) Hamdan bin Mohammed issues Resolution regulating single-use products in Dubai, with clear deadlines to phase them out. https://slc.dubai.gov.ae/en/content-hub/news/2023/december-2023/resolution-regulating-single-use-products-in-dubai/
39 Gulf News (2023) UAE unveils 'Waste to Zero' global initiative at COP28 for waste decarbonization.https://gulfnews.com/uae/environment/uae-unveils-waste-to-zero-global-initiative-at-cop28-for-waste-decarbonisation-1.1701937030820

There is a growing emphasis on sustainable food production – around 90% of food consumed in the UAE being imported – with the launch of the Food Systems Transformational Pathways to 2025 (complementing the National Food Security Strategy 2051). It focuses on the adoption of sustainable agricultural systems, increased domestic food production and reduced food waste[40]. As an example, Al Zahia, a community farm, piloted regenerative farming techniques to conserve soil health and enhance carbon sequestration from the atmosphere, developed by Majid Al Futtaim and the Sharjah government. The farm is an excellent demonstration of the circular economy as it sources organic waste from the local community. It has initiated a "food to compost" action to collect the organic waste from the residential households[41].

Box 6. Plastic waste recycling in Dubai – A case for community engagement

Dubai Municipality has initiated a recycling program that aims to promote community responsibility and eco-friendly choices, reducing the consumption of plastic and improving the rate at which plastic waste is recycled. In a world first, the municipality plans to recycle plastic bottles to create uniforms for sanitation workers. These efforts will contribute to the overall sustainability of Dubai's cleanliness and environment.

Source: Government of Dubai

Pathways to a more sustainable UAE

The UAE has shown great foresight and commitment in establishing its place as a regional leader in sustainable development. The country recognizes the importance of collaboration between the government and private sectors in shaping and implementing effective strategies. It has set ambitious targets in renewable energy and decarbonization, which have been viewed as major advances in the climate agenda.

The Scorecard captures the strength of sustainability efforts from both government and businesses in the UAE as of mid-2023, and further initiatives since then have bolstered the country's environmental position. The UAE has progressed particularly significantly when it comes to monitoring and evaluation frameworks and reporting.

Nonetheless, the challenge faced by the UAE remains profound. This started a paradigm shift from being a major fossil fuel-dependent economy towards cleaner alternatives needs to be accomplished proactively, with pragmatic maturity and leadership.This requires a continued focus both on the impact of environmental initiatives on economic growth and integrating long-term thinking on broader issues of socio-economic resilience and wellbeing.

There is clear evidence of willingness from the government to structurally overhaul the sustainability ecosystem and drive future narratives. However, there remains room for improvement for both the public and private sectors in several areas, including:

- Continuing to fill regulatory gaps in energy, economic, industrial, and regulatory policies to incentivize energy efficiency and promote new energy sectors
- Exploring ways to lower barriers to entry in the energy generation and utilities market
- Improving access to green finance
- Enhancing the use of foresight exercises to explore the use of new technologies.

Across all six pillars covered in this paper, there has been willingness and collaboration across all stakeholders. With renewed effort and focus, the UAE is well positioned to further its regional leadership role in environmental sustainability.

40 UAE Ministry of Climate Change and Environment (2023) Third Update of The Second Nationally Determined Contribution for the UAE. https://unfccc.int/sites/default/files/NDC/2023-07/Third%20Update%20of%20Second%20NDC%20for%20the%20UAE_v15.pdf

41 UAE Ministry of Climate Change and Environment (2023) Circular Economy Landscape Report. www.moccae.gov.ae/assets/download/774b7e5d/UAE%20Circular%20Economy%20Landscape%20Report_2023.pdf.aspx

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