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GREEN ECONOMY LEADERSHIP
AND SUSTAINABLE DEVELOPMENT



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CONTENT



Foreword	03
Executive Summary	04
UAE's progress in the Green Economy	06
DAFZ's Stance on the Green Industry	09
DAFZ initiative around developing the Green Ecosystem in the UAE	10
Voice of the Green Industry	13
Pioneer in the Region	19
Central Hub for Green Economy Investors	21
Acknowledgements	22
Citation & Reference	22



FOREWORD

Amna Lootah

Director General, Dubai Airport
Free Zone

With COP 28 around the corner, the UAE has taken strides in adopting full sustainability with a series of forward-looking objectives.

In recognizing the urgent need for sustainable solutions to global environmental challenges, the United Arab Emirates (UAE) has emerged as a committed advocate for green initiatives in the global rankings. Under its visionary leadership, the nation has embraced the transition to a green economy, achieving notable success in various global indices. The nation's commitment to sustainability extends globally, as seen in significant investments in clean energy projects. With COP28, a crucial summit on climate change and sustainability, all eyes are on the UAE, reaffirming its commitment to driving meaningful change on a global scale.

This whitepaper reflects our dedication to sustainability, aligning seamlessly with the UAE's vision. The remarkable progress in the Green Future Index, climbing to 36th place in 2023, underscores the nation's commitment to achieving its 2050 net zero target. DAFZ, as a free zone, has significantly reduced its carbon footprint by 48%, showcasing our active contribution to national goals.

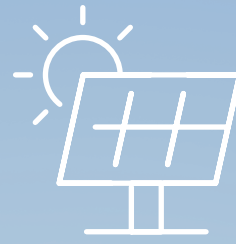
At the core of DAFZ's mission is the pursuit of green industries, where prosperity and environmental stewardship are intertwined. Our forward-thinking approach invites global innovators and industry leaders to join our free zone, establishing a collaborative hub for environmental innovation. As a key player in the journey towards a green economy, DAFZ built an industry ecosystem for environmentally responsible sectors. Our state-of-the-art facilities provide an ideal environment for investors committed to renewable energy and environmental preservation, contributing significantly to the goal of global leadership in the green economy.

Our journey towards a green economy is not just a national effort; it is a global contribution to a more sustainable and prosperous world. We invite you from across the globe to join us in shaping this future, together.

Amna Lootah

Director General, Dubai Airport Free Zone

EXECUTIVE SUMMARY



Recognizing the imperative of transitioning towards a green economy for sustainable development and environmental preservation, the UAE has embraced advanced technologies across various sectors, including energy storage and urban planning. Dubai Airport Free Zone (DAFZ) plays a proactive role in advancing the UAE's sustainable economic development by offering an ideal environment for investors seeking to establish eco-friendly enterprises.

DAFZ's initiative is and has been centred around identifying

green industries and inviting companies within green industries in alignment with the UAE government's current focus areas. The free zone aims to create a strong industry ecosystem, supporting the UAE's ambitious aspiration to emerge as a global leader in the green economy. This initiative is a step towards positioning the UAE as a prominent green hub, in harmony with the country's overarching goals. To get a holistic view of the green economy, DAFZ also undertook research to explore the viewpoints of industry leaders regarding the green economy across the MENASA region.



To streamline the selection process, a systematic five-step approach, accompanied by comprehensive evaluation criteria, was formulated to effectively shortlist industries. Four green industries namely renewable energy, green architecture, waste management and green IT solutions were shortlisted as high potential and highly focused industries. DAFZ green energy strategy is to invite companies from hubs (global and MENASA) to its free zone and help in establishing a green ecosystem.

In the broader context, GCC nations commonly are primarily directing their efforts towards clean energy as a strategic diversification from oil, which has traditionally been the predominant contributor to their GDP. Green architecture and a concerted push for low-carbon construction practices is another highly discussed subject across many countries given the substantial level of construction activity taking place.

Surveying industry leaders across MENASA, the UAE emerges as a regional pioneer in contrast to other countries, where 70% of the participants acknowledging that their countries are in process of formulating green policies with limited execution. In the survey, 63% of respondents deem the UAE an ideal location for immediate expansion due to its conducive environment and strong commitment to green economy development.

The UAE actively fosters a supportive environment for start-ups and entrepreneurs, setting it apart from some other countries in the region that may not be as receptive to start-up initiatives due to the considerable effort involved in establishing them. Leading this charge is DAFZ, a thriving business hub that is planning an array of infrastructure tailored for the green economy through its green industry focused initiatives.

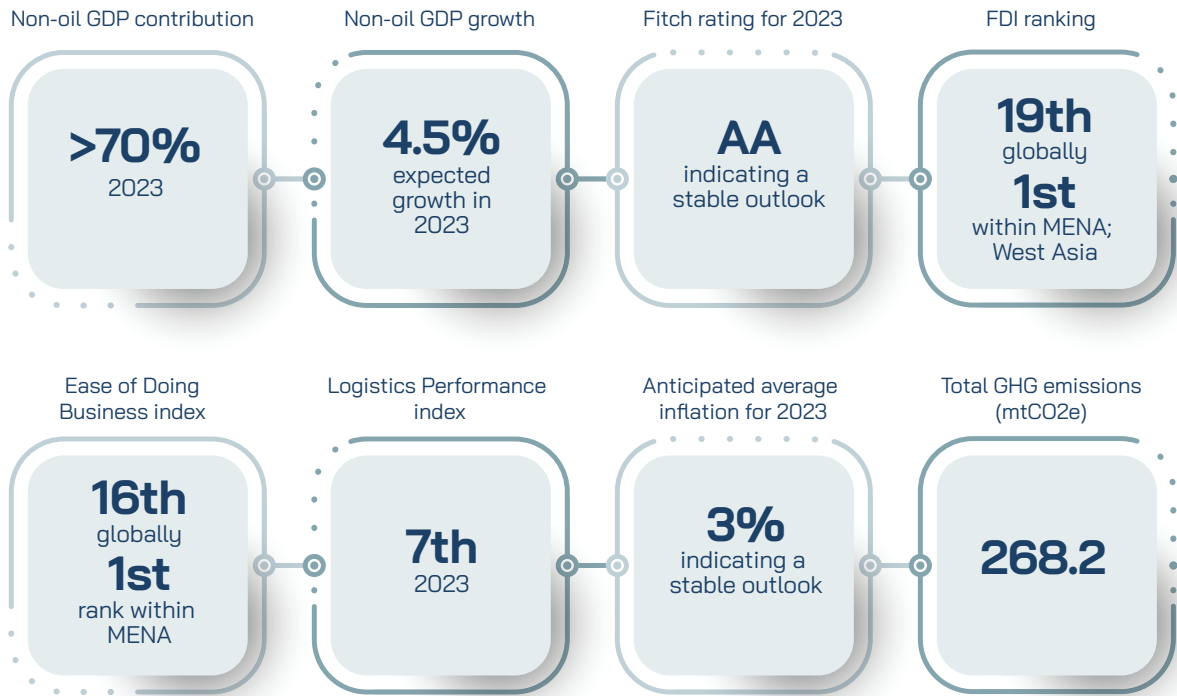


UAE'S PROGRESS IN THE **GREEN ECONOMY**



The United Arab Emirates (UAE) is a major oil supplier, contributing to nearly 3% of the world's oil production, making it a significant source of greenhouse gas emissions. The UAE has acknowledged the significance of transitioning towards a green economy to secure sustainable development and preserve the environment. The country has adopted advanced technologies in multiple sectors, including energy storage, urban planning, etc., which are propelling the nation towards a more sustainable and eco-friendly future.





Source: Ministry of Finance, UAE; Ministry of Economy, UAE; World bank; Fitch Ratings; International Monetary Fund

“The world only, for whatever reason, views us (UAE) as an oil-and-gas nation. We have moved beyond oil and gas 20 years ago. We embraced the energy transition 20 years ago. We’re business oriented. We’re results-driven.”

Dr. Sultan al-Jaber,
Minister of Industry and
Advanced Technology, UAE

The UAE’s economy is expected to experience a GDP growth rate of 3.5% in 2023, with a significant portion of this momentum being generated by non-oil sectors. This forecast reflects the nation’s successful economic diversification efforts, highlighting the increasing prominence of industries beyond its traditional oil sector. The UAE has been a leading investor

in the clean energy space, committing a substantial investment of USD 50 billion towards clean and renewable energy projects. This significant investment has been extended to 70 nations spanning six continents. Dr. Thani bin Ahmed Al Zeyoudi, Minister of State for Foreign Trade emphasized this commitment to the US GreenTech Delegation in Dubai in June 2023.

“There are a lot of things going on (in the UAE) and the biggest achievement for the UAE is that they have mandated the green building certification in all the emirates and that’s one of the biggest things. That’s the first step which can reduce the energy consumption by let’s say 15 to 20% compared to the conventional building and on top of that 30% water savings on conventional building.”

Investment Manager, UAE

The UAE is proactively formulating an execution strategy and a governance framework to attain a Net Zero status. Employing a multifaceted strategy, the UAE is putting its initiatives into action in alignment with key principles of societal advancement, the preservation of a high quality of life, the establishment of a sustainable environment, and the assessment of natural resources.

In 2021, the nation also embraced a circular economy policy¹, which serves as a rallying call to action for both federal and state governments, the private sector, and the general public. The shift toward a circular economy demands a collaborative endeavor from all stakeholders across various industries.

The UAE is actively pursuing the establishment of eco-industrial parks as a viable approach to promote sustainable development. Presently, the country has more than 45 industrial parks. To create an eco-industrial park that fosters resource exchange among diverse industrial enterprises or sectors for mutual gain, the UAE is looking to adopt best practices from across the world. In such a system, waste, or byproducts from one organization are transformed into valuable inputs or raw materials for another organization, resulting in reduced waste generation, resource conservation, and the cultivation of a more circular and sustainable economy.

“We have adopted the Circular Economy Policy. Our objectives are clean production, sustainable transport and consumption and efficient waste management, to protect the environment and generate new economic opportunities. We have also established a federal circular economy council to implement this strategy.”

**His Highness Sheikh
Mohammed bin Rashid
Al Maktoum**

Vice President and Prime
Minister of the UAE and Ruler
of Dubai



DAFZ'S STANCE ON THE GREEN INDUSTRY

Dubai Airport Free Zone (DAFZ) is actively contributing to the UAE's sustainable economic development. One of the core strategies for the next decade is to go green in line with UAE's green policies and initiatives. It embraces a sustainable approach to development, giving significant importance to minimizing the free zone's environmental impact while maintaining operational and service excellence. In November 2023, the Dubai Integrated Economic Zones Authority (DIEZ)² headquarters situated within DAFZ achieved the LEED Zero Energy and LEED Zero Carbon international certificates from the US Green Building Council. The building achieved 24% reduction in carbon emissions and its smart waste management system improved by 46% in 2022 compared to 2021. These achievements were made possible through the adoption of the sustainable and smart technologies, and effective management of energy consumption, cooling, irrigation, and

waste recycling systems.

DAFZ plans to set-up an ideal environment for investors seeking to establish sustainable and eco-friendly enterprises. From state-of-the-art facilities to cutting-edge technologies, it will be offering a conducive platform for businesses focused on renewable energy, sustainable practices, and environmental preservation.

DAFZ acknowledges the crucial role of private sector engagement as a significant catalyst for the UAE in realizing its objectives. Both the public and private sectors play indispensable roles in shaping public policy and advancing the development of a sustainable and environmentally friendly economy. This makes DAFZ a compelling choice for visionary entrepreneurs and companies looking to play a pivotal role in advancing the green agenda within the region and beyond.

¹The circular economy policy is a comprehensive framework for determining the country's approach to achieving sustainable governance and the ideal use of natural resources. Its priorities include infrastructure, sustainable transportation, sustainable manufacturing, sustainable food production and consumption. – Government of UAE

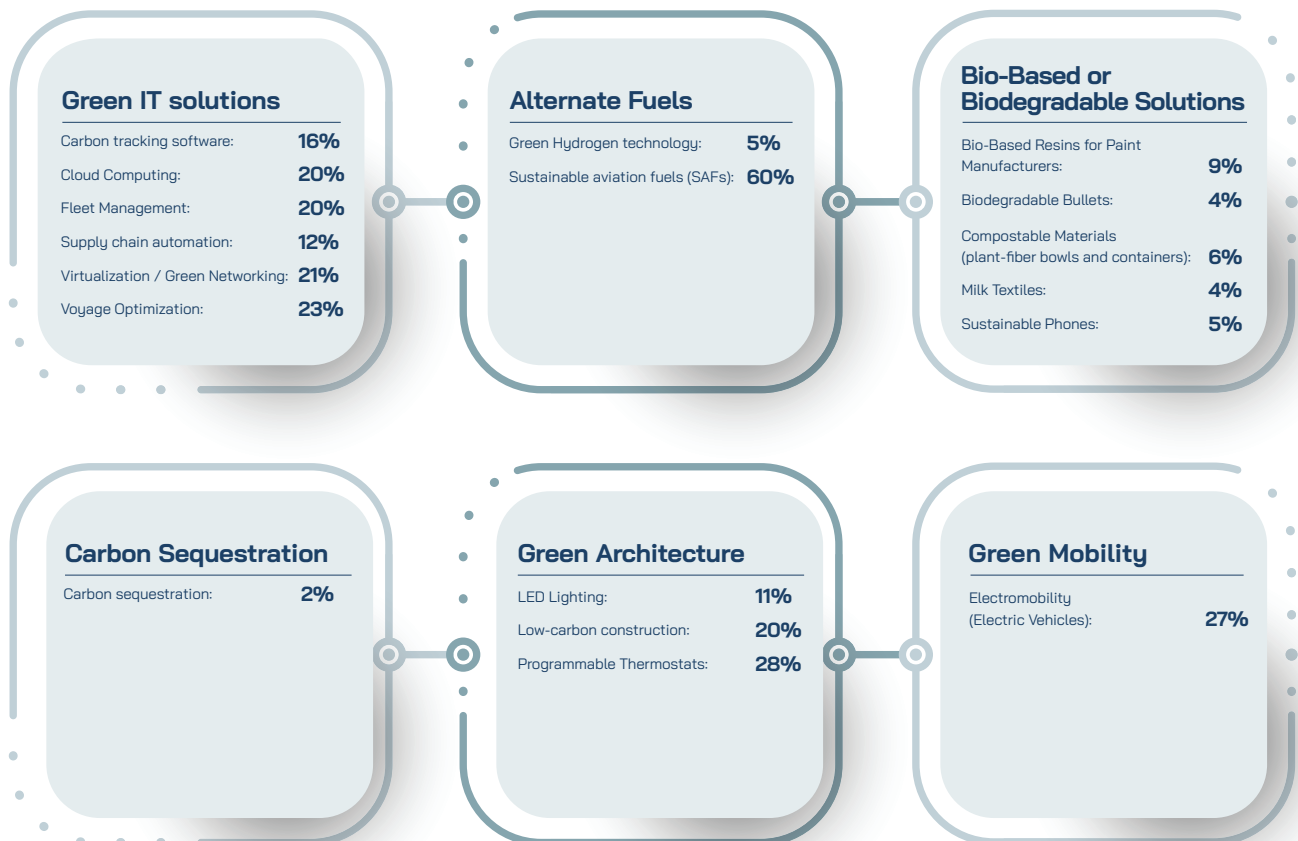
²Dubai Integrated Economic Zones Authority DIEZ - Established in 2021, DIEZ consolidates and integrates the products and services of DAFZ, Dubai Silicon Oasis (DSO), and Dubai CommerCity (DCC).

DAFZ INITIATIVE AROUND DEVELOPING THE GREEN ECOSYSTEM IN THE UAE

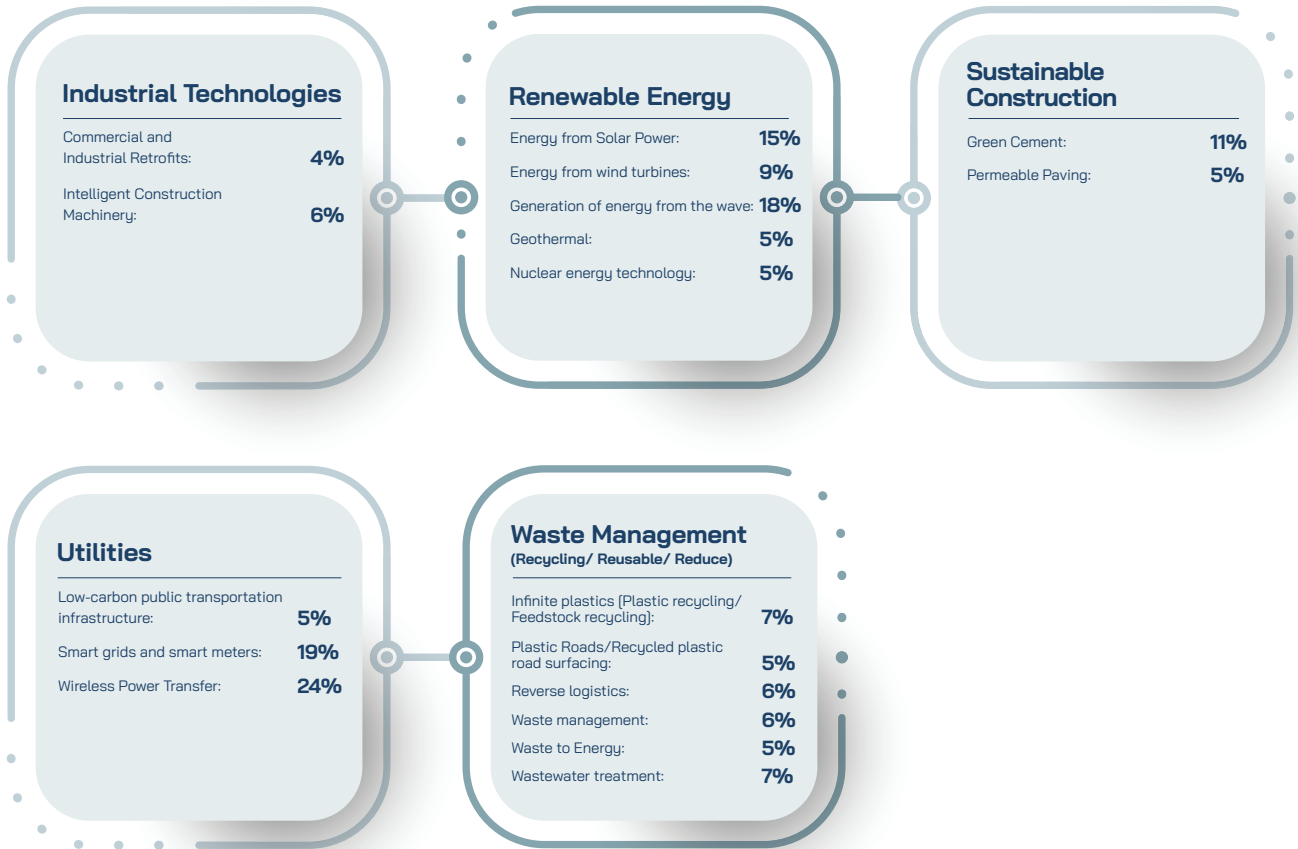
The free zone has taken a proactive approach by initiating a research study aimed at identifying environmentally responsible sectors. The purpose is to attract companies from the green sectors that can significantly contribute to the nation's economy in economic, environmental, and social terms. This initiative is a step towards positioning the UAE as a prominent hub for the green industry and DAFZ plans to establish a robust industry ecosystem.

The study's objective was to pin-point the key green sectors essential for propelling the UAE's green economy. The research was built around a comprehensive parametric model to evaluate industries, compiling data through an extensive and in-depth review of industry literature. The following table provides the long-list of sectors and their anticipated growth globally in the next five years.

SECTORS AND SUB-SECTORS EVALUATED



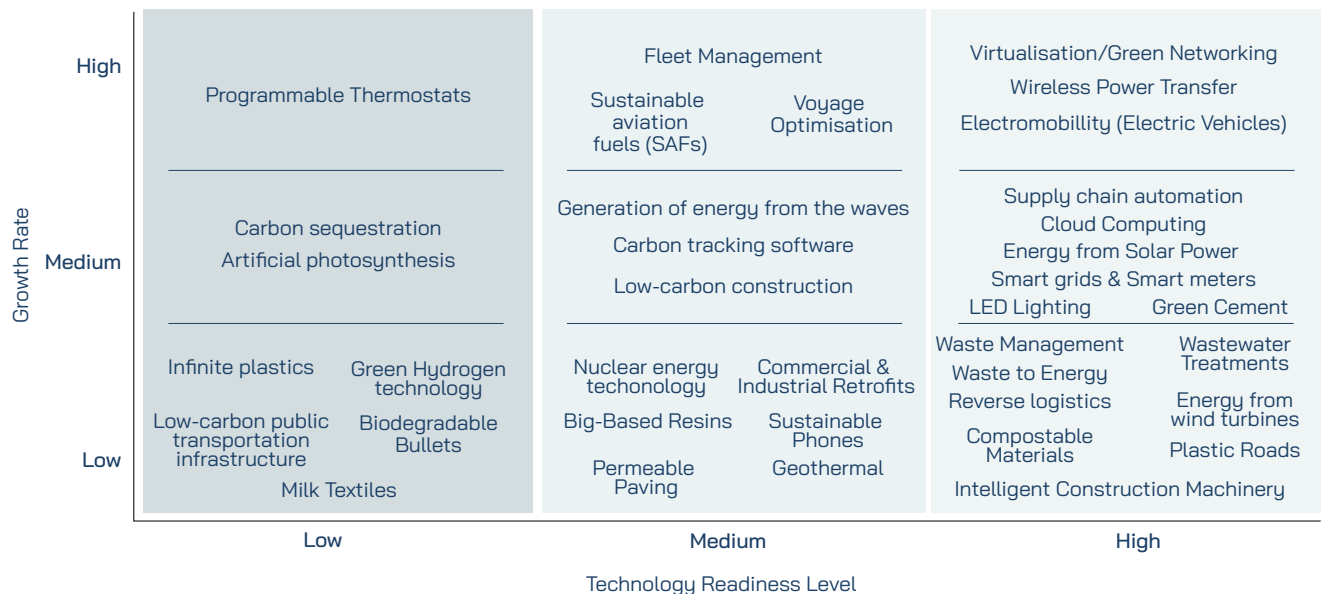
DAFZ INITIATIVE AROUND DEVELOPING THE GREEN ECOSYSTEM IN THE UAE



Source – Desk research review and analysis

This long list of sectors was analysed in the context of anticipated growth rate and technology readiness to arrive at a matrix showcasing the growth potential.

GROWTH RATE VS TECHNOLOGY READINESS OF SUB-SECTORS



Source – Desk research review and analysis

DAFZ INITIATIVE AROUND DEVELOPING THE GREEN ECOSYSTEM IN THE UAE

This was further analysed with a focus on the UAE government's environmental objectives, focus and initiatives to arrive at a list of focus industries.

SHORTLISTED INDUSTRIES AND SUB-INDUSTRIES

Green IT solutions

Virtualization/green networking, cloud computing, supply chain automation, fleet management, carbon tracking software

Renewable Energy

Energy from solar, wind, waves, nuclear, and geothermal

Waste Management

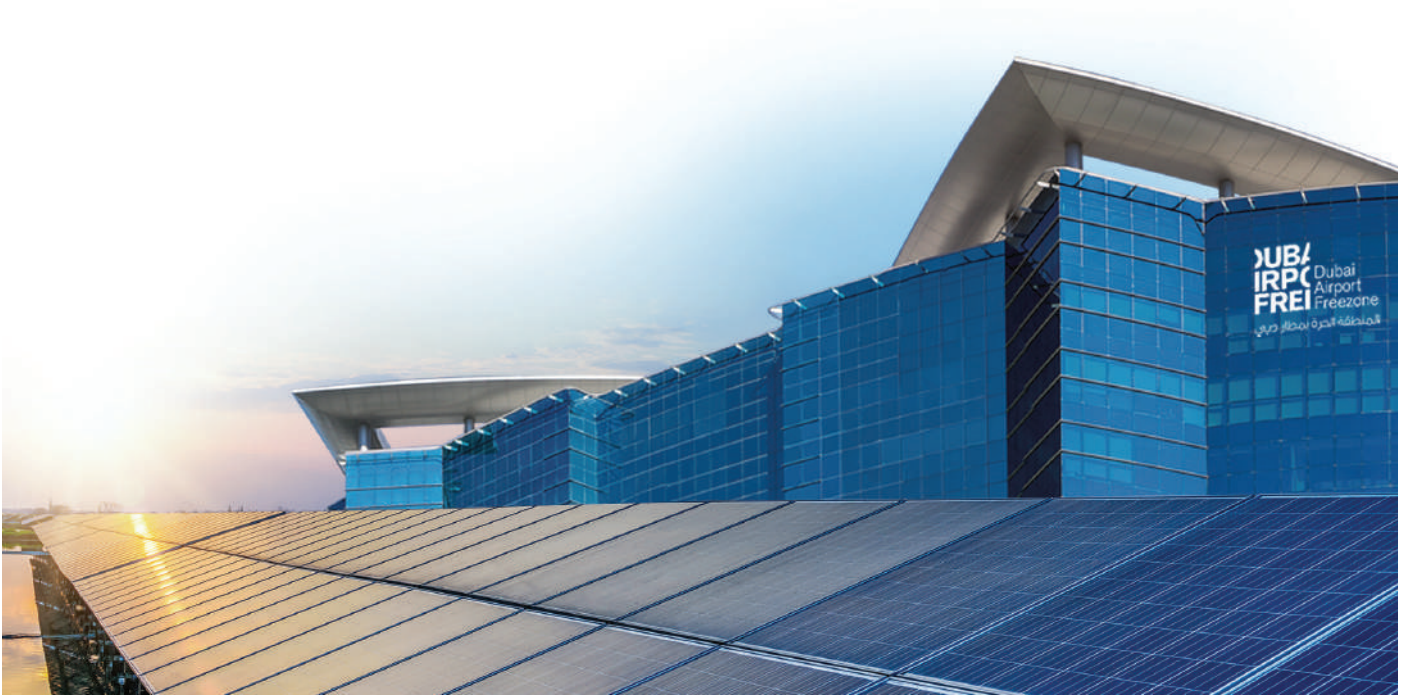
Reverse logistics, recycled plastic, waste/wastewater management and energy generation

Green Architecture

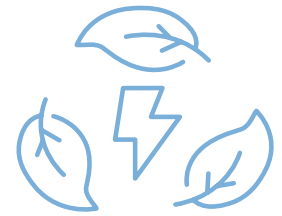
Low carbon construction, LED lighting

DAFZ intends to increase engagement with global companies from these shortlisted sectors to establish their presence within its free zone. The goal is to foster a comprehensive industry ecosystem across the green sectors.

Source – Desk research review and analysis



VOICE OF THE GREEN INDUSTRY



To get a broader perspective on the state of the green industry in the region, DAFZ recently conducted a comprehensive survey in the region to gain insights into the country's stance on environmental sustainability goals, as well as to gauge the perspectives and sentiments of the industry. The survey was conducted with 100 green industry leaders in seven distinct markets, namely Saudi Arabia, Qatar, Oman, Bahrain, Kuwait, Egypt,

and India, and focused on the green industries identified in the research project. The individuals interviewed were key decision-makers and senior executives who possess a deep understanding of the country's green initiatives and play an active role in the green industry.

Unanimously, the UAE is widely recognized as a regional pioneer, setting precedents for other nations to emulate.

Figure – Word cloud representing respondent's opinion of UAE's green economy.



Source: DAFZ Survey

"It seems UAE green economy can be a role model for other countries. The country is ushering in a new era with large number of partnerships between the government and clean energy companies." – Strategy Head, Energy Sector, India

"The UAE's green economy is addressing climate change which is also visible from the partners and businesses involved in their key sectors. It is also making the UAE more resilient to future shocks and making the region more attractive for innovations in engineering developments." – Managing Director, Construction sector, Bahrain

"I am quite surprised by the way UAE's green economy is growing in terms of sustainable projects and initiatives. Country is heavily investing in green initiatives, and I suppose it is a great way to diversify income away from oil-based economy." – Senior Management, Green IT Solutions, Saudi Arabia

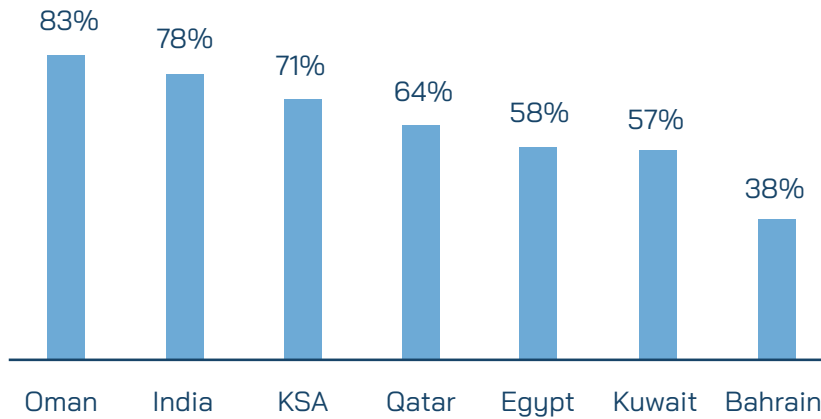
"The green economy of the UAE is on a positive upscale and has major impact on construction and energy. I still feel there is a lot which will come into light as developments in the green economy will pick up pace in the coming years." – Senior Management, Energy Sector, Oman

Survey Q - What is your opinion of UAE with respect to green economy?

Source: DAFZ Survey

Majority of the industry participants (70%) expressed that their countries have formulated green policies but have made limited progress in their execution or have yet to achieve their intended targets.

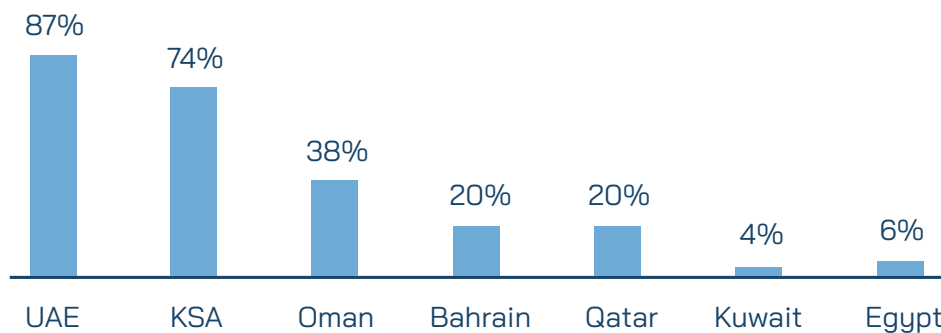
Figure – Respondents opinion on the state of their country's green economy



Survey Q - In your opinion, what is your country's outlook on green economy? - <Recently started implementing policies> and <Actively developed polices with little to no implementation>.
Source: DAFZ Survey

When respondents were queried about the key markets for green economy in the Middle East, notably, the UAE and KSA emerge as key players in the green economy within the MENASA region (87% and 74% respectively of the respondents mentioned the UAE and KSA)

Figure - Respondents option on key markets in green economy in the MENA region



Survey Q - In your opinion, which are the key markets in green economy in the Middle East North Africa region?
Source: DAFZ Survey

GCC nations commonly are primarily directing their efforts towards clean energy as a strategic diversification from oil, which has traditionally been the predominant contributor to their GDP.

“So, these oil revenues will be here for 10/20/30 years, but they will become less prominent. And you have a country that is in possession of the best resources for wind and solar and has a port by the way that can export products, yeah, all should embrace that.”
– CEO, Energy Investments, Oman

These governments are actively prioritizing renewable energy sources, particularly solar and wind power, which are abundant in the GCC region, where countries enjoy over 300 sunny days annually. Simultaneously, carbon capture has shifted from talk to action. A total of 13 Carbon Capture, Utilisation and Storage (CCUS) projects are planned or operational in GCC region as of March 2023.

“Renewable energy is seeing the highest number of transactions or investment funding followed by green architecture, then waste management and then the IT solutions.” – Head of Investments, Bahrain

“Old buildings that are like 20 years old are being demolished and reconstructed. So, regulations for existing buildings are not there, but regulations are evolving for the current or for the new construction.”

– Investment Manager, Qatar

Green architecture is a prevalent and highly discussed subject across many countries, making it a focal point within the industry. Given the substantial level of construction activity taking place globally, there is a concerted push for low-carbon construction practices within these nations. This shift is characterized by the increasing emphasis on guidelines and regulations pertaining to building materials, energy efficiency, building ratings, and the overall carbon emissions over a building’s entire lifecycle.



While most survey participants believe that their respective countries are in the introductory or growth phase of establishing a green economy, with a substantial journey ahead before reaching maturity, they also emphasize the need for more government involvement in their sectors.

Figure - Perception of Industry Participants across MENASA



Survey Q - In your opinion, how mature is your country in comparison to MENASA countries in establishing a green economy?
Source: DAFZ Survey

Saudi Arabia and India are ahead of the curve with a significant majority of the respondents believing that there are initiatives by the government for their sectors, however, more can be done to help achieve targets. Respondents from GCC (Oman, Qatar, Kuwait and Bahrain) and Egypt expressed that initiatives are still in initial stages of development or non-existent.

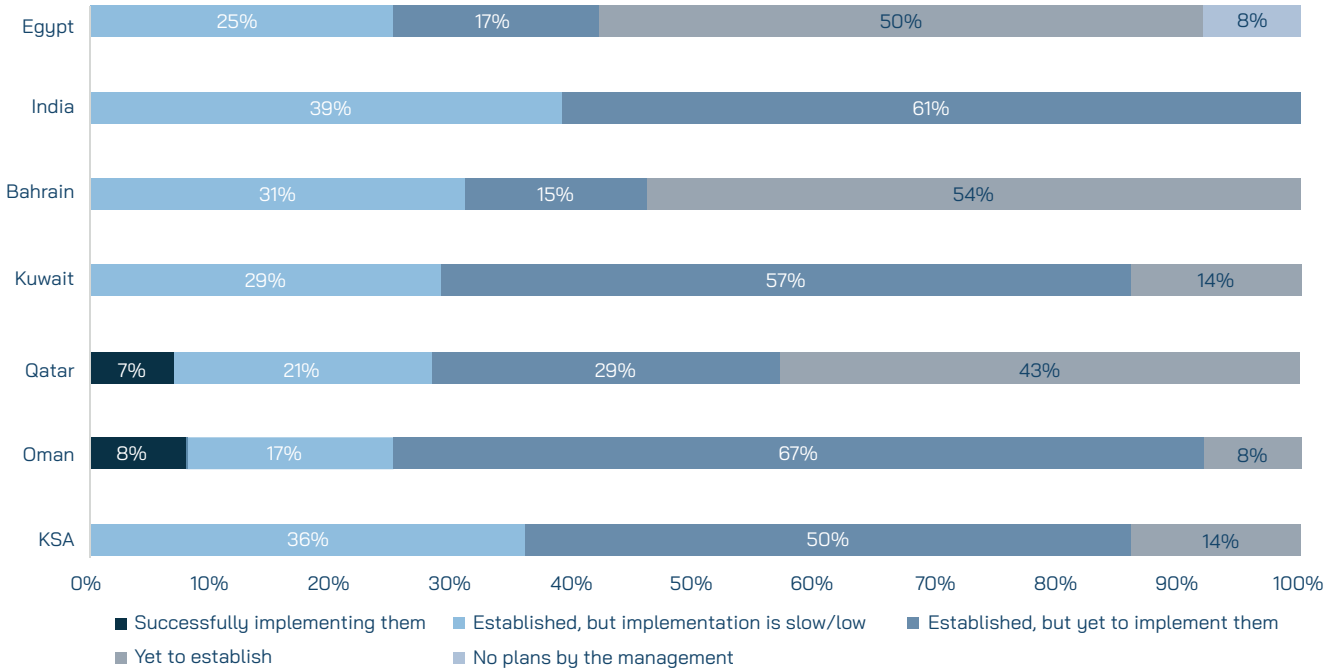
Figure – Government initiatives to support green sector

Response	KSA	Oman	Qatar	Kuwait	Bahrain	India	Egypt
Yes, helps company achieve its goals	7%	0%	7%	0%	8%	0%	0%
Partially, more can be done	79%	17%	29%	14%	8%	56%	0%
All initiatives in development stage, waiting for implementation	7%	67%	57%	43%	46%	44%	42%
No initiatives developed for the sector/industry	7%	17%	7%	43%	38%	0%	58%

Survey Q - Is your company satisfied with the initiatives launched by government in your sector/industry?
Source: DAFZ Survey

This underscores the growing responsibility of companies to take the initiative in establishing their ESG (Environmental, Social, and Governance) goals. It is notable that 65% of respondents express a commitment to establishing ESG goals within their organizations, even though implementation is currently limited.

Figure – ESG goal development and implementation status by companies



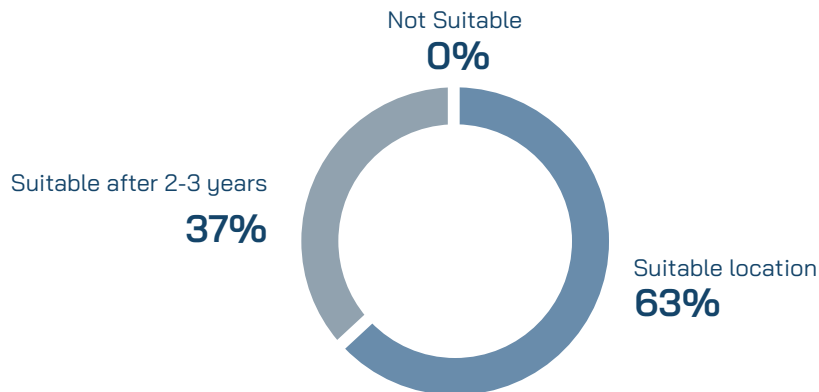
Survey Q - Has your company established its Environmental, Social and Governance (ESG) goals?

Source: DAFZ Survey



The UAE receives high praise in the region for its efforts in establishing a green economy. In the survey, 63% of respondents consider the UAE an ideal location for expansion due to its favourable environment and strong commitment to green economy development. It is to be noted that none of the participants thought that UAE is not a suitable location.

Figure – Opinion of UAE as a suitable destination for establishing green industry



Survey Q - What is your opinion of UAE as a country for establishing green industry?
Source: DAFZ Survey

Industry stakeholders have articulated their preferences concerning free zones. Among those preferences, the foremost consideration when selecting an office location is the proximity to customers and suppliers. Other important aspects were 100% ownership to expatriates, single window administration convenience and networking opportunities.

DAFZ plans to play a pivotal role in guaranteeing that these requisites are satisfied when attracting businesses to establish a thriving ecosystem. And UAE does well on these counts as evidenced in the survey findings. Approximately 40% of the participants immediately expressed their agreement when queried about their readiness to establish an office in DAFZ.



PIONEER IN THE REGION

The UAE is steadfast in its commitment to evolving into a nation driven by sustainability principles. In contrast to the conventional developmental models, followed by countries in the region which are primarily concentrating on creating new cities and communities based on sustainability principles, the UAE is pursuing a more wholesome and national approach.

In recent years, UAE has deployed extensive efforts towards driving sustainability forward in the country under the framework of the UAE Vision 2021 and Dubai 2040 Urban Master Plan, and in alignment with the UAE Green Agenda 2015-2030, the Paris Agreement, and the UN Sustainable Development Goals (SDGs).

“I feel that beyond 2035, the UAE would be able to meet on its green energy targets and I believe that they would not just achieve it, they will also be able to exceed their targets and set benchmarks to other countries in the region.” Head of Investments, Kuwait

The country’s leadership made critical and ambitious strides with respect to the transition to a green economy through the UAE Green Growth Strategy. This initiative consolidates the country’s environmental stewardship and its status as a hub for the export and re-export of green products and technologies by facilitating the production of green products and diversifying its energy sources. In doing so, it seeks to help support long-term economic growth.

With the UAE taking on the role of hosting the crucial 28th United Nations Climate Change Conference of the Parties (COP 28), the nation perceives this event as a prime occasion to reaffirm its commitment to global decarbonization. The country being a major fossil fuel producer and at the same time a fervent supporter of decarbonization considers itself best suited to promote climate responsibility, and champion concrete initiatives aimed at achieving the worldwide objective of reaching net-zero emissions by 2050.

When compared to other countries in the GCC and MENASA region, the UAE consistently achieves high rankings across various global indices. From the perspective of renewable energy, the UAE has set realistic and attainable targets. The country has demonstrated consistent and commendable progress across various metrics annually. For instance, in the Green Future Index, the country’s ranking improved from 41 in 2022 to an impressive 36 in 2023. Notably, the UAE secured the top position globally in renewable energy production growth and an impressive 3rd place in green building initiatives among 76 countries.

These advancements underline the nation's unwavering commitment to sustainable practices and its leadership in driving renewable energy adoption and environmentally friendly construction, reinforcing its status as a key player in the global sustainability movement.

Moreover, the UAE has established itself as a key hub for sustainable finance, a critical facilitator of the ongoing energy transition. Notably, Abu Dhabi Global Market (ADGM) has made significant strides by becoming the world's first regulator to launch a fully regulated carbon trading exchange and clearing house. The Gulf Cooperation Council (GCC) region has also witnessed an unprecedented surge in green bond and sukuk issuances during 2022, with a total of USD 8.5 billion raised. This was a substantial increase from the USD 605 million raised in 2021. In the UAE, green sukuk experienced a robust growth in 2022, surging by 32% when compared to the previous year. The largest bank in the UAE, First Abu Dhabi Bank (FAB), achieved a notable milestone by introducing the UAE's first-ever dirham-denominated green sukuk of AED1.3 billion (USD 353.93 million).

Country		UAE	KSA	Oman	Qatar	Kuwait	Bahrain	India	Egypt
Net Zero target		2050	2060	2050	No pledge	2060	2060	2070	No pledge
SDG Progress Global Rank		79	94	90	100	108	111	112	81
Environmental Performance Index Rank		39	109	149	137	87	90	180	127
Green Future Index Rank		36	56	Not Ranked	73	57	Not Ranked	50	60
Government Investment in Clean Energy (USD)	(USD)	54.4 billion by 2030	266.6 billion by 2030	45 billion by 2030	Not available	300 billion by 2040	Not available	30 billion by 2030*	Not available
	As a % of current GDP, 2022	10.7%	24%	39%	N/A	163%	N/A	0.89%	N/A
Energy from renewables as a % of total requirement		30% (2030)	50% (2030)	30% (2030)	20% (2030)	15% (2030)	10%	50% (2030)	42% (2035)
Energy from Renewables	Current (GW)	9.2 (2023)	3 (2023)	0.159 (2020)	0.8 (2023)	0.09 (2021)	0.012 (2021)	172 (2023)	19.2 (2021)
	Target (GW)	14.2 (2030)	58.7 (2030)	3 (2025)	5 (2035)	4.5 (2030)	0.710 (2035)	600 (2032)	50.5 (2030)
	% of growth required from 2023/latest data achievements to reach the target	6.4%	52.9%	79.9%	16.5%	54.5%	34%	14.9%	11.3%

*Upgrade transmission lines for clean energy

Source –

1. UN Sustainable Development Goals Rankings - Measures and ranks the total progress of countries towards achieving all 17 SDGs – URL
2. Environmental Performance Index (EPI) Rankings - Using 40 performance indicators across 11 issue categories, the EPI ranks 180 countries on their progress toward improving environmental health, protecting ecosystem vitality, and mitigating climate change. URL
3. Green Future Index Rank - The ranking shows the performance of countries relative to each other generated across the following five pillars: Carbon emissions, Energy transition, Green society, Clean innovation, and Climate policy. - URL
4. Government press releases of individual countries

CENTRAL HUB FOR GREEN ECONOMY INVESTORS

As part of its commitment to combat the climate crisis and align with global sustainability goals, the UAE has recently submitted a revised Nationally Determined Contribution (NDC). This updated pledge outlines a significant emissions reduction target of 40% compared to business-as-usual projections. The country is strategically targeting the clean energy sector and agricultural innovation as the primary areas for driving transformative change. This forward-looking initiative positions the UAE as a proactive and responsible

player in the global fight against the climate crisis. The UAE actively fosters a supportive environment for start-ups and entrepreneurs, setting it apart from some other countries in the region that may not be as receptive to start-up initiatives due to the considerable effort involved in establishing them. Leading this charge is DAFZ, a thriving business hub that is planning an array of infrastructure tailored for the green economy through its green industry focused initiatives.



ACKNOWLEDGEMENTS

DAFZ sincerely thanks the following UAE ministries and industry participants for their valuable inputs and participation in interviews which greatly contributed to the development of this whitepaper.

- Ministry of Climate Change and Environment
- Ministry of Energy and Infrastructure
- Ministry of Information and Advanced Technology
- Industry leaders of companies in MENASA from the shortlisted green sectors who participated in the survey.

CITATION & REFERENCE

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