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UNITED ARAB EMIRATES
MINISTRY OF ECONOMY & TOURISM



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Executive summary of the Input Paper on clusters and value chains in the United Arab Emirates and trade relations with EU27

UAE economy

The United Arab Emirates (UAE) has established itself as one of the most dynamic economies in the Gulf region, combining strong **oil-driven growth** with an **ambitious diversification agenda**. In 2023, the country's GDP reached EUR 475 billion, while GDP per capita in purchasing power standards stood at EUR 77,550, among the highest in the world. Over the past two decades, the UAE has sustained average annual growth of 4.1 percent, underpinned by its **strategic role as a global energy exporter and trade hub**. The structure of the economy reflects this duality: **oil and gas extraction and related activities in mining** and quarrying account for nearly a quarter of GDP, while wholesale and retail trade, manufacturing, financial services, and construction collectively represent close to 40 percent of national output. **The country's export profile remains heavily reliant on natural resources**, with crude and refined oil dominating shipments, followed by gold and diamonds. Nevertheless, non-resource exports such as electronics and machinery are gradually gaining relevance, signalling progress in economic diversification.

EU-UAE business & value chains

Relations between the EU and the UAE are framed within the broader **EU–Gulf Cooperation Council (GCC) Cooperation Agreement of 1988**, which provides the institutional foundation for political and economic dialogue. **The UAE has emerged as the EU's most significant partner in the Gulf**, both as a supplier of energy and as a market for industrial goods. In 2024, EU imports from the UAE amounted to **€11.2 billion** (a decrease of 35% compared to 2023), while exports reached **€44.4 billion** (an increase of 15% compared to 2023), resulting in a trade surplus of over **€33 billion** in the EU's favour. Imports were dominated by **mineral products (49%)**, followed by **base metals (17%)** and **precious metals such as gold and diamonds (11%)**. On the export side, the EU mainly supplied **machinery and appliances (31%)**, **transport equipment (14%)**, and **chemicals (13%)**. Other key exports included pearls and precious metals (8%) and foodstuffs (5%). Overall, trade relations remain heavily concentrated in energy, metals, and high-value manufactured goods, with the UAE consolidating its role as a strategic EU partner in both industrial goods and energy-related value chains.¹

¹ European Commission, *European Union, Trade in Goods with United Arab Emirates*. Directorate-General for Trade and Economic Security (2025). Available at: [details_united-arab-emirates_en.pdf](#)

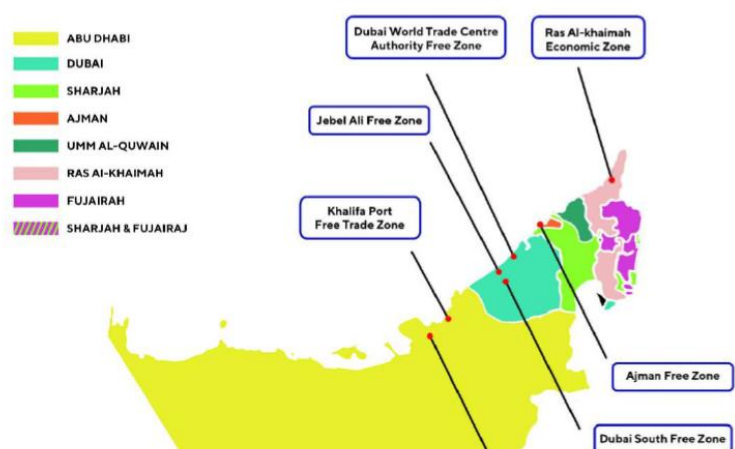
UAE cluster policy landscape

Beyond trade, the UAE is actively shaping its domestic cluster ecosystem as a vehicle for competitiveness and diversification. The Ministry of Economy has launched the **National Cluster Strategy**, which focuses on five priority sectors: **financial services, hospitality & tourism, aerospace & defence, communications and analytics**, and the **food industry**. The first cluster to be implemented is in the food sector, aligned with the National Food Strategy 2051, and already brings together 700 partners and 5,000 companies across the Emirates. This initiative aims to strengthen sustainable food production, reduce import dependency, and promote private–public–academic collaboration.

At the same time, **free zones continue to be central to the UAE's economic policy**. More than 40 zones operate across the federation, with Dubai alone hosting 28. These zones act as specialised hubs for investment and innovation, offering preferential regulatory and tax conditions. Flagship examples include the Dubai International Financial Centre (DIFC), which positions itself as a global centre for finance and fintech, and the Dubai Silicon Oasis, which houses clusters in mobility, cybersecurity, and sustainable development.

In addition to the National Cluster Strategy and the network of free zones, the **Health, Endurance, Longevity, and Medicine (HELM)** cluster, led by the Abu Dhabi Department of Economic Development, Abu Dhabi Investment Office, and the Department of Health – Abu Dhabi, was launched in April 2025. The cluster will focus on life sciences innovation, including biotechnology, AI-enabled healthcare, and medical technologies. The cluster will integrate research, development, manufacturing, and commercialisation across biotechnology, pharmaceuticals, MedTech, and digital health.

Together, the National Cluster Strategy, the expansive network of free zones and the newly launched Health, Endurance, Longevity, and Medicine (HELM) cluster embody the UAE's dual ambition: consolidating its role as a leading energy exporter while simultaneously fostering diversified, innovation-driven growth. For European stakeholders, this landscape creates significant opportunities.



Overview of the regional distribution of UAE's free zones

Source: Horizon Biz Consultancy (2023) [Freezone Company Formation Dubai | Freezone Company Setup](#)

Strong trading relations in energy, automotive, health, and electronics value chains provide a foundation for deepening cooperation, while the evolving cluster ecosystem offers a platform for joint innovation, investment, and sustainability initiatives.

Zoom into the focus areas of the EU-UAE Matchmaking Event 2025

Clean & renewable energies and energy efficiency

Solar, hydrogen, wind, energy storage, sustainable fuel for maritime and aviation

The cornerstone of the UAE's energy transition strategy is the **UAE Energy Strategy 2050**, launched in 2017 and updated recently, setting goals for 2030 and ambitions for 2050 to reach net zero - given the recent dynamic changes in the energy sector, the maturity of emerging low-emission energy technologies, and the country's commitment to the objectives of the Paris Agreement.² The aim of the strategy is to triple renewable energy's contribution by 2030, with planned investments between AED 150 to 200 billion (approx. USD 40-54 billion). It targets a clean energy mix comprising 44% renewables, supported by nuclear, clean coal, and natural gas, with the ultimate goal of net zero emissions by 2050. In addition to this, the **National Hydrogen Strategy** complements these efforts by focusing on establishing the UAE as a leading global hydrogen producer and supplier, particularly of low-emission hydrogen, to decarbonise sectors difficult to electrify. The UAE will achieve this through the development of supply chains, the establishment of hydrogen oases and a dedicated national research and development centre for hydrogen technologies.³

The Hydrogen Strategy positions the country as a future hub for low-carbon hydrogen production, targeting local demand of 2.7 million tons per annum by 2031. This includes green hydrogen produced using solar-powered electrolysis and blue hydrogen derived from natural gas with carbon capture. Important projects like **DEWA's Green Hydrogen project** validate the UAE's ambition to capture 25% of the global hydrogen market by 2030.

² UAE Energy Strategy. Available at: [UAE Energy Strategy 2050 | The Official Portal of the UAE Government](#)

³ UAE National Hydrogen Strategy. Available at: [National Hydrogen Strategy | The Official Portal of the UAE Government](#)

This project is implemented by DEWA at the Mohammed bin Rashid Al Maktoum Solar Park, being the first project of its kind in the Middle East and North Africa to produce hydrogen solar power, and the hydrogen gas tank to store up to 12 hours of hydrogen produced from solar power. Launched in 2021, the facility has fully achieved its production goals, producing approximately 20 kilograms per hour of high-purity green hydrogen by electrolysis of water. This project supports the **Dubai Net Zero Carbon Emissions Strategy 2050**⁴ to provide 100% of the energy production capacity from clean energy sources by 2050.⁵ Both the Hydrogen Strategy and the Green Hydrogen project are in line with DEWA's ongoing efforts to reduce carbon emissions from energy and water production processes, diversify and strengthen Dubai's position as a global clean energy hub and green economy, and achieve the Dubai Green Mobility Strategy 2030 to promote the use of sustainable transport and reduce greenhouse gas emissions.⁶

Solar energy remains the dominant pillar of the UAE's renewable push. The above-mentioned **Mohammed bin Rashid Al Maktoum Solar Park** is a flagship project and the world's largest single-site solar park in the world based on the Independent Power Producer (IPP) model. It has a planned production capacity of 5,000 megawatt (MW) by 2030, with investments totalling AED 50 billion. When completed, it will save over 6.5 million tons of carbon emissions annually.⁷ In 2025 alone, an additional 800 MW will be added to this park, pushing its capacity to approximately 3.4 GW, supported by the Dubai Electricity and Water Authority (DEWA). The country leverages its year-round high solar irradiance and vast desert land for utility-scale solar development.

⁴ The UAE's Net Zero 2050 Strategy. Available at: [The UAE's Net Zero 2050 Strategy | The Official Portal of the UAE Government](#)

⁵ Smart Water Magazine, *Green Hydrogen project supports DEWA's efforts to reach net zero by 2050*. Available at: [The Green Hydrogen project supports DEWA's efforts to reach net zero by 2050](#)

⁶ Dubai Electricity & Water Authority (DEWA), *Green hydrogen supports diversification of energy sources and balancing economic needs with sustainable development*. Available at: [Green hydrogen supports diversification of energy sources and balancing economic needs with sustainable development](#)

⁷ Solar Park website available at: [Sustainability & Innovation Centre | Mohammed bin Rashid Al Maktoum Solar Park](#)



Figure 1: Mohammed bin Rashid Al Maktoum Solar Park in Dubai, UAE

While historically challenged by lower wind speeds, innovation within climate technologies have enabled the UAE to develop viable wind power projects, such as the **UAE Wind Program** which consists of 103.5 MW utility-scale wind farms across Abu Dhabi's islands and Fujairah, supported by innovative turbine technology optimized for low-wind conditions. This project displaces significant CO₂ emissions and represents the UAE's diversification beyond solar; moreover, it leverages advances in technology, material science and aerodynamics to capture low wind speeds at utility scale, paving the way for further projects. The UAE Wind Program is expected to power more than 23,000 UAE homes a year. It will displace 120,000 tonnes of carbon dioxide, equivalent to removing more than 26,000 petrol-powered cars from the road annually.⁸

Another area of interest for the Matchmaking event UE-UAE 2025 concerns sustainable fuel initiatives, especially in the maritime and aviation sectors. In this context, the **United Arab Emirates' General Policy for Sustainable Aviation Fuel (SAF)**, issued in 2023, aims to significantly advance the production and use of sustainable aviation fuels as part of its commitment to decarbonize the aviation sector and achieve climate neutrality. The policy sets an ambitious target to increase local SAF production capacity to 700 million liters annually by 2030, with further growth aligned with aviation demand. It promotes research, development, and investment in SAF technologies domestically and internationally, while establishing a supportive regulatory environment for SAF production plants and

⁸ Masdar, UAE Wind Program. Available at: [Masdar | UAE Wind Program](#)

encouraging international collaboration through the International Civil Aviation Organization (ICAO). Key initiatives include developing the necessary infrastructure at airports and export terminals for SAF handling, blending, and certification, ensuring sustainability and technical standards compliance. The policy also targets creating new jobs, fostering in-country value, and achieving a voluntary goal where at least 1% of fuel used by national airlines at UAE airports is locally produced SAF by 2031, with production pathways including innovative projects such as saltwater plant cultivation and solid waste recycling. These comprehensive objectives and initiatives underscore the UAE's strategic leadership in advancing sustainable aviation fuels to support its broader clean energy transition.⁹

Beyond energy generation, its storage is also pivotal for balancing the intermittent nature of renewable sources and the United Arab Emirates is advancing around building the world's largest solar and battery storage project. Emirati renewable energy company Masdar and Emirates Wat and Electricity Company (EWEC) are developing the large-scale **Battery Energy Storage Systems (BESS)**, the world's first gigascale, round-the-clock energy storage system in Abu Dhabi, integrating a 5.2 GW solar PV plant with a 19 GWh battery system, providing stable baseload power. The storage market is growing to support expansion in renewables and ensure grid reliability, with substantial government and private sector involvement. For the first time ever, this will transform renewable energy into a world-leading 1 GW of reliable baseload energy every day on an unprecedented scale – a first step that could become a giant leap for the world.¹⁰

Building on advancements in energy storage that enable greater integration of renewables, the UAE also places strong emphasis on energy efficiency as a critical pillar in its clean energy transition. Key initiatives include the **Abu Dhabi Department of Energy's Demand Response Project** that enhances grid flexibility by incentivizing consumers to reduce peak demand, successfully cutting emissions and avoiding overuse of resources. This forms part of **Abu Dhabi's Energy and Water Efficiency Strategy 2030**, which targets 200 MW of demand response capacity by 2030.¹¹ The UAE also actively promotes energy efficiency through strategies like the **Dubai Integrated Energy Strategy 2030** and the **Ras Al Khaimah**

⁹ Government of United Arab Emirates, General Policy for Sustainable Aviation Fuel. Available at: [United Arab Emirates Legislations](#)

¹⁰ Electrek. Available at: [The world's largest solar + storage project will deliver power 24/7 | Electrek](#)

¹¹ Abu Dhabi Department of Energy Launches Phase Two of the 2025 Demand Response Project. Available at: [Abu Dhabi Department of Energy Launches Phase Two of the 2025 Demand Response Project](#)

Energy Efficiency and Renewable Energy Strategy 2040, which set ambitious targets for energy savings and renewable energy production.¹² Moreover, the UAE's leadership in energy efficiency is highlighted by chairing the **Global Energy Efficiency Alliance (GEEA)**, aiming to double the annual global efficiency improvement rate by 2030 through international collaboration, knowledge sharing, and deployment of smart technologies. These efforts underscore the UAE's holistic energy transition approach by marrying clean energy generation with efficient consumption management to achieve its climate and economic goals.

¹² The United Arab Emirates Government Portal. Available at: [Energy efficiency | The Official Portal of the UAE Government](#)

Water and waste management

The United Arab Emirates faces significant challenges in water and waste management, given its arid climate, limited natural freshwater resources, rapid urban expansion, and industrial development. The UAE's focus on reducing water wastage and boosting sustainability is driving demand for advanced solutions in desalination, wastewater treatment, smart water management, conservation technologies, water quality monitoring, and reuse systems, alongside major investments in water distribution, storage, and infrastructure.

Natural freshwater sources in the UAE are scarce, necessitating large-scale desalination to meet potable water demand. The country ranks as a global leader in desalinated water production, with over 80% of potable water supplied through desalination plants¹³, which produce around 7 million cubic meters of water per day. The installed desalination capacity reached approximately 1,585 million imperial gallons per day, from about 70 major plants, accounting for roughly 14% of the world's total desalinated water production. Major desalination plants include:

- **Abu Dhabi Shuweihat S2 power and water plant** – with a production capacity of 1510 MW of electricity and 100 MIGD of water per day
- **Abu Dhabi's Al Taweelah** – in 2023, it produced 183 MIGD per day and upon reaching full operations, will supply 200 MIGD of potable water.¹⁴
- **Dubai's Jebel Ali plant** – the largest power and desalination plant in the UAE, with six gas turbines capable of producing 2060 MW and 140 MIGD of water
- **F2 Plant in Fujairah** - a greenfield power generation and seawater desalination plant with 2850 MW of power capacity and 230 MIGD of water.
- **Umm Al Quwain** – spanning a total area of 23.5 hectares and featuring marine intake and outfall system, it holds a production capacity 150 MIGD per day.¹⁵

¹³ International Trade Administration, UAE Water Market Opportunities. Available at: [UAE Water Market Opportunities](#)

¹⁴ Smart Water Magazine, Dhahi's Taweelah plant now the largest commercially operating RO facility in the world. Available at: [Abu Dhabi's Taweelah plant now the largest commercially operating RO facility in the world](#)

¹⁵ ACWA Power. Available at: [ACWA POWER | UAQ IWP](#)



Figure: 2 DEWA Jebel Ali Desalination complex

To improve sustainability, renewable energy technologies are incorporated into desalination processes, including solar-powered desalination pilots linked to the **Mohammed bin Rashid Al Maktoum Solar Park**, with the objective of reducing the carbon footprint of water production and supporting the **UAE Water Security Strategy 2036**. The strategy aims to ensure sustainability and continuous access to water during normal and extreme emergency conditions and was developed from a national perspective to cover all elements of the water supply chain in the country, ensuring the participation of all entities and authorities concerned with water resources in the territory. More specifically, it seeks to ensure sustainable water management by cutting overall demand by 21%, boosting efficiency and productivity, reducing water scarcity, improving water quality through recycling and pollution control, and expanding storage to guarantee universal access to safe drinking water.¹⁶

¹⁶ The United Arab Emirates Government Portal, Water Security Strategy 2036. Available at: [Water | The Official Portal of the UAE Government](#)

In addition to this, the UAE pays great attention to dams and rainwater harvesting projects, as dams contribute to protection from floods and flow risks, improving the quality and quantity of the water situation in the aquifer by increasing the feeding rates of groundwater. Major dams include **Wadi Al Beeh dam** (Length: 575 metres, height: 18 metres), **Wadi Ghalfa dam** (Length: 235 metres, height: 8 metres), **Wadi Wareaa dam** (Length: 367 metres, height: 33 metres), **Wadi Basira dam** (Length: 885 metres, height: 8 metres), **Wadi Ham dam** (Length: 2800 metres, height: 16 metres), **Wadi Azan dam** (Length: 110 metres, height: 10 metres) and **Wadi Al Ghail dam** (Length: 26 metres, height: 4.5 metres).

In parallel, the UAE is transforming waste management by advancing recycling rates, reducing landfill reliance, and promoting circular economy principles. The UAE's industrial waste management market is projected to grow steadily at a compound annual growth rate (CAGR) of 2.46% between 2025 and 2033, driven by rapid urbanization, industrial expansion, and strong regulatory frameworks under the **National Waste Management Strategy**.¹⁷ Hazardous waste, particularly from industrial, medical, and oil and gas activities, currently dominates due to complex handling requirements, while non-hazardous waste - especially construction and demolition waste - is expanding rapidly in line with the country's booming construction sector. The market is gradually shifting from landfill and incineration towards recycling and waste-to-energy solutions, reflecting the UAE's broader commitment to sustainability and circular economy principles. Major players such as *Veolia*, *Sembcorp*, *Bee'ah*, and *Averda* are actively shaping the sector through technological innovation, strategic partnerships, and investment in advanced facilities, with activity concentrated in urban and industrial hubs. Although challenges remain, including the high costs of treatment technologies and the need for greater public awareness, the overall outlook is positive, with government support and rising corporate responsibility ensuring continued growth and modernization of the waste management system.¹⁸

¹⁷ The National Agenda for Integrated Waste Management aims to support the circular economy and advance sustainable development in the country, reflecting the UAE's commitment to safeguarding the environment from the adverse impacts of waste management activities and associated services, including collection, transportation, and treatment. More information available at: [Home | Emirates News Agency](#)

¹⁸ Data Insights Market, *UAE Industrial Waste Management Market Analysis 2025 and Forecasts 2033: Unveiling Growth Opportunities* (2025). Available at: <https://www.datainsightsmarket.com/reports/uae-industrial-waste-management-market-18652#>

Green mobility

EVs, charging infrastructure, hydrogen transport

UAE's efforts on accelerating electric vehicles (EV) adoption and developing hydrogen-powered transport solutions align with the UAE's Net Zero by 2050 Strategic Initiative, aiming to substantially reduce carbon emissions from the transport sector while enhancing energy efficiency and air quality.

For what concerns EVs, the UAE's market is rapidly expanding, driven by government policies, such as the **National Electric Vehicles Policy**, aimed at fostering collaboration with federal and local partners, as well as, the private sector, in order to establish a national network of electric vehicle chargers throughout the UAE. The policy strives to achieve a set of goals that include:

- Achieving a 20% cut in energy use across the transport sector.
- Establishing a unified database of EV charging stations to simplify access and improve user convenience.
- Upgrading and preserving road infrastructure to secure the UAE's leading status in global road quality indices.¹⁹

In the Emirate of Abu Dhabi, the **Regulatory Policy for Electric Vehicle Charging Infrastructure in the Emirate of Abu Dhabi**²⁰ outlines the requirements and standards for developing a network of electric vehicle charging stations throughout the emirate. It defines the rules for ownership, installation, and operation of electric vehicle supply equipment (EVSE), as well as electricity provision and the pricing structure for end users. Complementing this initiative, the **Abu Dhabi Green Bus program** aims to make Abu Dhabi's public transport fully sustainable by 2050. An assessment phase, running until Q3 2025, evaluates hydrogen and electric bus models through government-private partnerships, providing the basis for the gradual fleet transformation. The Integrated Transport Centre (ITC) has already partnered with manufacturers like *Al Khoory Automobiles* to deploy *Yutong* green buses and collaborate with international experts to advance innovative, localized solutions for the emirate's public transport system.²¹

¹⁹ The United Arab Emirates Government Portal, National Electric Vehicles Policy. Available at: [National Electric Vehicles Policy | The Official Portal of the UAE Government](#)

²⁰ Available for download at: [https://u.ae/-/media/Documents-2023/Regulatory-Policy-for-EVCI-\(1\).pdf](https://u.ae/-/media/Documents-2023/Regulatory-Policy-for-EVCI-(1).pdf)

²¹ Embassy of the United Arab Emirates New Delhi, The Electric Vehicles Sector in the UAE. Available at: [The-Electric-Vehicles-Sector-in-the-UAE.pdf](#)

Parallely, in Dubai, the **Government Procurement of Electric Vehicles** has been used as a policy measure to promote green mobility within the Emirate. In 2016, the government of Dubai established a yearly goal of having 10 per cent of government procurement to be electric or hybrid vehicles; the goal as of 2023 being 30 per cent by 2030. Furthermore, the **Dubai Green Mobility Strategy 2030** aims to reduce transport sector emissions and promote sustainable mobility, with key targets including 10% of all vehicles sold and 30% of public sector vehicles being electric or hybrid by 2030, and 42,000 electric cars on Dubai's roads. The Dubai Electricity and Water Authority's EV Green Charger Initiative supports this goal, targeting 1,000 charging stations by 2025. Since 2015, registered EV users have grown from 14 to over 13,959, and charger usage rose 59% in 2023.²²

To support EV growth, the UAE has invested heavily in robust charging infrastructure to support a growing shift toward sustainable transport, aiming for EVs, plug-in hybrids, and hybrids to constitute 50% of commercial vehicles, 70% of buses, and 40% of trucks by 2050. In 2024, the country disposed of over 620 charging stations, with Dubai alone hosting 382 and targeting 1,000 by the end of 2025. Abu Dhabi plans 70,000 charging points through a joint venture between *ADNOC Distribution* and the Abu Dhabi National Energy Company by 2030, while Sharjah is deploying hundreds of chargers with support from local sustainable technology firms. Cross-border fast-charging stations are also planned between Saudi Arabia and Oman.²³

To support project and initiatives addressed to clean and sustainable transports, hydrogen plays a key role - as mentioned in the previous sections – being a strategic priority within the UAE's green mobility framework, driven by the National Hydrogen Strategy 2050. A flagship initiative is the collaboration between *ENOC Group* and **Dubai's Roads and Transport Authority (RTA)** to introduce hydrogen-powered buses in the city fleet, marking a significant step toward decarbonizing public transport through green hydrogen deployment. Complementing this, it is crucial recalling on the DEWA's Green Hydrogen project at the Mohammed bin Rashid Al Maktoum Solar Park produces solar-derived hydrogen poised for use in transport applications, aligning with Dubai's Green Mobility Strategy 2030. The 2025 Green Hydrogen Summit report by Masdar²⁴ highlights ongoing

²² *Ibid.*

²³ International Trade Administration, United Arab Emirates Automotive Investing in Electric Vehicle Charging Infrastructure. Available at: [United Arab Emirates Automotive Investing in Electric Vehicle Charging Infrastructure](#)

²⁴ Green Hydrogen Summit 2025 Report available at: [green-hydrogen-summit-2025-report_approved.pdf](#)

developments in hydrogen mobility, showcasing efforts to expand hydrogen refuelling infrastructure and integrate hydrogen vehicles in mass transport systems. Additionally, Masdar's partnership with *Lhyfe* aims to co-develop large-scale green hydrogen production facilities to support the growing hydrogen transport market, demonstrating the UAE's commitment to building a robust hydrogen economy for sustainable mobility.²⁵ These integrated efforts position hydrogen as a vital clean fuel for the UAE's transport sector transformation.

²⁵ Lhyfe, Lhyfe and Masdar join forces to explore the co-development of major green hydrogen production projects. Available at: [Lhyfe & Masdar join forces to explore the co-development of major green hydrogen production projects](#)

Smart cities & infrastructure

IoT, automation, smart grids

Being the city hosting the UE-UAE Matchmaking Event 2024, it is worth highlighting Dubai as the city ranking 4th globally in the **IMD Smart City Index 2025**²⁶, marking a major milestone in its digital transformation journey and reinforcing its position as the highest-ranked city in the Gulf Cooperation Council (GCC), the Arab world and Asia. Abu Dhabi also well positioned itself by ranking the 5th place in the IMD Smart City Index.

In general, the United Arab Emirates has positioned itself at the forefront of smart city development in the Arab region, beginning with Abu Dhabi's pioneering launch of **Masdar City** in 2008 as a hub for technology, knowledge, and innovation.²⁷ Since then, Abu Dhabi has strengthened its reputation through community-oriented projects such as:

- **Tadweer** – specifically Tadweer Group, is a holding company, is leading the way in promoting sustainable waste practices and establish new benchmarks for the circular economy in UAE.
- **National Air Quality Platform** - an AI-based system in the UAE that monitors and analyses air quality, providing real-time data and forecasts to inform public health and environmental policies.
- **Zayed Smart City project** - funded by the Abu Dhabi municipality and intended to digitally transform the social, financial, and environmental aspects of the urban life and improve the lives of the capital's citizens and residents.
- **Hafilat Smart Card** - enabling users to pay the fare of public transportation services in Abu Dhabi Emirate by tapping it on the reader device upon boarding and alighting. The card provides a range of services that caters to the needs of residents and visitors.

These initiatives have supported the city's steady performance in the IMD-SUTD Smart City Index, where it has remained within the top 20 globally between 2019 and 2023.

²⁶ The IMD Smart City Index, issued by the IMD World Competitiveness Center, is a globally recognised analytical tool that assesses how effectively cities leverage digital technologies to enhance residents' quality of life.

²⁷ More info about Masdar City available at: [Masdar City | Driving Tech Innovation & Company Formation In Abu Dhabi](#)

Dubai has also pursued an ambitious vision of digital transformation through initiatives and strategies like:

- **Dubai AI Lab Strategy** – leading Dubai’s AI roadmap to transform the city into an efficient, seamless, impactful and happy experience for citizens. Established in partnership with IBM, the AI Lab works with a growing network of partners ranging from the governmental to the private sectors, providing essential tools and go-to-market support enabling them to implement AI services in their respective fields.²⁸
- **Dubai Blockchain Strategy** – the result of a collaboration between the Digital Dubai Office and the Dubai Future Foundation to continually explore and evaluate the latest technology innovations that demonstrate an opportunity to deliver more safe, efficient, and impactful city experiences.²⁹
- **Dubai Paperless Strategy** – aims to eliminate paper usage in government transactions by digitalising all services, enhancing efficiency and promoting sustainability. This initiative is part of Dubai’s vision to become a fully smart city and enhance the quality of life for its residents.
- **Food Security Dashboard** – launched in 2020, this dashboard uses AI and data analytics to rapidly measure the five important indicators of food security: the supply index, stock availability, local production, consumption levels and the cost of vital commodities in the Emirate.³⁰
- **UAE Pass** - UAE PASS is the UAE’s first secure national digital identity for citizens, residents, and visitors. It allows users to access a wide range of online services across multiple sectors and offers additional features such as digitally signing and verifying documents, requesting digital copies of official records, and using them when applying for partner services.³¹

Despite these advancements, Dubai’s ranking in the Smart City Index has fluctuated between 13th and 17th place during the same period. Taken together, Abu Dhabi and Dubai stand out as leaders in the Arab world, consistently outperforming their regional peers and demonstrating that while both cities excel in technological innovation, their progress in

²⁸ Government of Dubai, Dubai AI Lab Strategy. Available at: [Artificial Intelligence Strategy Dubai | AI Lab | Digital Dubai](#)

²⁹ Government of Dubai, Dubai Blockchain Strategy. Available at: [Dubai Blockchain Strategy | Blockchain Dubai | Digital Dubai](#)

³⁰ Emirates News Agency, *Dubai launches Food Security Dashboard*. Available at: [Dubai launches Food Security Dashboard | Emirates News Agency](#)

³¹ UAE Pass. More information available at: [UAE PASS | Home](#)

infrastructure has been less consistent, reinforcing the importance of a balanced approach to smart city development.³²

The Internet of Things (IoT) and smart grids are integral pillars of the UAE's smart city ecosystem and energy transition strategy, working together to enhance urban living and energy management. IoT connects a vast network of sensors, devices, and services across cities like Dubai and Abu Dhabi, enabling real-time data collection and intelligent automation that improves traffic management, environmental monitoring, and public services while reducing manual operations. This interconnected infrastructure supports initiatives such as **Dubai's Silicon Park** and **Abu Dhabi's Zayed Smart City** project, showcasing advanced AI-driven solutions for safer, more efficient, and sustainable urban environments. Complementing these efforts, smart grids leverage IoT-enabled sensors and AI analytics to optimize electricity distribution, integrate renewable energy sources, and empower consumers through demand-side management. Dubai Electricity and Water Authority (DEWA) leads large-scale smart grid deployments that enhance grid reliability and resilience by predicting demand, identifying faults, and automating corrective actions, thereby reducing carbon emissions and supporting the UAE's clean energy ambitions.³³ Together, IoT and smart grids form a dynamic digital infrastructure that drives data-driven decision making, operational efficiency, and environmental sustainability across the UAE's smart cities.

³² The Africa-China Reporting Project (ACRP), How Arab smart cities are performing over the years: Cities' infrastructure in relation to their technological progress. Available at: [How Arab smart cities are performing over the years: Cities' infrastructure in relation to their technological progress - ACRP](#)

³³ United Arab Emirates Ministry of Economy, Investing in Smart Cities and Mobility in the UAE. Available at: [TABLE OF CONTENTS](#)

Agrifood

Extended Value for Agrifood sector participants

The United Arab Emirates imports 85-90% of its food³⁴ and is committed to safeguarding food security against supply chain risks, price shocks, and climate disruptions. In this context, technology and innovation are crucial to tackle these challenges and build resilient food systems: this is reflected in the **UAE's National Food Security Strategy 2051** prioritizing sustainable local production through modern agricultural technologies. For this reason, **the Food Innovation Hub UAE** was launched at COP28 and is also part of the Food Innovation Hubs Global Initiative by the World Economic Forum, connecting hubs worldwide through the Food Innovators Network (FIN) to promote cooperation and innovation. The aim of the UAE Hub is to advance local, climate-resilient food systems through arid climate solutions, circular practices, and strong public-private partnerships. The Hub builds a robust innovation ecosystem that connects startups, producers, and policymakers to drive sustainable, scalable impact in a country where only 0.7% of the land is arable, and over 85% of food is imported.³⁵

A key milestone was the Food Innovation Conference 2024 in Dubai, gathering innovators, farmers, business leaders, civil society, and policymakers to address regional and global food challenges, fostering partnerships and knowledge exchange. The event inspired Food Innovators Network members like *Agerpoint* to engage with the UAE's innovation ecosystem.

The Hub's flagship **Access Program**, launched in May 2025, supports food and agriculture innovators by connecting them with resources, capital, infrastructure, and networks through partnerships with local institutions like *Khalifa University* and *the International Center for Biosaline Agriculture*. Starting with 10 innovators, the program aims to support over 100 in three years. The **Producers Collective**, another initiative, strengthens local producers by promoting collaboration and local sourcing, representing over a billion UAE dirhams in agriculture investments. Lastly, a third flagship initiative is the **Food Security and Resilience Executive Development**

³⁴ Aljuneidi T., Bhat S.A., Boulaksil Y., *Prioritizing food supply chain disruptions and mitigation strategies in the UAE: An integrated fuzzy multi-criteria decision framework* (June 2025). Available at: [Prioritizing food supply chain disruptions and mitigation strategies in the UAE: An integrated fuzzy multi-criteria decision framework - ScienceDirect](#)

³⁵ World Economic Forum, *How public-private partnerships are fuelling food innovation and supply in the UAE*. Available at: [The Food Innovation Hub UAE is building a resilient food system | World Economic Forum](#)

Program, focusing on equipping UAE professionals with the skills to strengthen food security. In partnership with EIT Food, the leading partner of the Food Innovation Hub EU, the Food Innovation Hub UAE will launch the program in autumn 2025 to prepare agrifood leaders for challenges like climate change, supply chain disruptions and resource pressures.³⁶

In addition to the above, several pioneering startups and initiatives are transforming agriculture in the UAE:

- **Pure Harvest Smart Farms** operates the Middle East's first semi-automated, commercial-scale hybrid indoor farms. Their greenhouses use ultra-low global warming potential refrigerants and achieve production efficiencies up to 30 times higher than traditional open-field farming. They currently operate multiple farms in the UAE with expansion plans underway.
- **Madar Farms** develops containerized hydroponic and vertical farms optimized for arid environments. Their partnership with the UK's Intelligent Growth Solutions is backed by a US \$100 million indoor farming investment initiative, introducing advanced LED-lit commercial indoor tomato farms producing up to one ton per day.
- **Palmeir** employs AI-driven acoustic sensors to detect pests, specifically in date palm trees, saving thousands of trees and preventing significant CO₂ emissions equivalent to removing 1,800 cars annually.

Technologies such as hydroponics, aquaponics, vertical farming, smart irrigation systems, AI, IoT, and blockchain for traceability are widely deployed to maximize productivity while conserving water and reducing environmental impact. These innovations are also supported by strategies like the UAE National Food Security Strategy 2051 and Vision 2021, which emphasize sustainable local production and climate resilience.

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