

# Green Economy

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## Overview

[Organisation for Economic Co-operation and Development](#) (OECD) [defines green growth](#) as fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies.

As per [United Nations Economic and Social Commission for Asia and the Pacific](#), Green growth, or environmentally sustainable economic growth, is a strategy of sustaining economic growth and job creation necessary to reduce poverty in the face of worsening resource constraints and climate crisis.

This document throws light on what the UAE did to achieve a green economy.

## Challenges

UAE has been a witness to a comprehensive development boom helping it attain a steady economic growth, increase in levels of personal income and a vast development in infrastructure. This rapid pace of development has had impacts on the country's ecosystems leading to depletion of groundwater, air quality, increased greenhouse gas emissions and over consumption of water and energy resources. Practices that have led to these impacts are the challenges to keep conservation efforts consistent leading to a sustainable economy.

## Initiatives and impact

### [The Green Growth Strategy](#)

In January 2012, H. H. Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, launched the [UAE Green Growth Strategy](#) under the slogan 'A Green Economy for Sustainable Development'. Under this strategy, the UAE seeks to become a global hub and a successful model of the new green economy, to enhance the country's competitiveness and sustainability and preserve its environment for future generations.

Through this strategy, the UAE aims to become one of the world leaders in this area as well as a centre for the export and re-export of green products and technologies, and to maintain a sustainable environment to support long-term economic growth. The strategy includes a range of programmes and policies in the areas of energy, agriculture, investment and sustainable transport in addition to new environmental and

constructional policies. Sheikh Mohammed aims to build an economy that protects the environment as well as an environment that supports the growth of the economy.

The Green Growth strategy includes six major fields covering a wide range of legislation, policies, programmes and projects which are:

1. The first field of green energy aims to promote the production and use of renewable energy.
2. The second field includes government policies aimed to encourage investments in green economy and to facilitate the production, import, export and re-export of green products and technologies.
3. The third field relates to developing urban planning policies that preserve the environment and to raise the efficiency of housing and buildings environmentally.
4. The fourth field consists of means for dealing with the effects of climate change, promote organic agriculture, maintain biodiversity and protect the ecological balance.
5. The fifth field aims at rationalising the use of water resources, electricity and natural resources and recycle waste.
6. The sixth field includes development and promotion of green technology.

“We recognise that preserving our energy resources will be one of the greatest challenges in our drive towards sustainable development. This, however, will not materialise unless the different facets of our society adopt energy conservation principles in their core values. The future generations will be the chief beneficiary of our achievements and the best judge of what we accomplish in this field.”

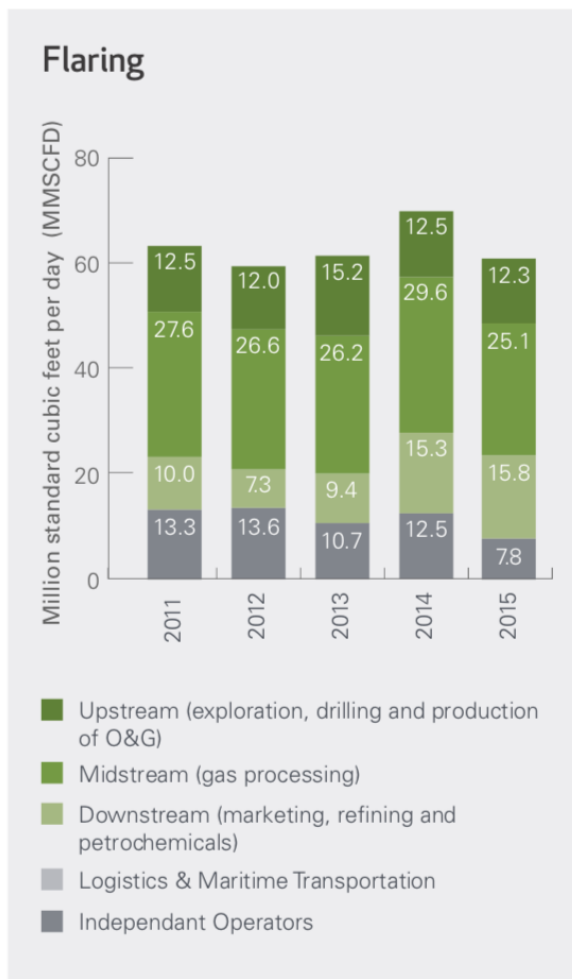
*~ HIS HIGHNESS SHEIKH MOHAMMED BIN RASHID AL MAKTOUM  
VICE PRESIDENT and  
PRIME MINISTER OF THE UNITED ARAB EMIRATES and  
RULER OF DUBAI*

### Zero Flaring

Thousands of gas flares at oil production sites around the globe burn approximately 140 billion cubic meters of natural gas annually and cause more than 300 million tons of carbon dioxide (CO<sub>2</sub>) to be released into the atmosphere. Flaring of gas contributes to climate change and impacts the environment through emission of carbon dioxide, black carbon and other pollutants. It also wastes a valuable energy resource that could be used to advance the sustainable development of producing countries.

The [World Bank](#) encourages countries worldwide to endorse and achieve a Zero Routine Flaring by 2030.

[Abu Dhabi National Oil Company](#) (ADNOC) is committed to drive its environmental performance leading to reduction of impact of its operations on the environment. The organization has planned to further invest \$1.8 billion by 2023 in abatement projects in flaring and unintended emissions. Between 2012 to 2017, \$2.3 billion have been invested in these areas. In 2015, ADNOC achieved [13% reduction in flaring levels](#) when compared to 2014.



Source: [ADNOC Sustainability Report](#)

## Energy policies

The [2018 World Green Economy Report](#) has highlighted the various policies focusing on energy for a green economy. In 2015, H. H. Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, announced the Dubai Clean Energy Strategy 2050. This focuses on a progression of targets aiming at providing 75 per cent of renewable energy sources by 2050. The steps taken to facilitate this goal are:

- The creation of the Shams Dubai Solar Program in 2015 by [Dubai Electricity and Water](#) (DEWA) encouraging DEWA customers to install solar panels on their property and utilize the produced solar energy to reduce their monthly electricity bill. Under 'net metering', any surplus electricity that cannot be used immediately will be credited by DEWA at the retail rate, further reducing the electricity bill in the upcoming month. As of October 2019, DEWA has connected [1,354 photovoltaic installations on residential, commercial and industrial buildings in Dubai](#) with a total capacity of 125MW.
- The launch of '[Shams Dubai Calculator](#)' web application in 2017 to help customers decide and get consultation on the installation of photovoltaic (PV) panels on their rooftops.
- The [Pearl Building Rating System](#) (PBRS) of Abu Dhabi encourages minimization of natural resources sustainable and recycled materials and products.
- The launch of Dubai Municipality's [Dubai Green Building Evaluation System](#) in 2014 as an addition to the Dubai Green Building Regulations and Specifications (GBRS) that was issued in 2010. This created a rating system called Al Safat in July 2017 ranking buildings as Bronze, Silver, Gold and Platinum based on their efficiency.
- Dubai's government has ambitious plans to invest US\$163 billion to boost the use of alternative energy over the next three decades aiming to increase the UAE's share of consumption of clean energy from 25 per cent to 50 per cent by 2050 and energy efficiency by 40%.

## ESMA

The [Emirates Authority for Standardization and Metrology](#) (ESMA) is the standardization body in the UAE. It ensures safety and protection of consumers and environment. The [IECRE Renewable Energy](#) has made ESMA an accredited body that issues certificates in the field of renewable energy products. ESMA has made efficiency rating mandatory

and introduced labelling systems for domestic equipment used in conjunction with water and electricity to help consumers make choices that utilize resources efficiently.

#### Applying sustainability at events

As highlighted in the [UAE State of Green Economy Report 2019](#), Expo 2020 is working to deliver a world level event that is in accordance with the principles aimed to preserve the planet for future generations. Expo 2020 wants to leave a good impact on the world and prove that it is possible for large events to be environmentally responsible in utilization of energy resources.

Sustainability is one of the key subthemes of [Expo 2020](#). This also supports the [Dubai Plan 2021](#), the [UAE Vision 2021](#) and the [United Nations' 2030 Agenda for Sustainable Development](#). Expo 2020 plans to achieve its sustainability goals by:

- Producing Clean Energy – this involves reducing overall consumption of energy and outperforming the construction industry standards in areas such as exterior lighting and building efficiency
- Reducing Water Consumption – this involves using smart controls for metering and irrigation and minimizing potable water consumptions by using cutting-edge approaches such as systems that can convert moisture in the air into water
- Promoting Natural Solutions - this involves ensuring visitors remain cool and comfortable, 75 per cent of the concourse will be shaded by green canopies paired with walkable spaces and landscaped areas containing local and adaptive species managed without the use of chemicals
- Minimizing Carbon Footprint - this involves minimizing carbon production by implementing strategies that mitigate and offset greenhouse gases and in addition to implementing public transport initiatives that help further decrease the carbon footprint
- Using Sustainable Building Materials - this involves minimizing the depletion of natural resources during the construction phase by ensuring that sustainable building materials are used with a commitment to retain 80 per cent of permanent construction post the exhibition
- Reducing Waste - this involves diverting 85 per cent of all waste from landfills by reducing, reusing, recycling and repurposing them; turning waste into everything from fertilizers to souvenir t-shirts.
- Improving Sustainability Awareness.

## Smart cities

### Masdar City

Launched in 2008, [Masdar City](#) now offers an efficient and vibrant sustainable community. Masdar City's template for a sustainable city showcases the effective deployment of passive design that is tailored for arid, desert regions. Buildings are constructed with low-carbon cement and 90 per cent recycled aluminum, in addition to other locally-sourced and verified materials. It is home to one of the Middle East's largest clusters of high performance buildings that is a real-time lab to monitor and study how cities use, conserve and share resources.

It hosts the International Renewable Energy Agency's (IRENA) permanent headquarters which is equipped with smart energy-management systems enabling the complex to consume 42% less energy than global energy-efficiency standards which is equivalent to 64% less than typical office buildings in Abu Dhabi.

Examples of research and development projects being done at Masdar City include:

- Masdar Solar Hub: Photovoltaic Test Centre, CPV Testing Facility and Masdar Institute Solar Platform
- Seawater Energy and Agriculture System (SEAS) / Food and Biofuel
- Electric Energy Storage Solutions Hub
- Masdar City Eco-Villa Prototype
- Smart Home Energy Management System (SHEMS)
- Personal Rapid Transit (PRT) System
- Masdar City Construction Waste Management
- Masdar Institute for Science and Technology Field Station
- Feasibility of District Cooling powered by Geothermal Energy for Masdar City.

### Smart Dubai 2021

Guided by His Highness Sheikh Mohammed bin Rashid Al Maktoum, [Smart Dubai 2021](#) is a strategy that shapes the future of the Dubai city and acts as a roadmap in making a clean, smart environment possible for daily living. Smart Dubai aims to digitally transform utilities, manufacturing, transportation and waste treatment sectors to reduce the carbon footprint of the Emirate for a cleaner, healthier environment.

One of their ambitious initiatives is to go paperless eliminating more than 1 billion pieces of paper used for government transactions every year. They have been working across government departments and created an integrated framework that strengthens their

resolve to make Dubai a smart city of the future and improving happiness levels for all by saving time, resources and the environment.

Read about other [smart sustainable cities in the UAE](#).

### Green Products and Technologies

Authorities across UAE are always on the look-out for green products and technologies that help them stay in line with the sustainable objectives of the country. The [Roads and Transport Authority](#) in Dubai has spearheaded initiatives such as below that have incorporated green products and technologies to achieve a clean environment:

- In 2017, a pilot project implemented saved 12.6 Gigawatt hours (GWh) of electric power by replacing the conventional high-intensity discharge (HID) streetlights to LED lights. October 2018 saw the RTA fully launching this initiative in several areas of Dubai achieving a saving of nearly 22 GWh of energy and avoiding the emission of nearly 9,500 tonnes of CO<sub>2</sub> in the first year.
- By implementing the first hybrid abra in 2018, RTA combined the authentic design and features of the traditional abra with 20KW electric motor thereby reducing emissions. The hybrid abras, which are powered by solar panels, batteries and a standby generator, have 87% lower carbon emissions than petrol-powered abras due to a significant reduction in fuel use. Their maintenance costs are also 83% lower on an average.

[Dubai Airports will power an entire concourse](#) with solar power which will meet 1.8% of its power requirements when operational. Rooftop solar panels will be installed on the roof that are capable of producing 622 kilowatts at their peak, making it among the largest solar arrays in the emirate.

### Conclusion

UAE is well-positioned to help catalyze progress towards 2030, building on its role as one of the global capitals of the green economy. The various initiatives in place support the vision of the leaders in helping UAE progress towards a green economy.