



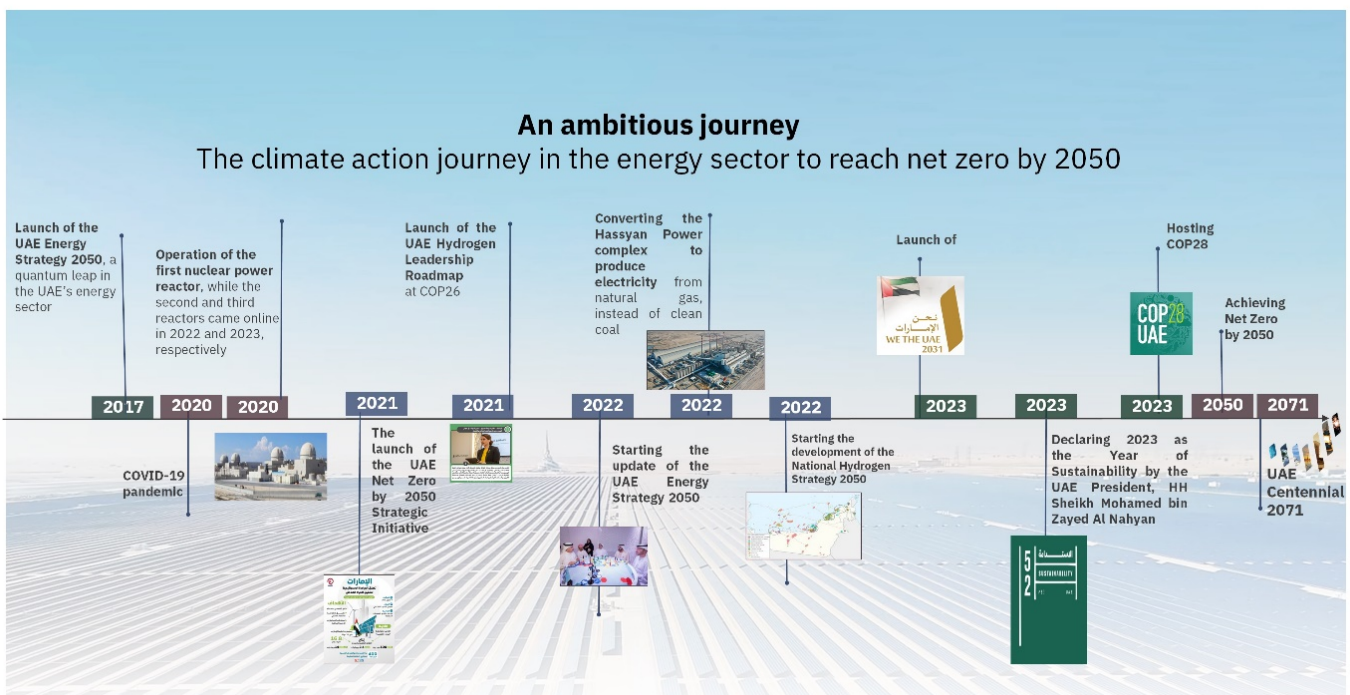
UNITED ARAB EMIRATES
MINISTRY OF ENERGY & INFRASTRUCTURE

Energy Strategies to Achieve Net Zero



On July 3, 2023, the UAE Cabinet adopted national strategies for energy and hydrogen. In light of accelerating changes in the sector, His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, approved the updated UAE Energy Strategy 2050, which aims to triple the contribution of the renewable energy and invest AED 150 to AED 200 billion by 2030 to meet the country’s growing demand for energy.

His Highness Sheikh Mohammed also approved the National Hydrogen Strategy, as hydrogen has recently emerged as one of the most important types of clean energy. The strategy aims to promote the UAE’s position as a producer and supplier of low-emission hydrogen by 2031 through the development of supply chains, the establishment of hydrogen oases and a dedicated national research and development centre.



First: Updating the UAE Energy Strategy 2050

The UAE energy transition started before the formation of the union in 1971. Building on the country’s long-standing commitment to climate action and energy transition, the UAE Energy Strategy 2050 was launched in 2017 as the first unified energy strategy in the country that is based on balancing supply and demand with environmental obligations and creating a conducive economic environment for growth.

Given the recent dynamic changes in the energy sector regarding the global energy security and climate change, as well as the reduction in prices and the maturity of emerging low-emission energy technologies, and the country’s commitment to the objectives of the Paris Agreement, the UAE Energy Strategy 2050 was updated, setting goals for 2030 and ambitions

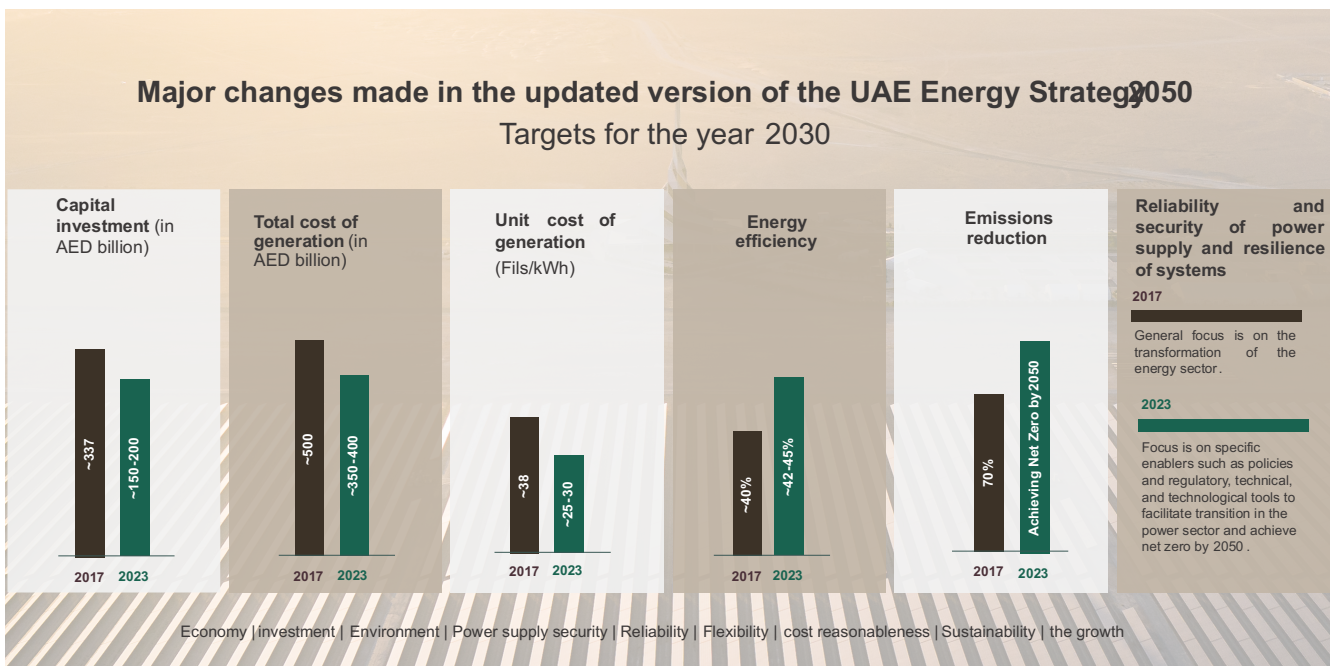
for 2050 to reach net zero. The move aligns with the UAE President His Highness Sheikh Mohamed bin Zayed Al Nahyan’s declaration of 2023 as the Year of Sustainability, under the theme ‘Today for Tomorrow’, which reflects His Highness’s keenness on integrating sustainability principles across the board.

The updated strategy aims to promote the deployment of renewable and nuclear energies, enhance energy efficiency, drive R&D and innovation in renewables technologies, increase local clean energy capacity, and encourage investments in the country’s renewable and clean energy sector.

The UAE Energy Strategy 2050 will position the UAE at the forefront of the global energy transition and support the target of achieving a grid emission factor of 0.27 kg CO₂/kWh by 2030, which is lower than the global average. It enhances international partnerships to support sustainability objectives in the energy sector.

The updated strategy outlines a national program to balance meeting the rising energy demand and sustaining natural resources for generations to come. In the first phase, which will run till 2030, the strategy aims to support the target of reaching 0% contribution of clean coal in the energy mix, ensuring the country's leadership and achieving climate neutrality goals. It also aims to reduce carbon emissions from electricity generation by 100% and increase individual and institutional energy consumption efficiency by 42-45%.

By 2030, the strategy will contribute to creating 50,000 new green jobs, achieving financial saving of AED 100 billion, and mobilizing investments between AED 150-200 billion to ensure energy demand is met and to sustain economic growth in the UAE. Moreover, it will contribute to tripling the share of renewable energy, increasing the installed clean energy capacity from 14.2 GW to 19.8 GW, and surging the share of installed clean energy in the total energy mix to 30% by 2030 to ensure the country is on track to achieve its climate change mitigation goals.



Second: The National Hydrogen Strategy

The UAE launched the National Hydrogen Strategy as a crucial tool to meet the country's commitment to net zero by 2050, in line with the objectives of the Paris Agreement. It aims to turn the UAE into a leading and reliable producer and supplier of low-carbon hydrogen by 2031, driving the country's investments in clean energy and its contribution to the global efforts towards environmental sustainability.

The strategy will help accelerate the global hydrogen economy and scale up local hydrogen production to 1.4 million tons per annum (mtpa) by 2031, 7.5 mtpa by 2040, and 15 mtpa by 2050. Following a through study of hydrogen demand, the National Hydrogen Strategy forecasts local demand of low-carbon hydrogen to reach 2.7 mtpa by 2031.

An overview of the targets and predictions for hydrogen production was considered while preparing short-, medium-, and long-term scenarios (2031, 2040, and 2050) for the future production of blue, green, and pink hydrogen.

To enhance the UAE's position as a supplier of low-emission hydrogen and achieve the country's objectives, 10 enablers have been identified:

10 enablers have been identified within three main stages in the National Hydrogen Strategy to reach the targets set by 2031 .

<p>Global Collaboration Building international partnerships and creating investment opportunities to drive the global transition to a hydrogen economy.</p> <p>Resources and Assets Leveraging natural resources and existing assets to competitively lead future energy markets.</p> <p>Climate, Safety and Social Driver Guiding society to embrace hydrogen and unlocking the common good as a result of global carbon mitigation.</p> <p>Enabling Infrastructure Creating the infrastructure necessary to link production with demand, accelerating hydrogen availability and utilization.</p> <p>Research and Innovation Incubating and accelerating next generation hydrogen technology developments across the value chain.</p>	<p>Policy, Regulation and Standards Establishing the legislative mechanisms to support the low-carbon hydrogen transition, including hydrogen certification and guarantees of origin.</p> <p>Finance and Investments Creating an attractive investment environment to support the hydrogen transition, as well as developing green finance mechanisms domestically.</p> <p>Industry Development and Demand Activation Providing the certainty, predictability and confidence industry needs to transition to hydrogen.</p> <p>Sustainable Commercial and Economic Models Achieving and maintaining globally competitive hydrogen pricing through a long-term market driven support mechanism.</p> <p>Skills and Education Nurturing and growing a highly skilled workforce to drive forward the transition to hydrogen.</p>
---	--

The strategy sets the main measures that the UAE will take to expedite the growth of the hydrogen economy and become amongst the world's top producers of low-emission hydrogen. It will also help reduce emissions in hard-to-abate sectors, such as land, sea, and air transport, chemicals and fertilizers, and metals, including aluminum, iron, and steel, by 25% by 2031 and 100% by 2050.

The National Hydrogen Strategy involves tangible steps to establish two hydrogen oases by 2031 and increase their number to five by 2050. The strategy contributes to fostering the domestic market, developing a regulatory framework and policies that support hydrogen as a sustainable fuel for the future, strengthening regional collaboration to establish a regional hydrogen market, and bolstering investments in research and development to improve cost effectiveness of hydrogen production, transport, and utilization.

It enhances the investor confidence and helps companies develop robust supply chains. It supports the country's approach to fully utilize its abundant solar energy, natural gas resources, ability to capture and store carbon, and strategic location to unlock local hydrogen production capabilities and accelerate the global hydrogen economy.

To advance related technologies, the country will establish a hydrogen centre for research and development in 2031, which will be developed into a recognised innovation centre globally for hydrogen by 2050.

The strategy was developed in collaboration with stakeholders using bottom-up approach to make sure it is ambitious and viable, as well as supports the objectives of the 'We the UAE 2031' Vision, the Circular Economy Policy 2031, the National Strategy for Wellbeing 2031, and the UAE Net Zero by 2050 Strategic Initiative, in line with the UAE Centennial Plan 2071.

Links:

<https://wam.ae/en/details/1395303173983>

<https://www.wam.ae/en/details/1395303174303>

<https://www.thenationalnews.com/business/energy/2023/07/04/updated-energy-plan-and-hydrogen-strategy-affirm-uaes-commitment-to-sustainable-economy/>