

CEO Presentation

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UAE's Clean Energy Sector

- The UAE to adopt sustainability and carbon reduction technologies.
- First to build carbon capture and storage (CCS) and waste-to-energy project.
- The CCS project of Abu Dhabi National Oil Company (ADNOC) aims to reach the 5-million tonne CO₂ capture by 2030.
- Strengthen its partnerships with German companies to promote hydrogen as a clean energy source.



UAE's Clean Energy Sector

- ADNOC collaborated with Abu Dhabi National Energy Company (TAQA) and Mubadala Investment Company to create a global clean energy powerhouse.
- The Abu Dhabi Department of Energy (DoE) has developed a hydrogen policy.
- The DoE aims to become a 'leader in the international hydrogen market'.



UAE's Clean Energy Sector

Masdar signs agreements to develop 4,000 MW of clean and renewable energy 'mega projects' in Azerbaijan.

To integrate offshore wind and green hydrogen projects with capacity of 2,000 MW also signed.

Memorandum of Understanding (MoU) signed with State Oil Company of Azerbaijan Republic (SOCAR) - renewable energy sources.

Projects in Abu Dhabi's Energy Sector

To reduce the total emission to over 29 million tonnes per year by 2030.

These projects include:

- The Noor Abu Dhabi Solar PV Plant, will reduce up to 1 million tonnes of CO2 emissions per year.
- Two additional 2-gigawatt solar projects to cut down CO2 emissions by 2.6 million tonnes.
- Abu Dhabi and Al Ain's waste-to-energy plants project an estimated 2.4 million tonnes reduction in CO2 emissions.



Nuclear Energy

- The UAE's largest push in incremental energy supply is its USD 40 billion investment in 5.6 GW of civil nuclear energy.
- The plant is expected to meet around 20% of national power demand.
- The project has been recognised by the International Atomic Energy Agency (IAEA) for its transparent development approach.



Solar Energy

- In May 2014, Masdar signed contracts for 4 pilot projects that use highly energy-efficient membrane technologies to produce around 1500 cubic meters of water per day.
- If successful, they will pave the way for renewable energy to power electricity-driven desalination at large scale.
- Solar PV - cost and resource availability.
- CSP with thermal energy storage is attractive for its potential to provide base load power.



Solar Energy

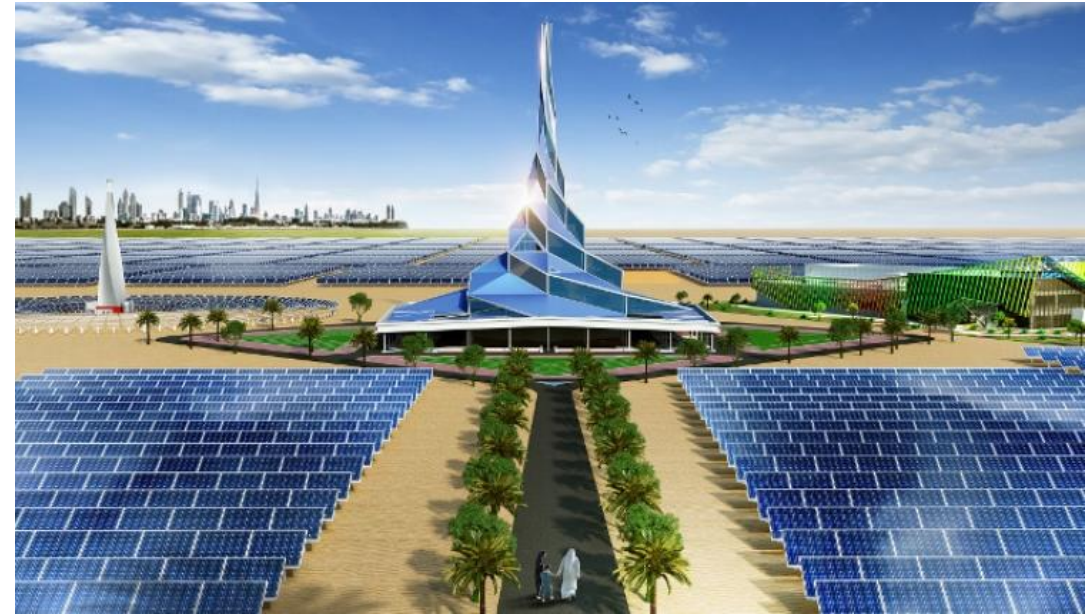
Emirates Global Aluminium (EGA) to develop solar-powered manufacturing of silicon metal in UAE

- EGA will manufacture silicon metal in the UAE, that may unlock new industries in line with the goals of 'Operation 300bn' and 'Make it in the Emirates.'
- This will help UAE to achieve its goal of expanding solar power generation capacity of the country.



Mohammed Bin Rashid Al-Maktoum Solar Park

- The first phase of the park 2013, added 13 MW of solar PV to the proposed 5,000 MW.
- The second and third phases - 200MW and 800MW. .
- The fourth and fifth phases - 950MW and 900MW to the energy grid.
- Increase Dubai's total power output to 25 per cent by 2030 and 75 per cent by 2050.



Projects in the UAE

Four ongoing projects in the UAE are expected to drive this growth.

The projects include:

Al Dhafra (2GW)

Abu Dhabi PV3
(1.5GW)

Mohammad bin
Rashid Al Maktoum
(MBR) Solar Park

Masdar 120MW

- Abu Dhabi-based Masdar is planning to develop a 120MW solar farm on a 47-acre landfill.
- Last year, Masdar entered the US solar market last year to work on renewable projects in Israel as part of its international expansion plans.

Hydrogen Energy

The three main objectives of the Hydrogen Leadership Roadmap are to:

- Support the UAE's 2050 net zero commitments
- Low-carbon steel and sustainable kerosene.
- Low-carbon hydrogen, derivatives, and products to key importing regions.
- First solar PV and green hydrogen producing facility in the MENA region, a blue ammonia production plant, and a green hydrogen demonstration plant.



Hydrogen Projects and News

- Three South Korean companies have signed an agreement for the construction green hydrogen and ammonia plant in the UAE.
- Korea Electric Power Corporation, Samsung C&T Corporation, and Korea Western Power, alongside the UAE's Petrolyn Chemie plan to build a plant.
- It will be developed in two phases in the KIZAD Industrial Area near Abu Dhabi.



Environment Vision 2030

- Investments in electric power generation totaled AED 18 billion in 2021 across a range of technologies and will increase to AED 50 billion by 2025 and at least AED 80 billion by 2050.
- 86.64 percent of the emirate's energy production in 2021 will come from natural gas.
- Total share of solar energy generated is expected to reach 7%.
- Total share of clean nuclear energy will be 47% by 2025.



Green Buildings in the UAE

- A 'green' building reduces or eliminates negative impacts on our climate and natural environment.
- Building Information Modelling
- The UAE to embrace green building design and implementation.
- According to the UAE Energy Strategy 2050, UAE has set high targets for building retrofit.
- In Abu Dhabi, 30 government buildings are set to be retrofitted with green technology to reduce their water and energy consumption by between 20 and 30 per cent.



UAE Agricultural Scene and Smart Farming

- Agritech is gaining traction in the UAE.
- The UAE to reinforce its food security initiatives in collaborations with start-ups and private businesses.
- Investment in Agritech, with the Abu Dhabi Investment Office (ADIO).
- The country has invested USD 100 million in agritech companies.
- Boost food production and meet the demand of the country's booming population.



UAE Agricultural Scene and Smart Farming

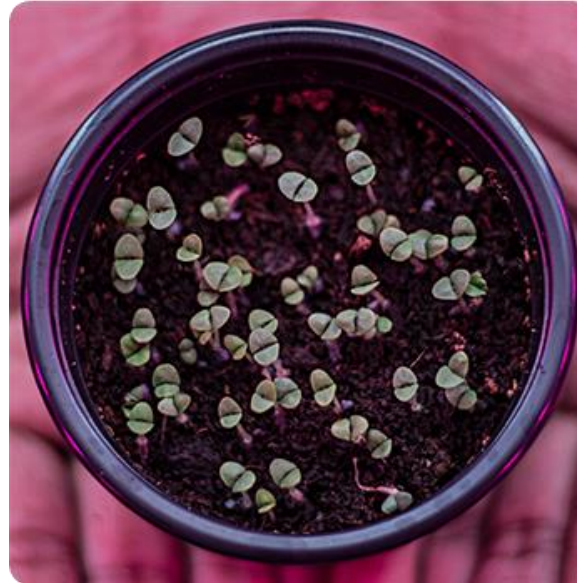
- Smart farming is an emerging concept that uses next-generation technologies.
- Technologies used – drones, Internet of Things (IoT), robotics, sensors, specialized software solutions, and GPS.
- Abu Dhabi Government has mandated the adoption of smart farming policies.
- Abu Dhabi Agriculture and Food Safety Authority (ADAFSA) partnered with private and public sectors to develop an integrated food security and agricultural data platform.



Examples of UAE Based Smart Farms



PURE HARVEST



BADIA FARMS



Waste Management and Water Treatment

- Water management is an important component of the country's sustainable growth agenda.
- In Abu Dhabi, experiences 9-10 per cent growth in wastewater flows every year.
- One of the government's strategic projects is the AED 5.2-billion **Strategic Tunnel Enhancement Programme (STEP)**.
- The Abu Dhabi Economic Vision 2030 promotes reduce, reuse, and recycle.
- The Abu Dhabi Sewerage Services Company (ADSSC) is responsible for collecting and treating wastewater in Abu Dhabi



Examples of ADSSC Projects

Strategic Tunnel Enhancement Programme



Wastewater Treatment Plant – Al Ruwais



UAE's Renewable and Sustainable Projects



Main Projects in the UAE

Noor Abu Dhabi Solar Park



Dubai's Smart City Initiative



Estidama Abu Dhabi

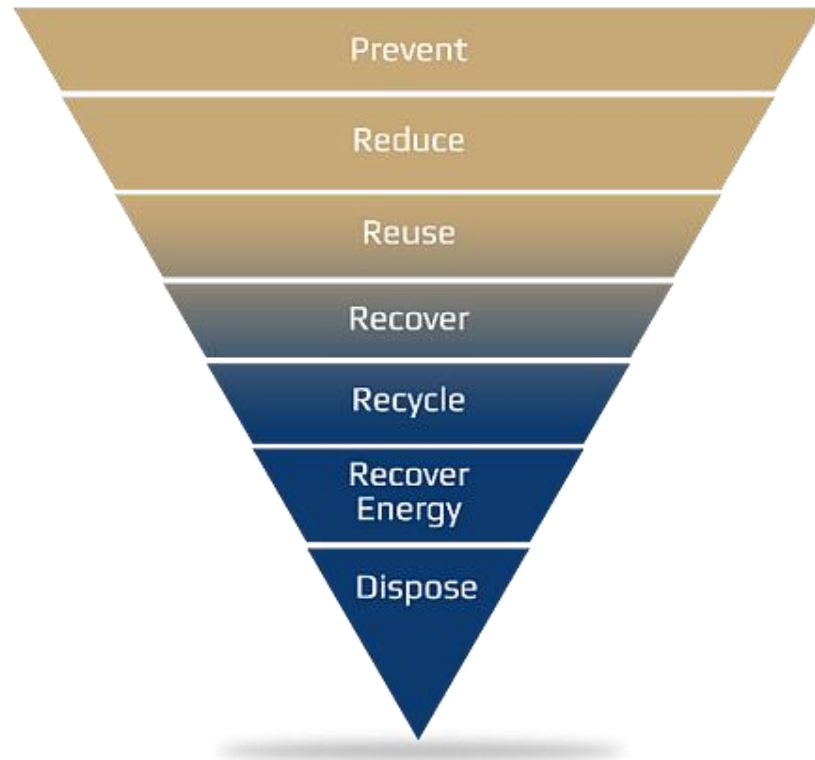


Shams 1 by Masdar City



UAE's Circular Economy

The Scale 360 Initiative



Single Use Plastic in Abu Dhabi



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