

### Overview of the National Energy and Water Demand Side Management Programme 2050:

National Energy and Water Demand Side Management Programme 2050 had been developed to target the most consuming sectors in the country [ Built Environment, Transport, Agriculture, and Industry] aiming to reduce energy demand by 40% and water demand by 50% by 2050, which will support cost reduction, investment, and sustainability. The National Energy and Water DSM Program ensures the integration of all local and federal efforts to ensure the security of supply in the energy and water sectors through initiatives and plans with short, medium, and long term. The program supports the targets of the UAE Energy Strategy 2050 and the UAE Water Security Strategy 2036 also it is in line with the objectives of the local initiatives adopted in each emirate.

The concerned entities must achieve the overall saving targets for the initiatives within the framework of the National Energy and Water DSM Program, there is flexibility in implementing the initiatives in a manner that does not conflict with the local programs and their targets with the existence of a governance system to facilitate implementation and follow-up of programs. And they are committed to providing the Ministry with the savings achieved annually for each initiative, in a way that contributes to achieving the goal of the National Energy and Water DSM Program.

### The program consists of three main parts:

**The Energy part:** It includes initiatives to reduce energy consumption for the three largest energy-consuming sectors in the country, namely industry, transport, and built environment, to reduce energy demand by 40% in 2050.

**The Water part:** It includes initiatives to reduce water consumption for the largest water consumption sectors (agriculture and buildings sector) to raise the efficiency of water consumption, which contributes to improving the domestic product and enhancing the state's competitiveness in the field of environmental and economic sustainability.

**Consumption Rationalization part:** It is a plan for an integrated awareness campaign for consumers within the target groups (families, students, employees, workers, and tourists).

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### The objectives of the National Energy and Water Demand Side Management Programme 2050 are:

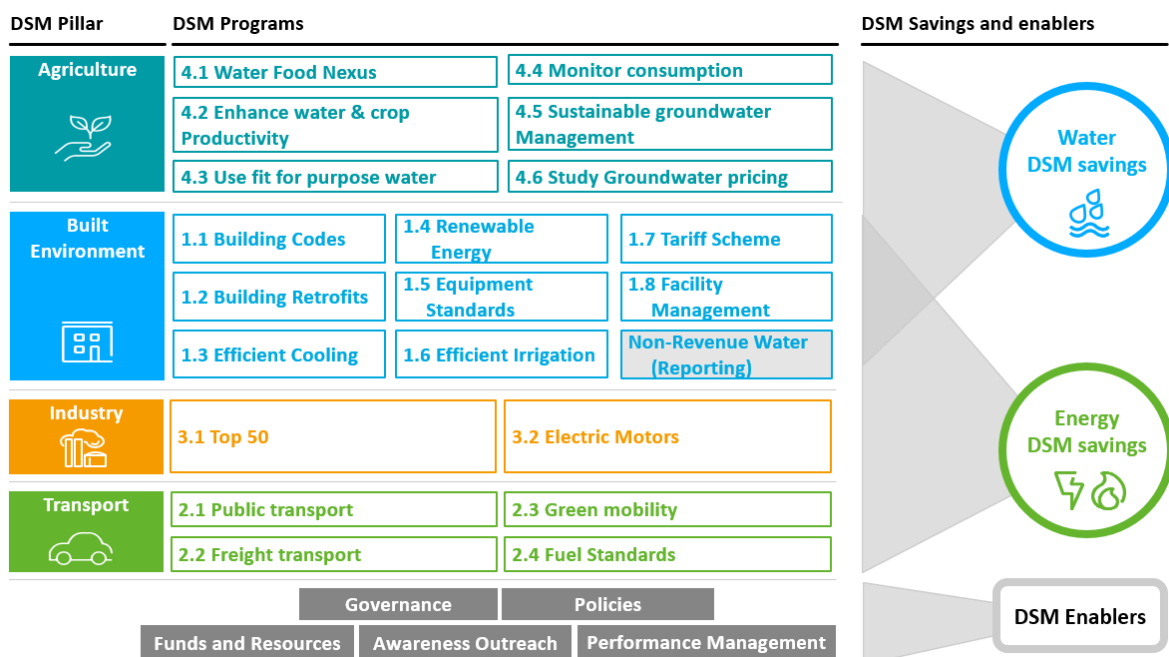
- Achieving a reduction in total energy demand by 40% in 2050 compared to the Business as Usual "BaU".
- Achieving a 50% reduction in the total demand for water resources in 2050 compared to the Business as Usual "BaU".
- Ensuring the security of supply in the energy sector and enhancing energy dependence in the country.
- Directing the decisions of the entities throughout the country towards investing in the best available technologies and operational excellence in the management of energy and water systems.
- Support carbon reduction initiatives and ensure efficient use of energy resources and efficient use of existing generation capacity.

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- Take advantage of the collected data to analyze patterns of water and energy consumption and work on studying the best global practices and lessons learned.
- Unifying local and federal efforts in order to achieve the objectives of the UAE Energy Strategy 2050.

### pillars:

The National Energy and Water Demand Side Management Programme includes four main pillars shown in the figure below, that have the highest potential for impact, namely agriculture, built environment, industry, and transport.



### 1- Agriculture Pillar:

- A policy related to achieving water security objectives of the sustainability of groundwater.
- Develop a policy to prevent traditional irrigation methods.
- A policy for prioritizing the use of reused water and determining quality parameters (Fit for purpose quality parameters).
- A policy that supports the monitoring of groundwater use.
- Policy for the establishment of groundwater protection zones.
- Developing an economic and social study on the regulation of tariffs for groundwater.

### 2- Built Environment pillar:

- The policy of regulating the methods of calculating the baseline and savings between energy companies and owners.
- A policy to compel buildings retrofit and energy certificates.
- The policy of regulating district cooling companies and benefiting from chilled water storage operations, and encouraging the use of treated water in this process.
- Legislation to enable the production of distributed solar energy and facilitate obtaining a no-objection certificate.
- Ensure periodic updates of equipment standards to comply with best practices.
- Developing a policy for the use of treated water for irrigation, according to priority and quality.
- Organizing the tariff review and identifying the different categories and segments.
- Forming a framework for building and maintenance operations to achieve higher energy efficiency.

### 3- Industry pillar:

- Raise the energy efficiency in industrial facilities with the highest energy consumption through federal energy management policy. These industrial facilities are required to submit a plan to reduce their energy demand and CO2 emission, they have to carry out needed reporting and auditing to increase their sustainability and efficiency.
- Regulation for the minimum energy performance standards and efficiency labels for high consuming electric motors in industry sector.

### 4- Transport pillar:

- A policy to develop public transportation by increasing the number of buses and bus lanes in public streets.
- Policy to develop the railway network as needed.
- Policies to support the adoption of electric vehicles.
- Developing a system that determines the fuel consumption of new vehicles in the market.
- Setting targets for vehicle manufacturers.
- Setting targets for government agencies to set a fuel efficiency standard for vehicle fuel consumption.

## The National Platform for Energy and Water Demand Management:

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This smart platform is an important and complementary part of the National Program. The Ministry had developed it to monitor the key performance KPIs of annual savings within the framework of the four pillars (agriculture, built environment, industry, and transport).

Where all participating parties in each emirate must enter the achieved savings for both energy and water. This will help to assess and keep track of energy saving trends and CO2 emission reduction level. The variance in the program's savings has been taken into account as long as the total annual savings are achieved. The platform will help to develop an annual report that highlights the most important achievements of each pillar and the percentages of savings achieved.