



UNITED ARAB EMIRATES  
MINISTRY OF CLIMATE CHANGE  
& ENVIRONMENT

# UAE Green Key Performance Indicators

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# Monitoring the Progress of the UAE Green Agenda

## UAE Green Agenda 2030

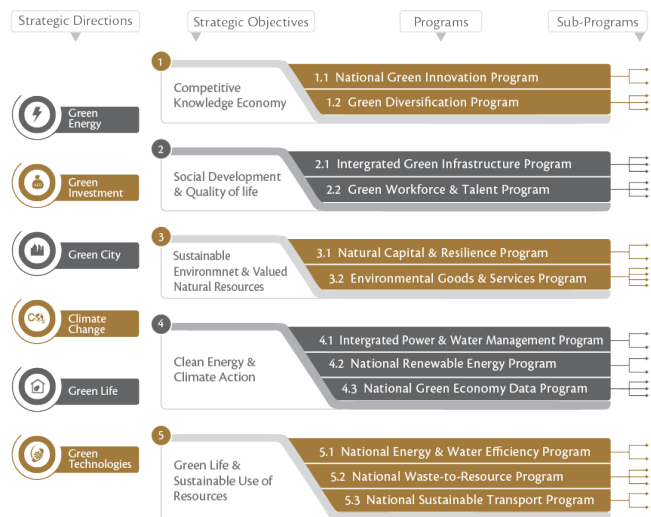
The **UAE Green Agenda 2030** was approved by the Cabinet in January 2015 as an implementation framework of the UAE Green Growth Strategy, which was originally launched by His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, in January 2012. The Strategy aims to put forward the country's ambition to become a global hub and a successful model for the low-carbon green economy so as to enhance the competitiveness and sustainability of its development and preserve its environment for future generations. 6 focus areas presented in this strategy are: Green Energy; Green Investment; Green City; Climate Change; Green Life; and Green Technologies.

Through the subsequent extensive stakeholder consultation process, the Green Agenda was developed in collaboration with the Global Green Growth Institute (GGGI). In line with the country's overall development objectives set by the UAE Vision 2021, 5 strategic objectives and 12 main programs were set under the Green Agenda. The execution of the Green Agenda has been overseen by the **Emirates Council on Climate Change and Environment**, which is chaired by H.E. Dr. Thani Al Zeyoudi, Minister of Climate Change and Environment and consists of representatives from diverse federal ministries and all 7 emirates.

## Measuring the Green Economy Transformation

The green transformation of the UAE economy requires the activation of both enabling government policies and initiatives from the private sector and civil society. To guide the formulation of policy instruments as well as voluntary activities to the right course, it is critical to establish a set of indicators as an effective compass that can monitor and assess the underlying developments, progress, and potential opportunities and risks. The refined indicators should serve as solid evidence based on which policy makers can set clear goals, formulate policies, review progress and evaluate impacts.

Measuring the complex and multi-dimensional nature of green economy is a challenging task and no agreed set of indicators exist to date despite several international organizations such as the OECD, the UN Environment and the GGGI are making efforts.



Structure of the UAE Green Agenda 2030

Whereas standardization and comparability are desired for such indicators, countries also require flexibility to meet their different needs and pathways, which largely depend on national circumstances, capacities and levels of development. Lack of available data is another barrier to developing a meaningful set of green economy indicators.

The UAE Ministry of Climate Change and Environment (MOCCAE) has made first attempts to overcome such challenges and managed to develop an original framework of green economy indicators which serves for the Green Agenda objectives, namely the **UAE Green Key Performance Indicators (KPIs)**. MOCCAE has compiled the performance of each indicator as far as data is available and started reporting to the public annually through the **UAE State of Green Economy Report** since 2015.

# Development of UAE Green KPIs

## Framework of Green KPIs

While the Sustainable Development Goals (SDGs) were adopted by 193 countries in 2015 as the global common ambition towards 2030, the measurement for the green economy transformation needs to go a step further in capturing the economy-environment nexus — the extent to which economic activity is being greened and green initiatives contributes to economic growth.

In the traditional economic model, a direct source of economic growth is the growth of inputs such as labor, produced capital such as machines, and intermediate inputs in production such as steel in the automobile industry. The role of inputs in economic growth has been primarily valued by efficiency of producing outputs which can be increased by improved human capital and organization as well as technological change.

Such a traditional measurement of production does not properly reflect natural capital as production inputs like other forms of capital, despite they constitute essential inputs into production and consumption. The lack of markets and prices for many natural assets and environmental services has led to their overuse and deterioration, generating negative externalities. Furthermore, the amenity services that support a broader notion of well-being are often not traded and hence not well captured by standard economic indicators such as GDP.

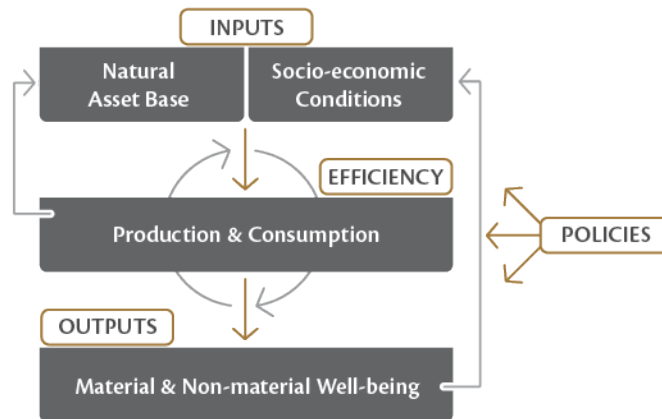
Therefore, in the development of the UAE Green KPIs, a new framework for identifying and selecting indicators was elaborated by integrating environmental considerations into the conventional input-productivity-output model as displayed in the figure on the right.

## Selection of Indicators

Several quantifiable indicators were identified from each of the four categories of the developed indicator framework. Those indicators originate from the recommendations of the OECD, the UN Environment and the GGGI as well as the input from the consultation process for developing the Green Agenda. Some of National KPIs which were established under the Vision 2021 have also been taken

where relevant. In the selection of a limited set of indicators, the four criteria suggested by the OECD – policy relevance; analytical soundness; measurability; and usefulness in communication – were taken into consideration, as well as the availability of data in the country.

As a result of this exercise, **41 Green KPIs** were selected and classified according to the three dimensions (environmental, economic and social) of sustainable development. It is hoped that this indicator set would greatly help policy makers, industry and civil society to understand the dynamism of the economy-environment nexus so that they can better plan and direct Green Agenda policies and initiatives to the right course.



Framework for developing the UAE Green KPIs

## List of the UAE Green KPIs - Environment

41 UAE Green KPIs are listed below according to the three dimensions of sustainable development, with brief background information. These indicators are serving as a baseline for regular monitoring and setting future targets as well as international benchmarking.

This set of indicators is the first attempt at capturing green economy performance in the country, not a definitive or exhaustive list. They will be refined or new indicators may be added as the experiences and data availability will improve. As indicators are proxies and may over-simplify the underlying reality, they should be interpreted in an appropriate manner.

Environmental KPIs		
ENV1	Rate of groundwater abstraction	Groundwater is primarily used for irrigating farmland and forests, and water levels are depleting.
ENV2	Water consumption per capita	Most municipal water is produced through energy-intensive desalination processes.
ENV3	Waste generation per capita	Nearly 2/3 of waste generated from construction and demolition, and 1/4 from municipal waste.
ENV4	<i>Rate of waste recovery</i>	The national target is 75% recovery of municipal solid waste by 2021.
ENV5	Energy consumption per capita	Decoupling energy use from rapid population growth is a key to enable a green economy.
ENV6	<i>Rate of non-fossil energy</i>	The national target is 27% of total energy mix coming from clean energy sources by 2021.
ENV7	<b>Carbon intensity of energy</b>	A measure to evaluate the deployment of clean energy and efficiency in the conventional generation
ENV8	Total GHG emissions	A fundamental measure to follow up the commitment to the Paris Climate Agreement
ENV9	<b>Ecological Footprint</b>	All the ecological services humans demand are measured against the planet's capacity to regenerate.
ENV10	Number of environmental regulations	A most fundamental tool for government to tackle pollution and degradation of natural resources
ENV11	Number of environmental standards	Standards encourage innovation and adoption of efficient technologies while directing demand.
ENV12	Ratio of protected areas	Protected areas are at the core of policy efforts for protecting biodiversity and ecosystem services.
ENV13	Environmental expenditure	A primary indication of what extent the country considers environmental sustainability as a priority
ENV14	<b>Environmental Performance Index</b>	An composite index that quantifies the environmental performance of countries based on 9 categories
ENV15	Ratio of green vehicles	Uptake of greener vehicles would greatly contribute to the reduction of GHG emissions.

Note: Indicators in *Italic*: Corresponding to National KPIs  
Indicators in **Bold**: Headline indicators (see p.6-7)

## List of the UAE Green KPIs - Economic

Economic KPIs		
ECO1	Real GDP growth (per emirate)	GDP is the most common measure of economic activity of a nation or a region.
ECO2	Share of non-oil GDP	Growth of the non-oil sector helps mitigate the fluctuation of oil revenues.
ECO3	Share of non-oil export	Production and export of non-oil goods is key to economic diversification.
ECO4	GDP from environmental goods & services	The EGS sector will be the prime contributor in a prospective green economy.
ECO5	<i>R&amp;D expenditure in GDP</i>	R&D is one of the key factors to spur innovation and technology advancement.
ECO6	<i>Foreign direct investment net inflows</i>	Foreign investment would help accelerate development of new industries.
ECO7	<i>Doing Business Index</i>	A measure to judge whether a country's regulatory framework can attract businesses
ECO8	<b>Global Competitiveness Index</b>	Evaluate institutions, policies and factors that determine national productivity.
ECO9	<b>Water consumption per GDP</b>	Efficiency of water use is key to avoid over-exploitation and degradation of resources.
ECO10	Waste generation per GDP	A barometer to understand the efficiency of material use in generating economic value
ECO11	<b>Energy consumption per GDP</b>	Decoupling energy use from growth is as important as deploying clean energy.
ECO12	<b>Material consumption per GDP</b>	The challenge is to ensure that materials are used efficiently throughout their lifecycle.
ECO13	GHG emissions per GDP	Stabilizing the global temperature is dependent on how fast GHGs can be decoupled.
ECO14	<b>Efficiency of water &amp; electricity production</b>	Best technologies in fossil-fuel power generation and desalination should also be promoted.
ECO15	Average fuel efficiency of vehicles	Fuel efficiency would also help save subsidies and reduce potential loss in export revenues.

Note: Indicators in *Italic*: Corresponding to National KPIs  
Indicators in **Bold**: Headline indicators (see p.6-7)

## List of the UAE Green KPIs - Social

Social KPIs		
SOC1	Labor participation rate	Labor is one of the most essential inputs for production. Raising female participation is key to success.
SOC2	Employment rate	OECD guides to measure labor market dynamics by labor participation rates and unemployment rates.
SOC3	<i>Emiratization rate</i>	Nationals in the workforce will provide a foundation for the long-term economic success.
SOC4	Number of green jobs	While not universally defined, jobs that contribute to environmental quality are expected to rise.
SOC5	Number of UAE patents	Number of patents is one of few measurable proxies of R&D outcomes, or more broadly, innovation.
SOC6	<b>Global Innovation Index</b>	A measure to evaluate a country's enabling environment for innovation and innovation outputs
SOC7	<i>Global Entrepreneurship Index</i>	Entrepreneurship is required to tackle global challenges such as poverty and climate change.
SOC8	Environmental awareness rate	Awareness creates a foundation to shift behavior of individuals and organizations to greener one.
SOC9	Environmental behavior rate	Personal choices in daily life greatly affect on economic outcomes as well as the environment.
SOC10	<b>Human Development Index</b>	A popular UN approach of measuring welfare as an alternative to GDP growth
SOC11	<i>World Happiness Index</i>	A measure to assess what extent individuals feel happy and satisfied with their lives in a country

Note: Indicators in *Italic*: Corresponding to National KPIs  
Indicators in **Bold**: Headline indicators (see p.6-7)



## Allocating the Indicators to the Green Agenda Objectives

Each UAE Green KPI is allocated under one of the 5 strategic objectives of the Green Agenda to better understand the trends and place clear accountability for improving performance. One of the federal ministries is appointed to coordinate the implementation of each strategic objective and is designated as a custodian of the allocated 5-10 KPIs as presented in the table. The results of the Green KPIs are compiled each year and are reported to the Emirates Council on Climate Change and Environment, which oversees the execution of the Green Agenda.

Furthermore, 2 headline indicators are selected for each strategic objective, and a

total of 10 headline indicators make up the **Green KPIs Smart Dashboard**, which helps decision-makers, particularly the Council members, quickly grasp the overall progress of the Green Agenda.

It should be noted that the outcome of each Green KPI is inevitably influenced by the activities of different Green Agenda programs and other factors that may not be controlled by government and stakeholders, and that the performances cannot be attributed only to a single strategic objective. The results and analysis of Green KPIs are annually reported in the **UAE State of Green Economy Report**.

Strategic Objective	Headline Indicators	Other designated Green KPIs	Other relevant Green KPIs
1. Competitive Knowledge Economy	<i>ECO8: Global Competitiveness Index</i>	ECO1: Real GDP growth (per emirates)	
		ECO2: Share of non-oil GDP	ENV13 ,8
		ECO3: Share of non-oil export	
		<i>ECO5: R&amp;D expenditure in GDP</i>	
		<i>ECO6: Foreign direct investment net inflows</i>	ECO13 ,12 ,11 ,10 ,9 ,4
		<i>ECO7: Ease of Doing Business Index</i>	
		<i>SOC6: Global Innovation Index</i>	SOC5: Number of UAE patents SOC7: <i>Global Entrepreneurship &amp; Development Index</i>
2. Social Development & Quality of Life	ECO12: Material consumption per GDP	SOC1: Labor participation rate	
		SOC2: Employment rate	ENV15 ,14 ,13 ,12 ,11 ,10 ,9 ,8 ,5 ,4 ,3 ,2
		SOC3: Emiratization rate	ECO15 ,13 ,12 ,11 ,10 ,9 ,4 ,3 ,2 ,1
		SOC4: Number of green jobs	
		<i>SOC10: Human Development Index</i>	SOC7
		<i>SOC11: World Happiness Index</i>	

cont →

Note: Indicators in *Italic*: Corresponding to National KPIs



## Allocating the Indicators to the Green Agenda Objectives

3. Sustainable Environment & Valued Natural Resources	ENV9: Ecological Footprint	ENV1: Rate of groundwater abstraction		
		ENV10: Number of environmental regulations		
		ENV11: Number of environmental standards	ENV8 ,5 ,4 ,3 ,2	
	ENV14: Environmental Performance Index	ENV12: Ratio of protected areas		ECO13 ,11 ,10 ,9 ,3 ,2
		ENV13: Environmental expenditure		
		ECO4: GDP from environmental goods and services	SOC11 ,7 ,4	
		SOC8: Environmental awareness rate		
		SOC9: Environmental behavior rate		
4. Clean Energy & Climate Change Adaptation	ENV7: Carbon intensity of electricity	<i>ENV6: Rate of non-fossil energy</i>	ENV14 ,13 ,9 ,4 ,2	
	ECO14: Efficiency of water and electricity production	ENV8: Total GHG emissions	ECO11 ,9 ,4 ,2	
		ECO13: GHG emissions per GDP	SOC4	
5. Green Life & Sustainable Use of Resources	ECO9: Water consumption per GDP	ENV2: Water consumption per capita		
		ENV3: Waste generation per capita	ENV14 ,13 ,11 ,10 ,9 ,8	
		<i>ENV4: Rate of waste recovery</i>		
	ECO11: Energy consumption per GDP	ENV5: Energy consumption per capita		ECO15 ,13 ,12 ,4
		ENV15: Ratio of green vehicles		
		ECO10: Waste generation per GDP	SOC11 ,9 ,8 ,4	
		ECO15: Average fuel efficiency of vehicles		

Note: Indicators in *Italic*: Corresponding to National KPIs

# UAE Green Key Performance Indicators



Please download  
the *UAE State of Green Economy Report*  
for the latest results of Green KPIs

For further information or for provision of feedback:

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