



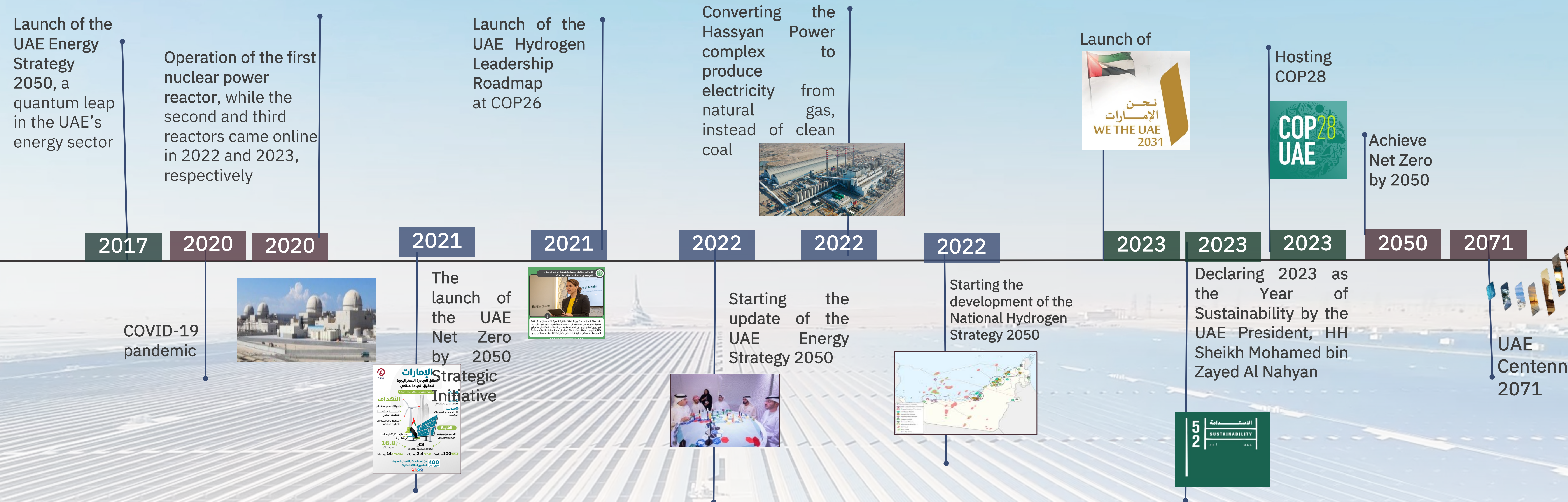
وزارة الطاقة والبنية التحتية
MINISTRY OF ENERGY & INFRASTRUCTURE

Updated UAE Energy Strategy 2050

July 2023

An ambitious journey

The climate action journey in the energy sector to reach net zero by 2050



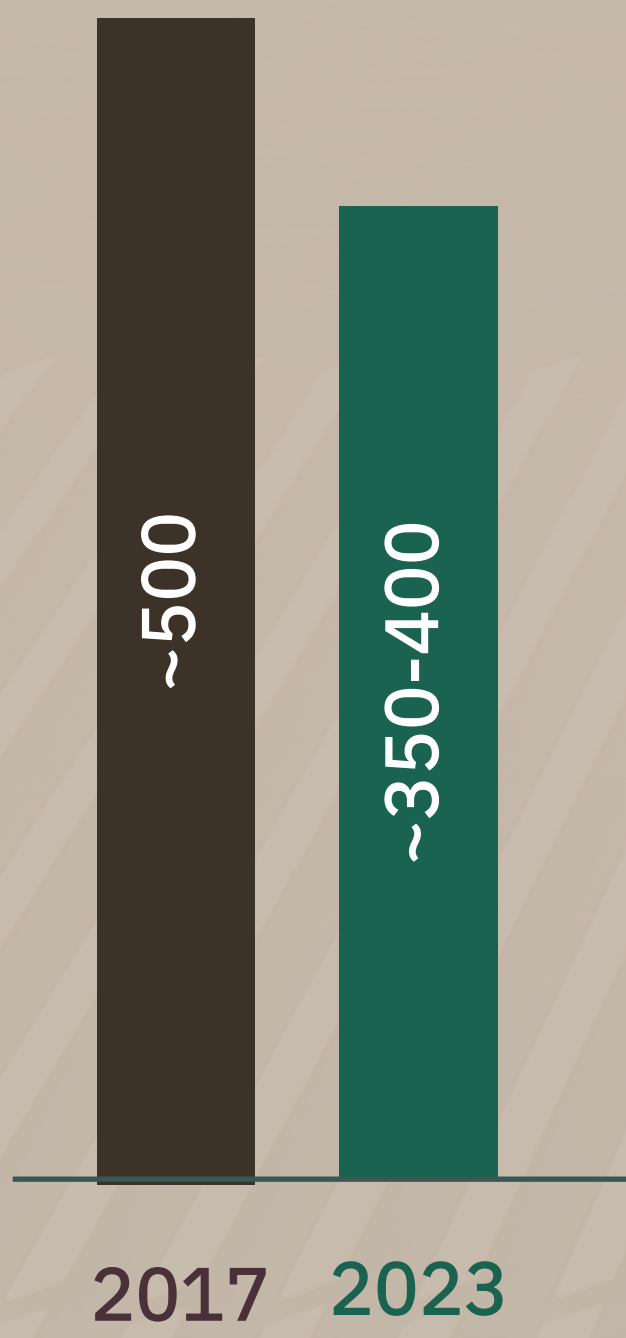
Major changes made in the updated version of the UAE Energy Strategy 2050

Targets for the year 2030

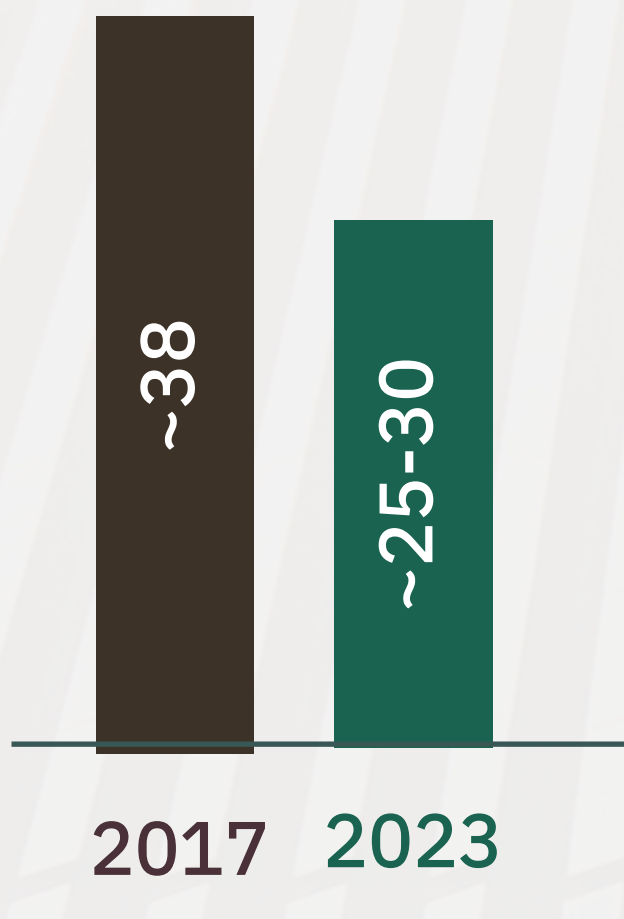
Capital investment (in AED billion)



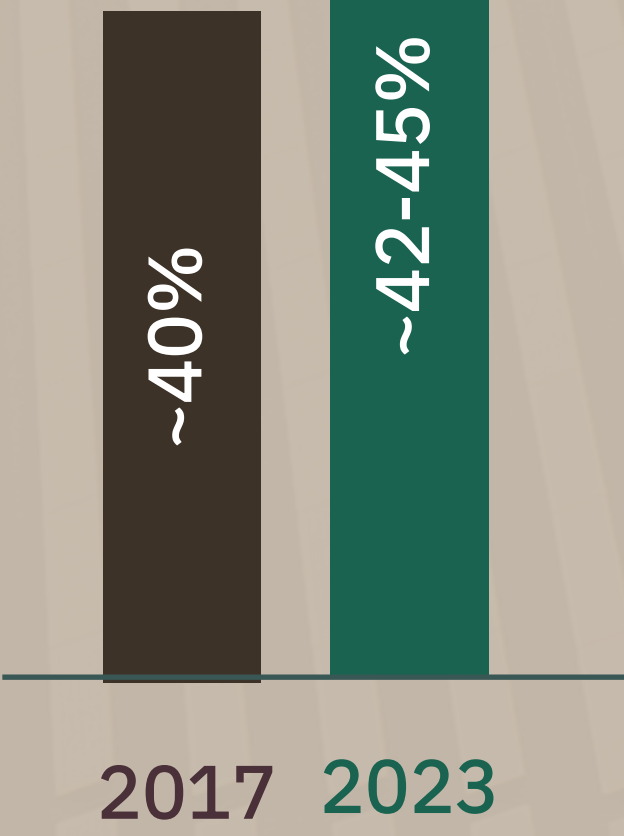
Total cost of generation (in AED billion)



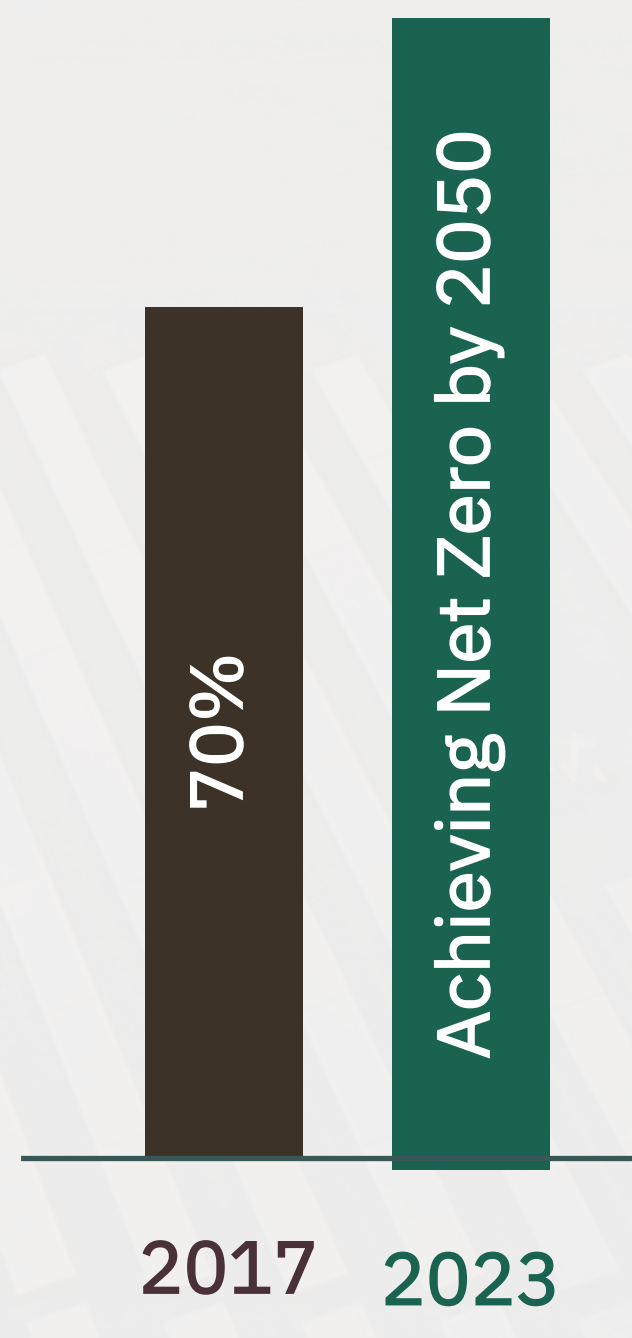
Unit cost of generation (Fils/kWh)



Energy efficiency



Emissions reduction



Reliability and security of power supply and resilience of systems

2017

General focus is on the transformation of the energy sector.

2023

Focus is on specific enablers such as policies and regulatory, technical, and technological tools to facilitate transition in the power sector and achieve net zero by 2050.

UAE's Grid Emission Factor Compared to Global Average

kWh

0. 556 kgCO2

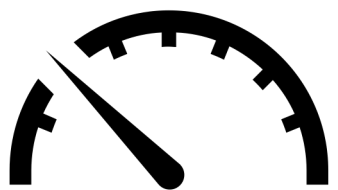




2021

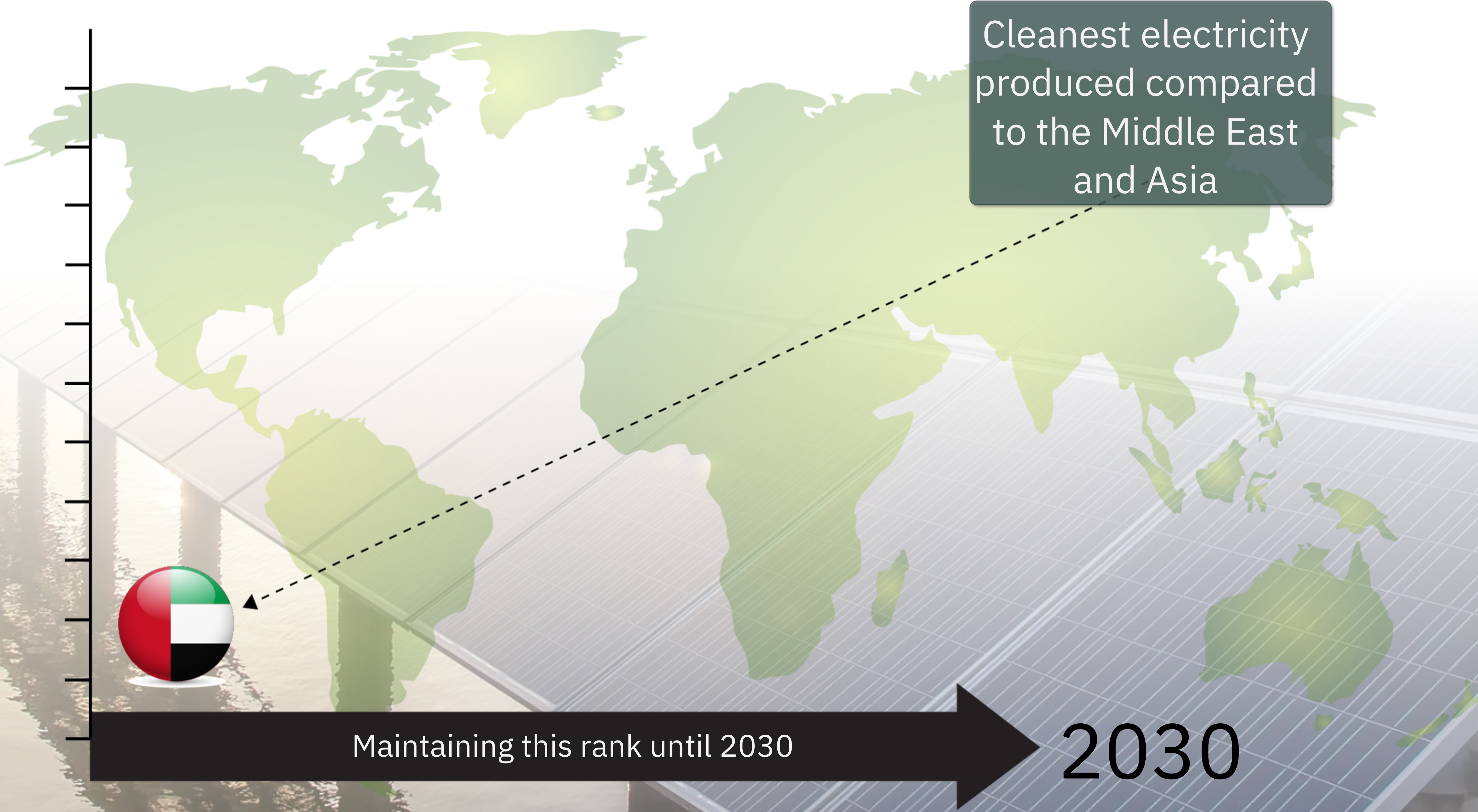
kWh

0.270 kgCO2





2030

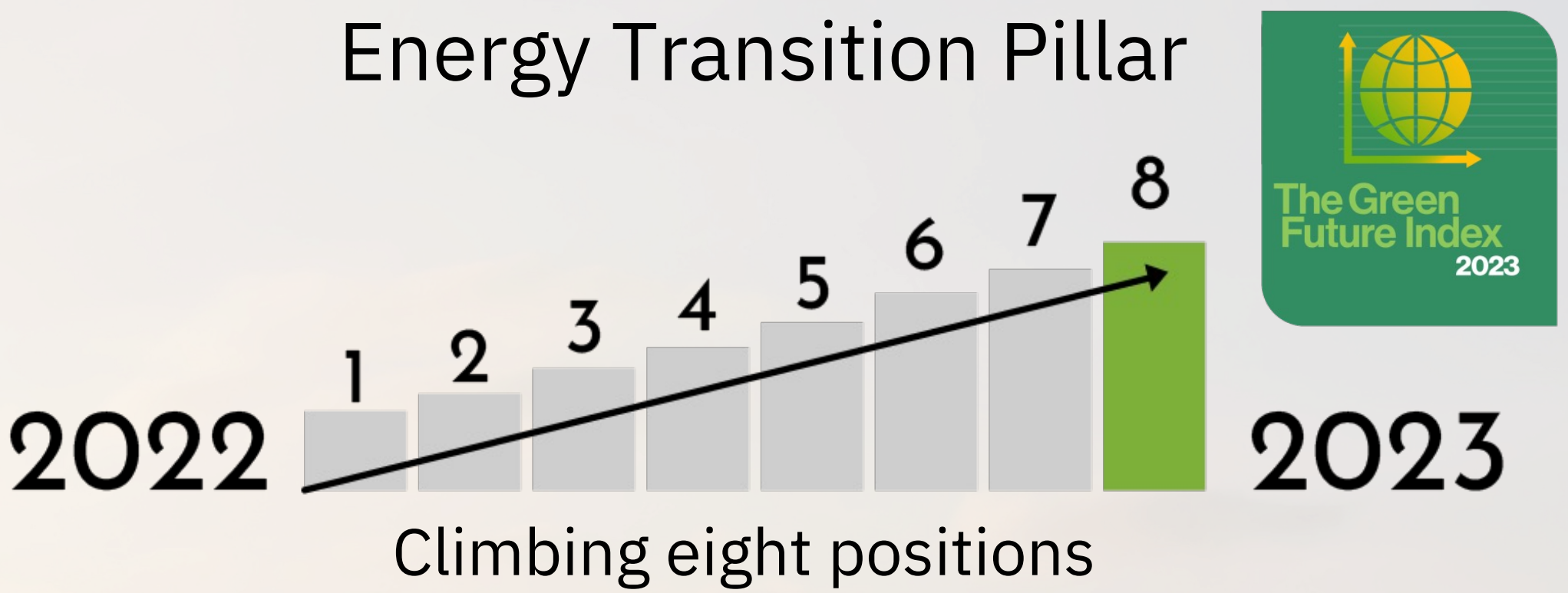
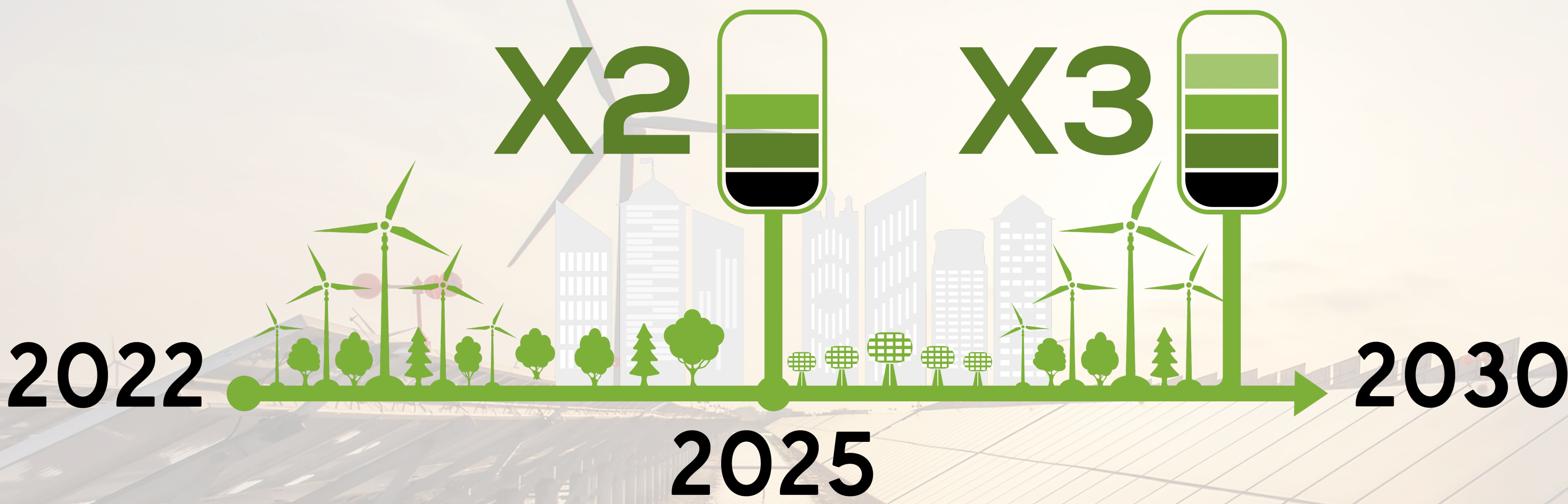


* The UAE generates 10.57% less emissions than the Middle East and Asia average and 9.5% less than the global average

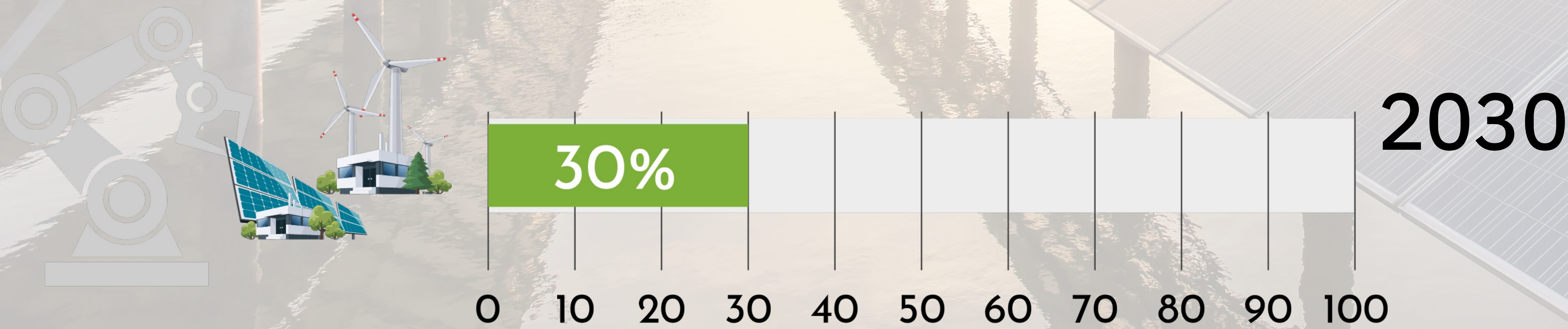
*based on 2021 data

Renewable Energy

Triple the capacity of renewable energy



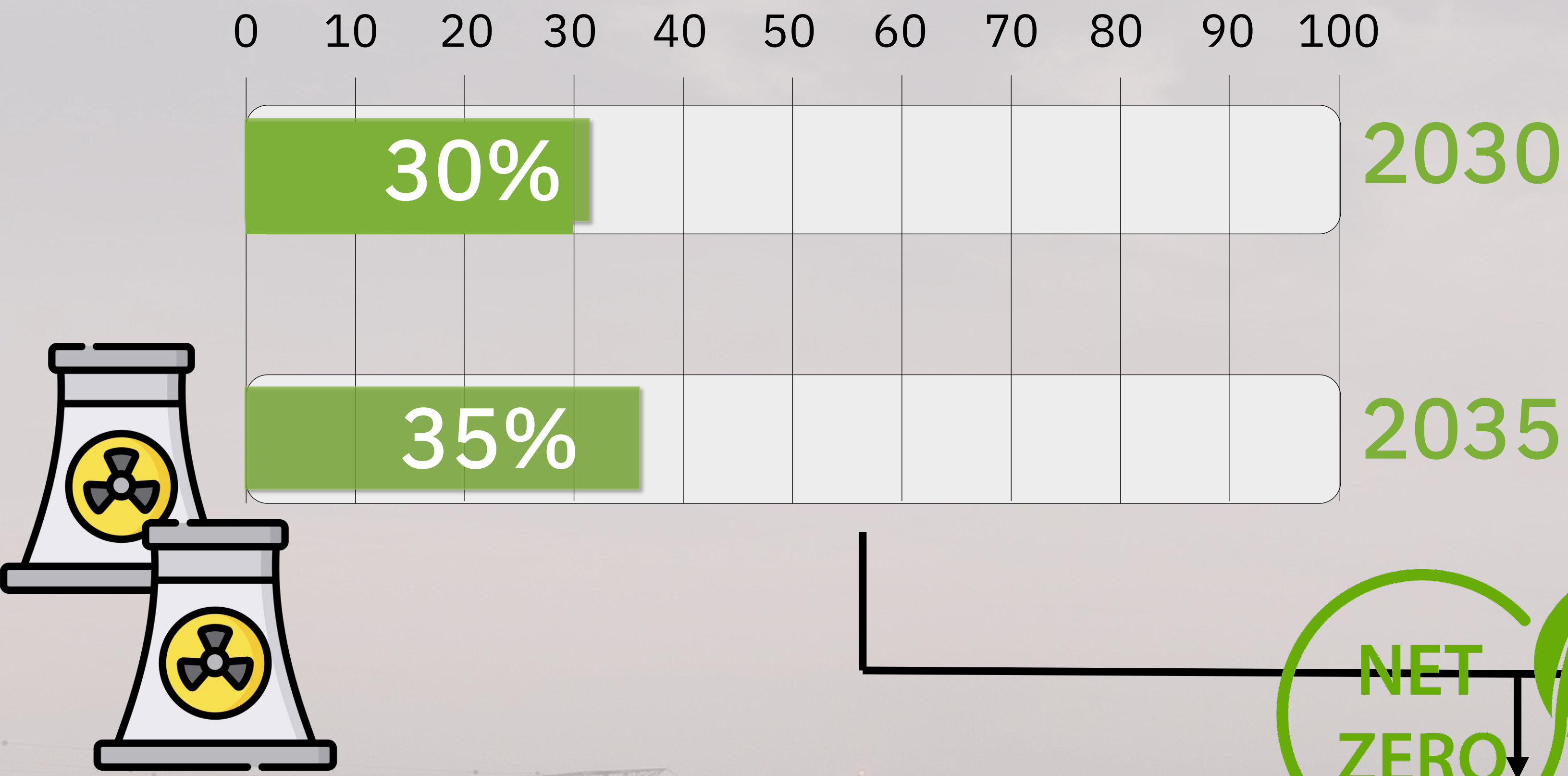
Increase the share of installed clean energy capacity



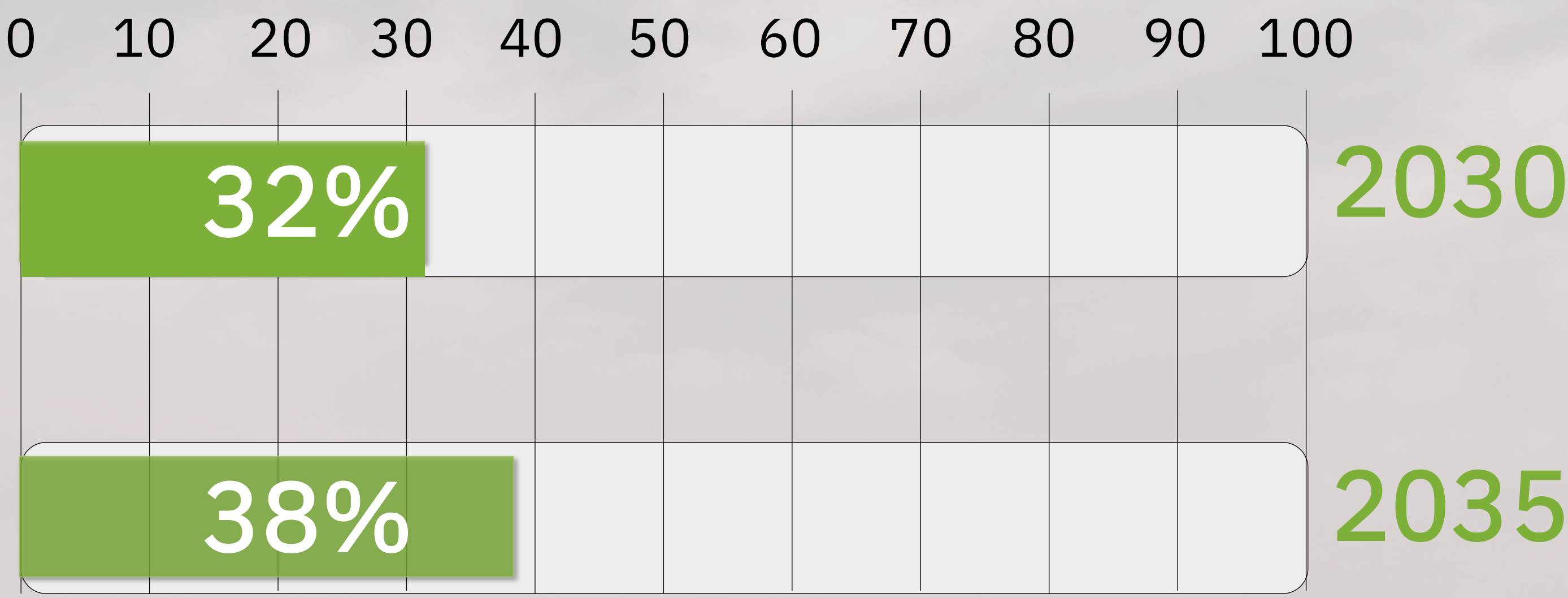
Energy transition rank				
2022	Rank	2023	Country	Score
13	↑	1	Iceland	5.42
10	↑	2	UAE	5.31
25	↑	3	Norway	5.09
18	↑	4	Sweden	4.94
8	↑	5	Kuwait	4.72
20	↑	6	Finland	4.70
16	↑	7	Uruguay	4.48
12	↑	8	KSA	4.46
24	↑	9	Brazil	4.44
8	↓	10	South Korea	4.30

Clean Energy

Contribution of installed clean energy capacity



Contribution of clean energy in generation



NET ZERO 2050

Strategy implementation phases:

Develop updated plans of 4 phases of energy sector developments

Phase

1

2023 → 2026



Completion of a study of the main potentials for the transformation of the energy sector

Phase

2

2027 → 2035



Start implementing strategic projects to enable the transformation of the energy sector

Phase

3

2036 → 2049



Accelerated implementation of ambitious goals

Phase 4

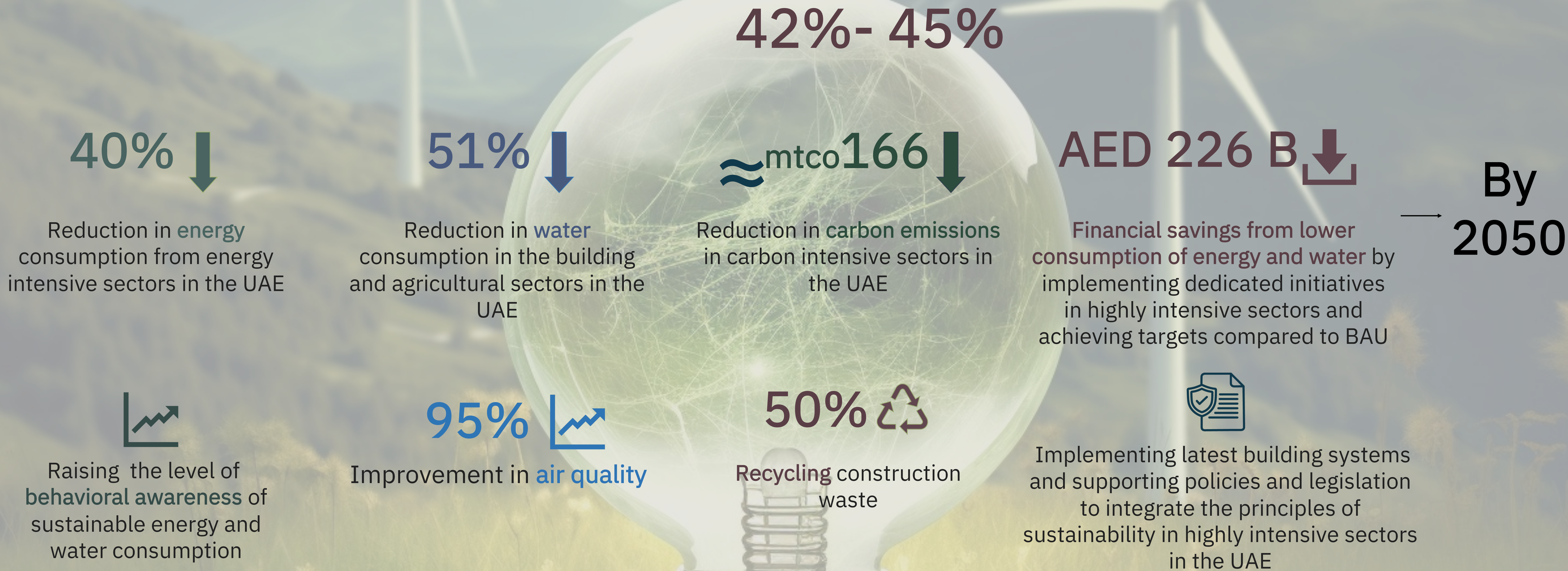
→ 2050



Achieving Net Zero in the energy and water sector

Energy Efficiency

Increase efficiency of energy and water consumption in highly intensive sectors in the UAE, in line with the objectives of the National Water and Energy Demand Management Program



Enablers

UAE Energy Strategy 2050

National Strategy for Wellbeing 2031

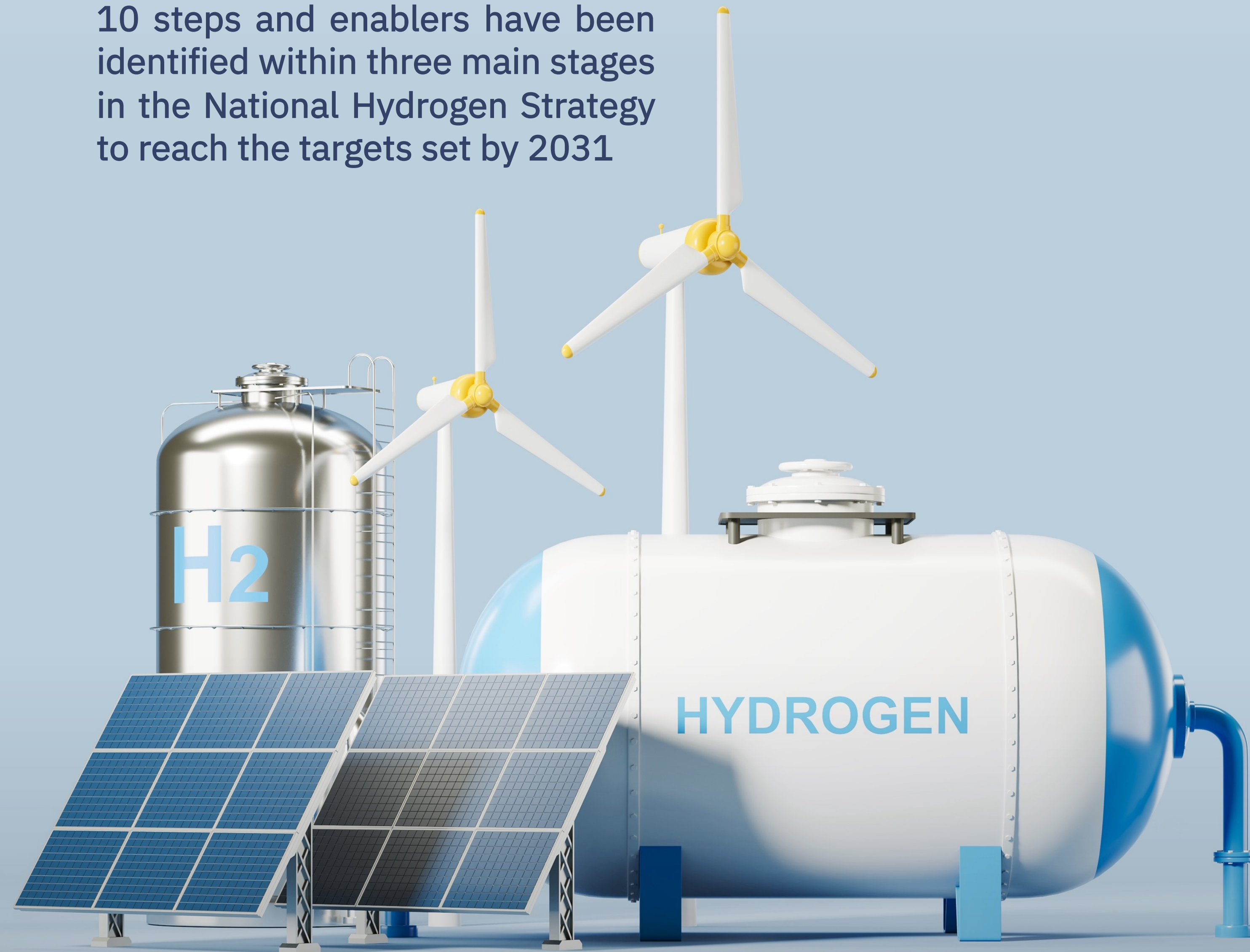
Circular Economy Policy 2031

Net Zero Strategy 2050

We aspire for the UAE to become among the leading countries for hydrogen production by 2031

In line with the 'We the UAE 2031' vision

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



Develop a resilient hydrogen supply chain to support the growth of the local industry

Consolidate the UAE's role as a leading global producer and supplier of low-carbon hydrogen

Promote innovation in industrial zones in the UAE

Establish a robust hydrogen economy that can support the country's nationwide decarbonization efforts

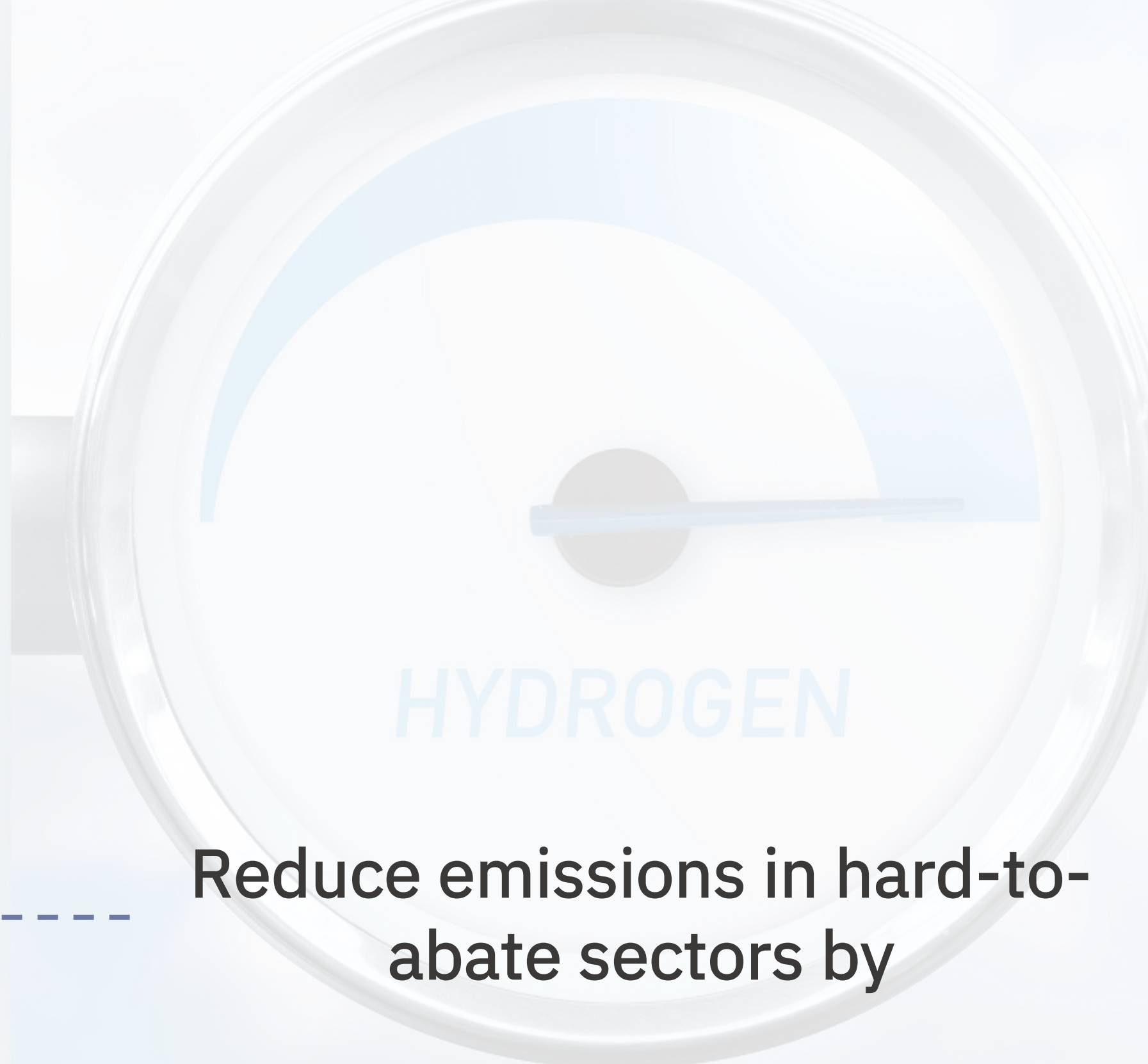
2031 Targets

25%

1.4 MTPA

Establishing a hydrogen R&D center

2 hydrogen oases



Reduce emissions in hard-to-abate sectors by

Hydrogen production per year

Hydrogen center

Establishing several hydrogen oases in the UAE

2050 Targets

100%

15 MTPA

A globally recognized innovation center for hydrogen

5 hydrogen oases

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

Global Collaboration

Building international partnerships and creating investment opportunities to drive the global transition to a hydrogen economy.

Resources and Assets

Leveraging natural resources and existing assets to competitively lead future energy markets.

Climate, Safety and Social Driver

Guiding society to embrace hydrogen and unlocking the common good as a results of global carbon mitigation.

Enabling Infrastructure

Creating the infrastructure necessary to link production with demand, accelerating hydrogen availability and utilization.

Research and Innovation

Incubating and accelerating next generation hydrogen technology developments across the value chain.

Policy, Regulation and Standards

Establishing the legislative mechanisms to support the low-carbon hydrogen transition, including hydrogen certification and guarantees of origin.

Finance and Investments

Creating an attractive investment environment to support the hydrogen transition, as well as developing green finance mechanisms domestically.

Industry Development and Demand Activation

Providing the certainty, predictability and confidence industry needs to transition to hydrogen.

Sustainable Commercial and Economic Models

Achieving and maintaining globally competitive hydrogen pricing through a long-term market driven support mechanism.

Skills and Education

Nurturing and growing a highly skilled workforce to drive forward the transition to hydrogen.

Strategy implementation phases:

The National Hydrogen Strategy is going through three main phases to implement the ten enablers:

Phase 1

Promote and support the
project



Building global international
companies
Sustainable business and economic
models
Industry development and activation

Phase 2

Comprehensive
empowerment of the project



Education and skills
development
Research and innovation
Public awareness and
education

Phase3

Develop frameworks and guidelines



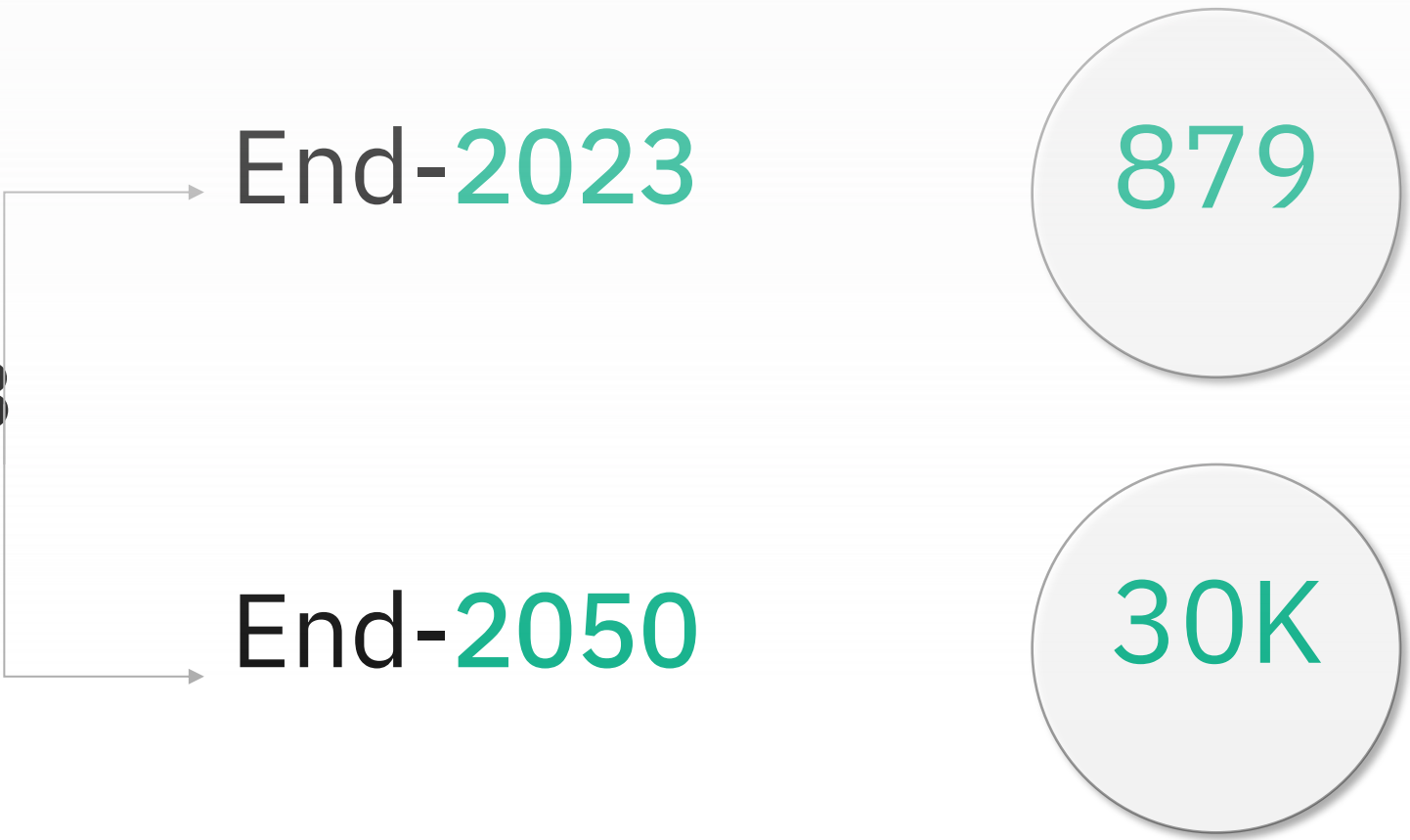
Preparing policies and standards
Allocation of financing and
investments
Allocation of resources and assets
enabling infrastructure

Green Mobility

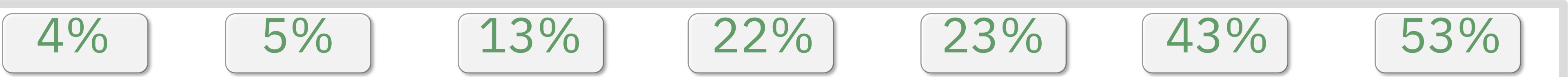
Number of current and targeted chargers as per the objectives of the UAE DSM Program for the transport sector



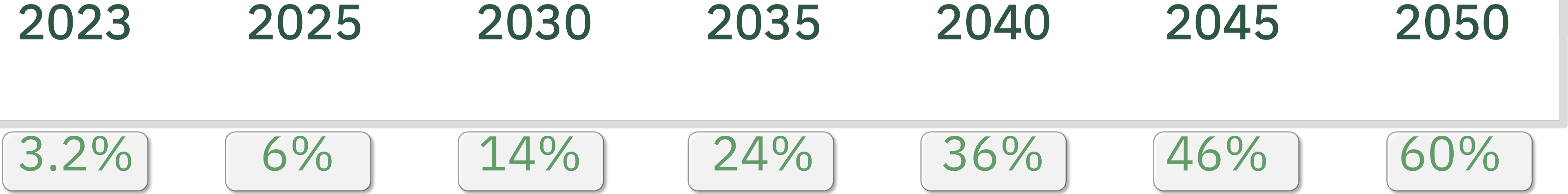
Number of chargers installed in 2022-2023



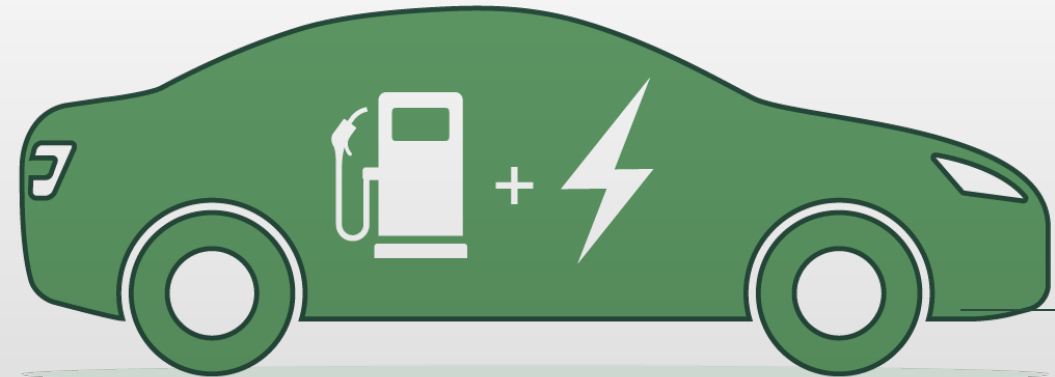
Share of EV and hybrid vehicles



Share of electric and hybrid buses

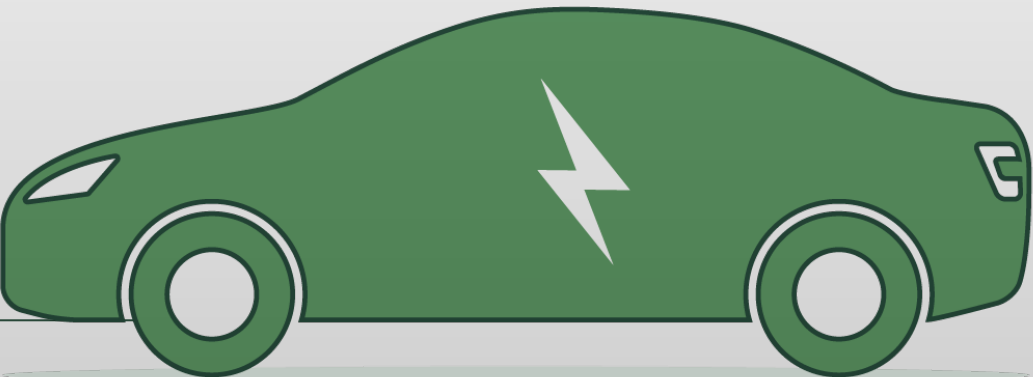


Number of hybrid vehicles



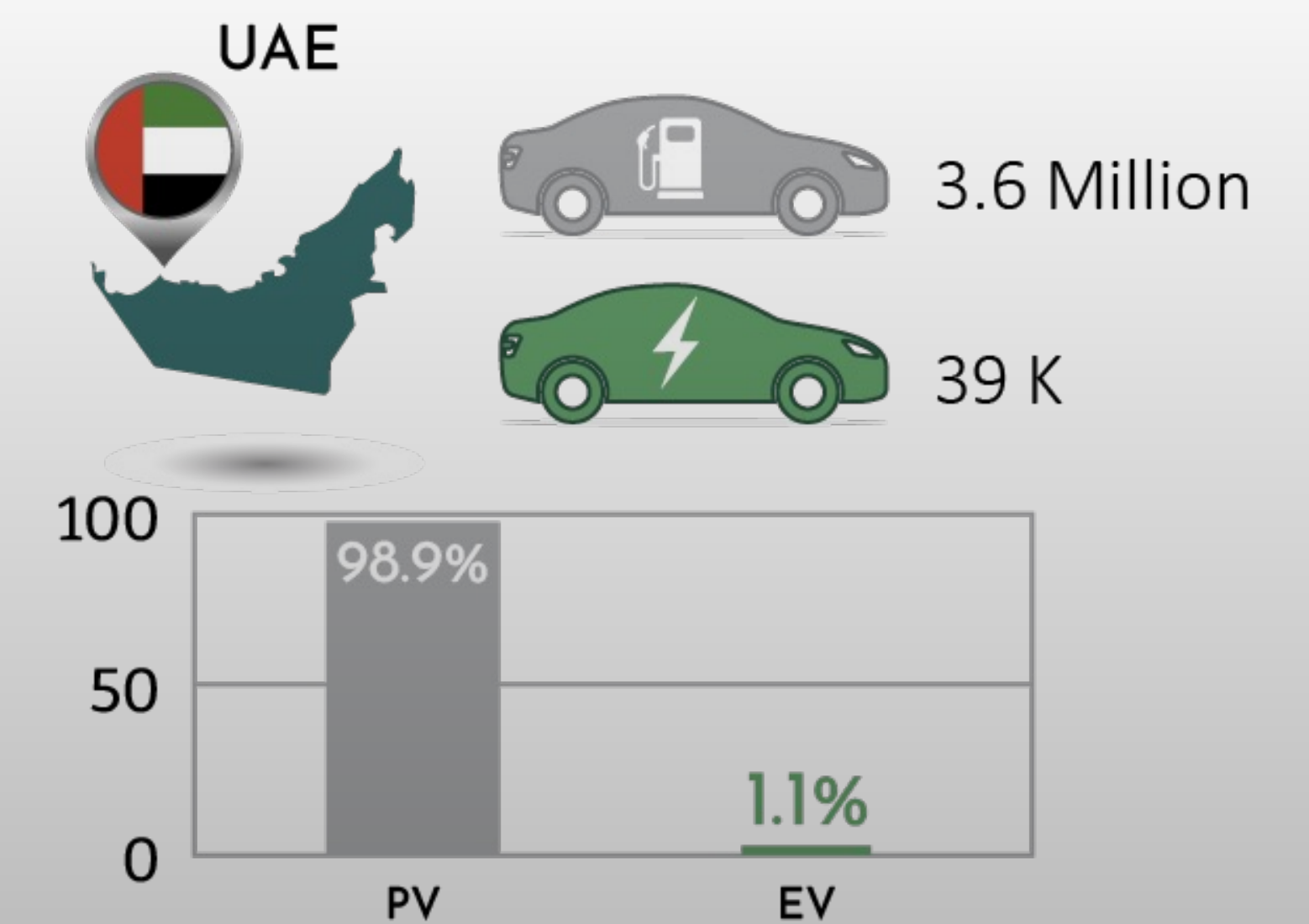
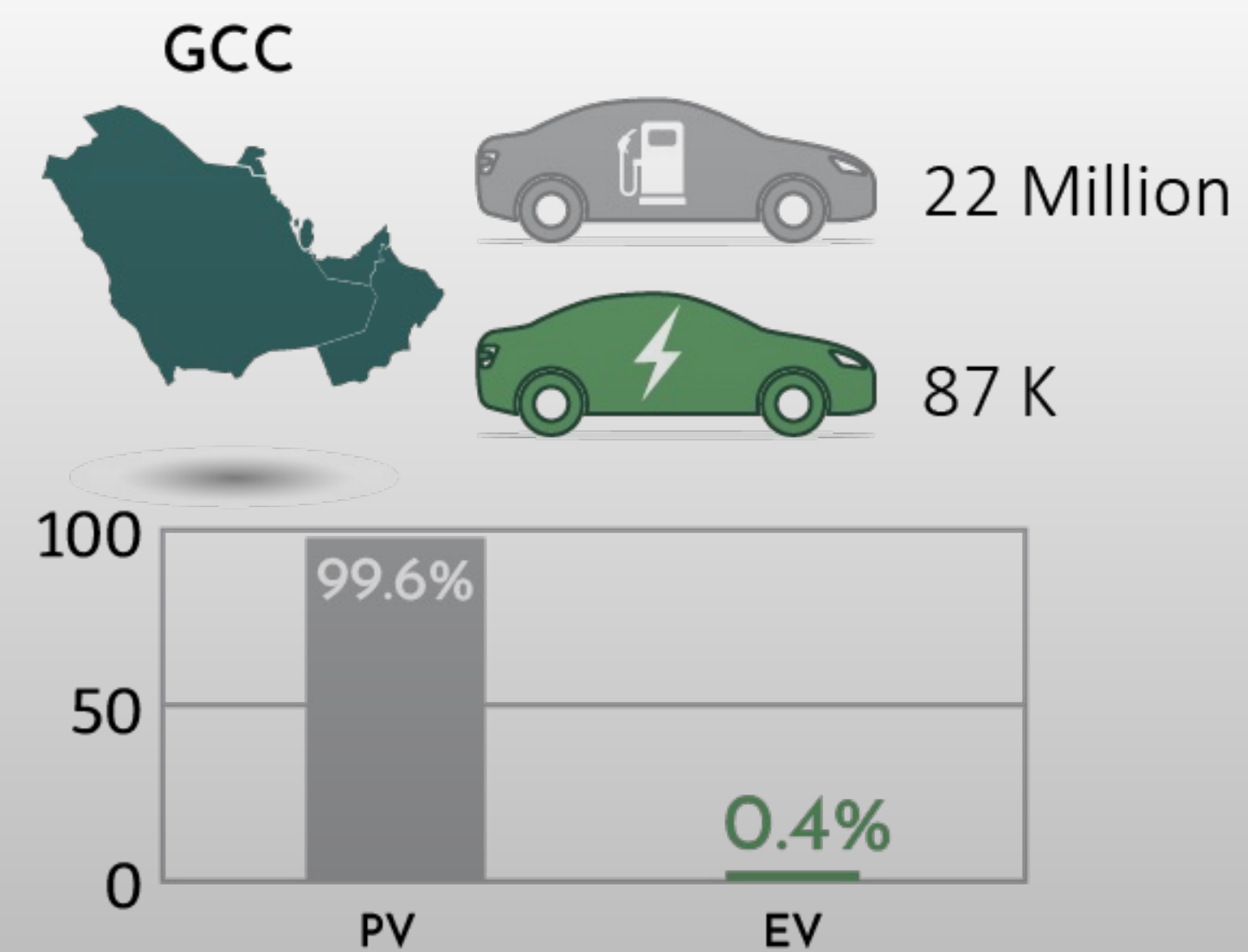
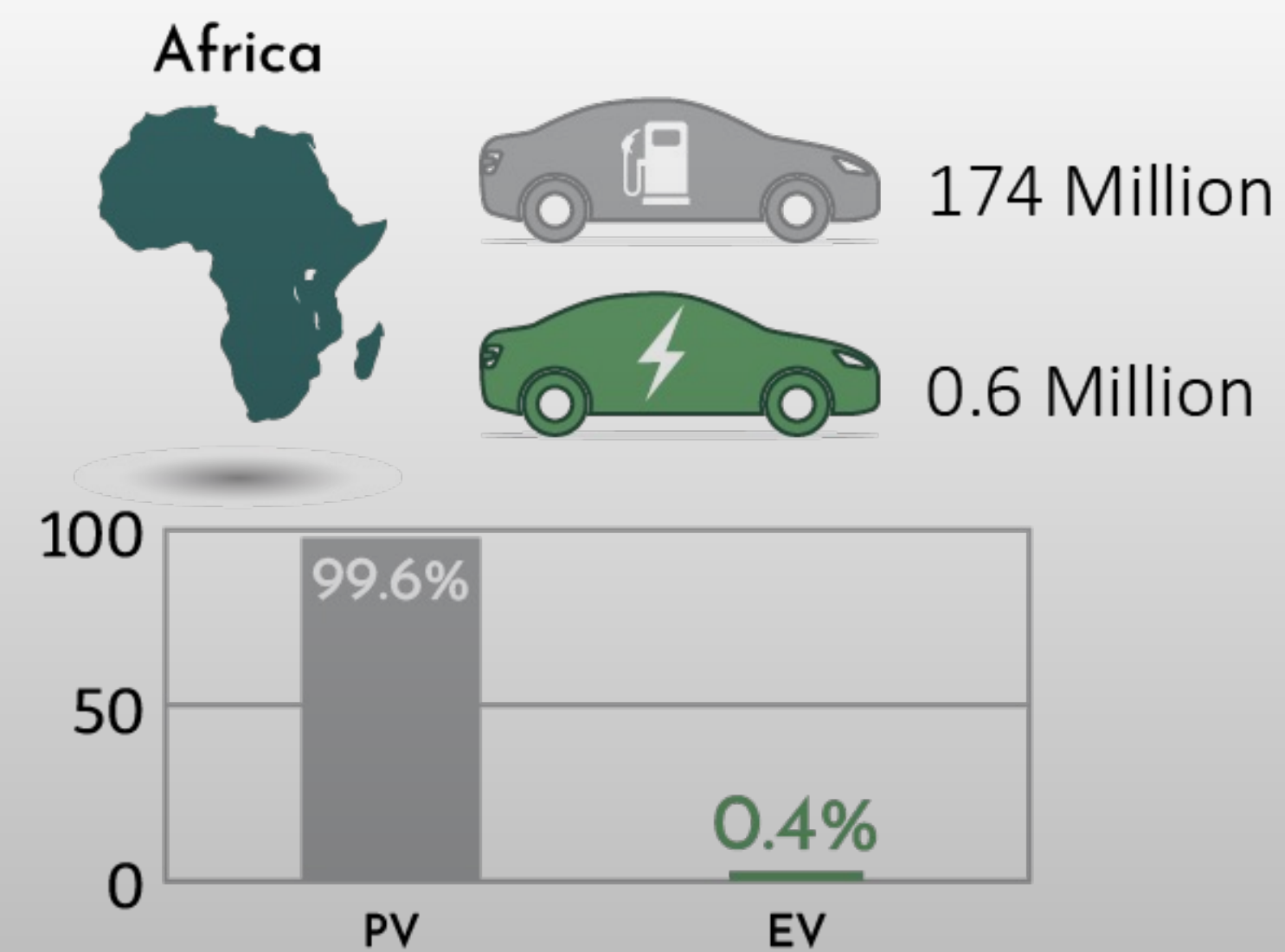
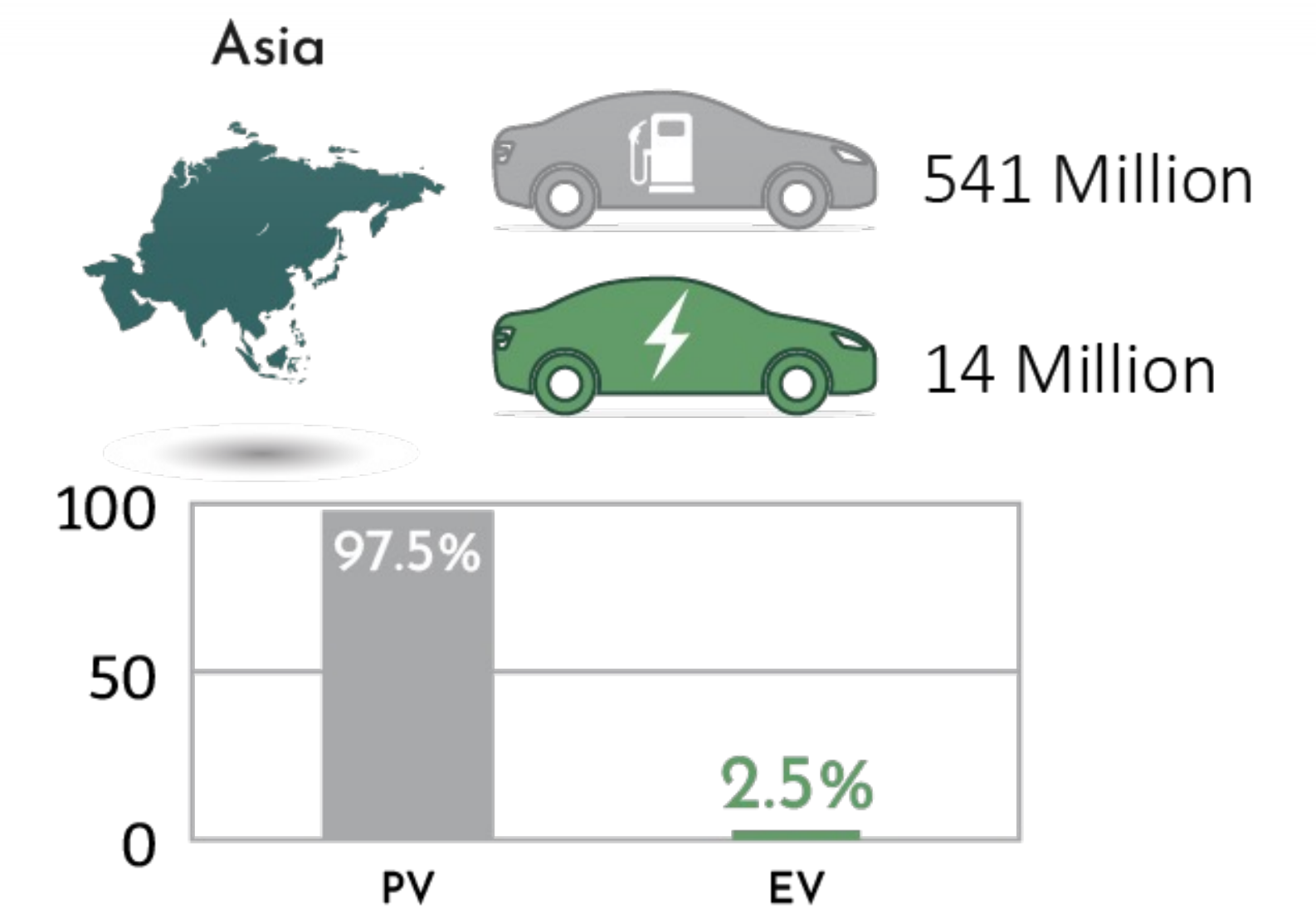
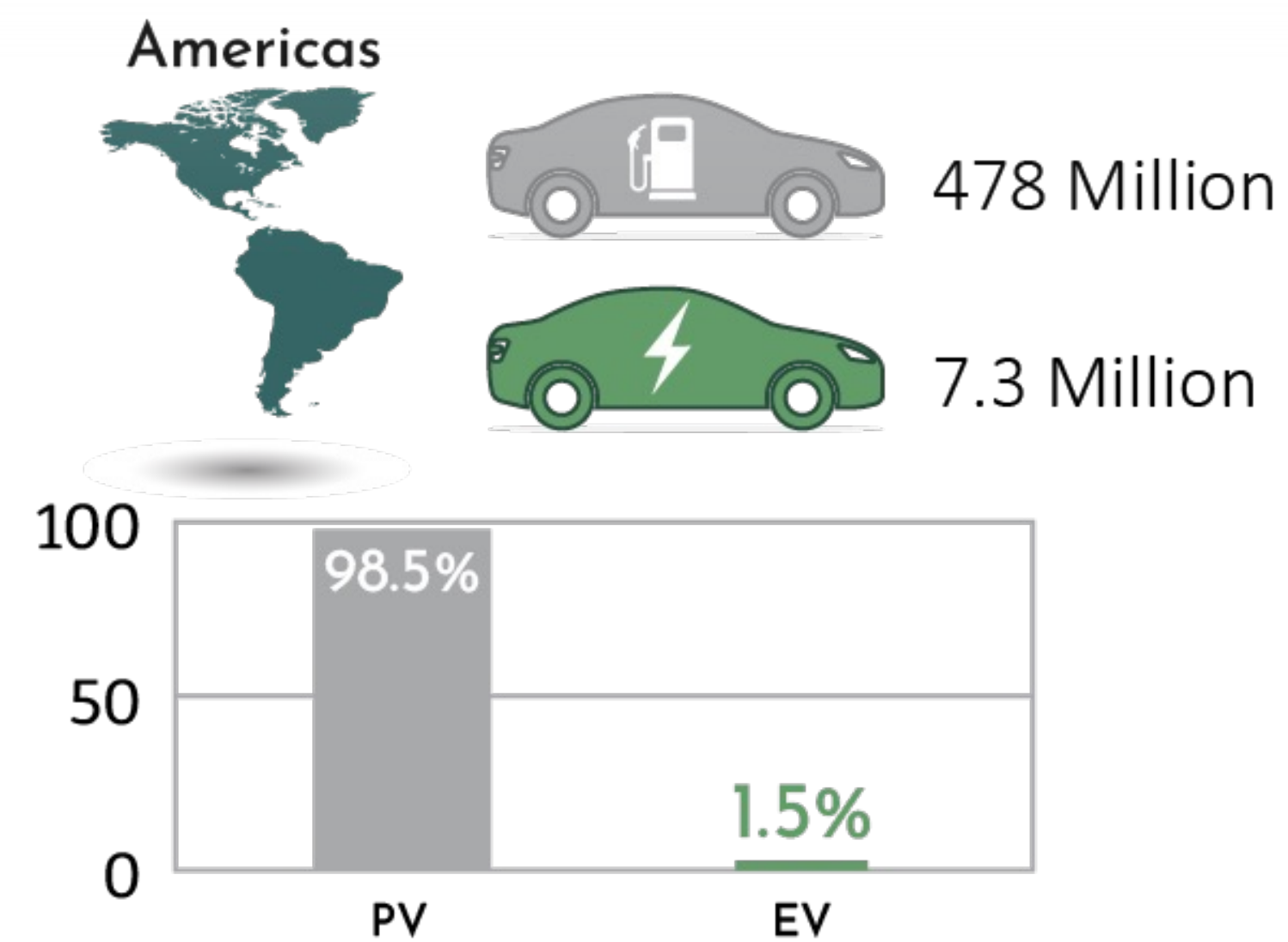
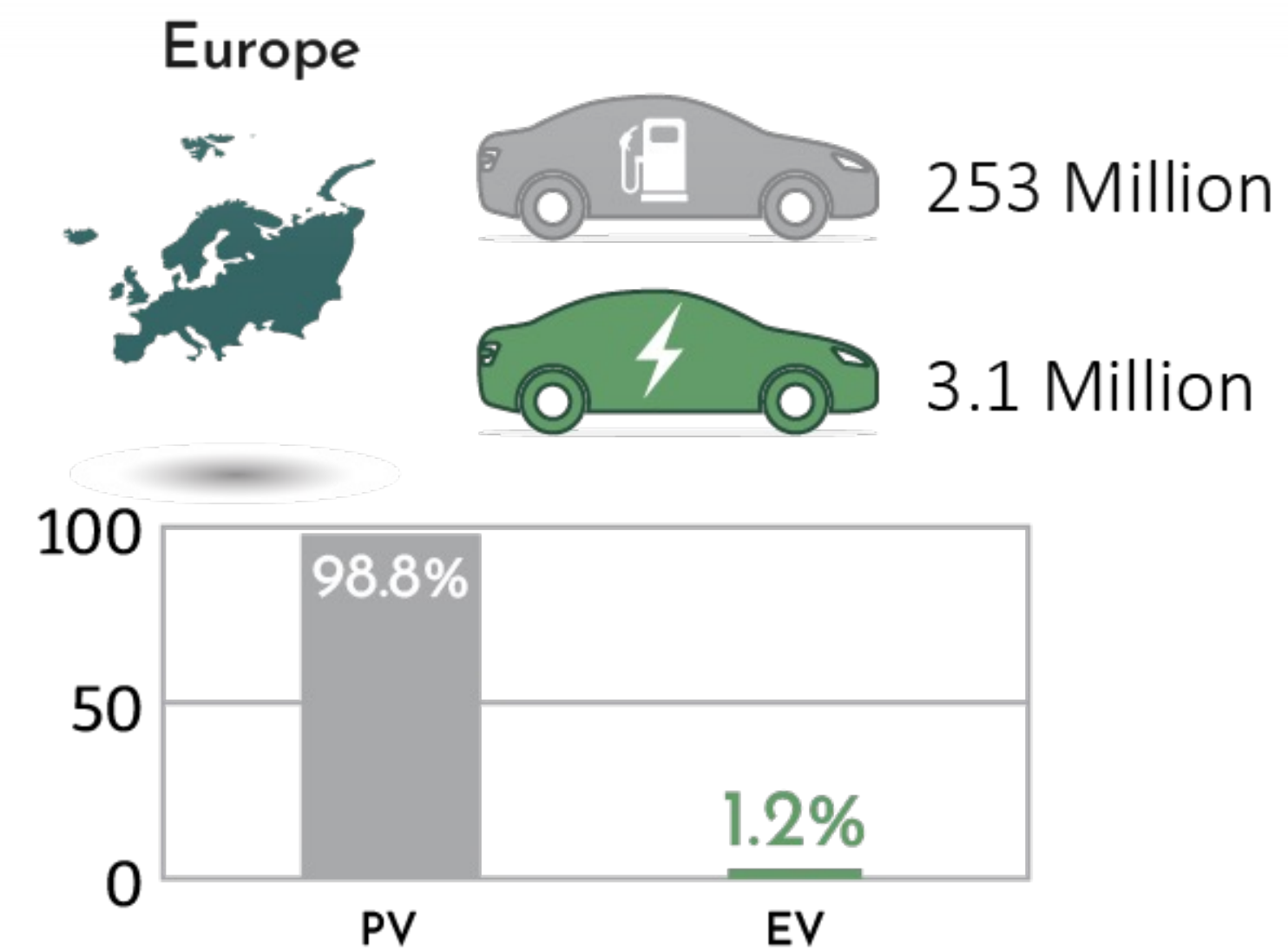
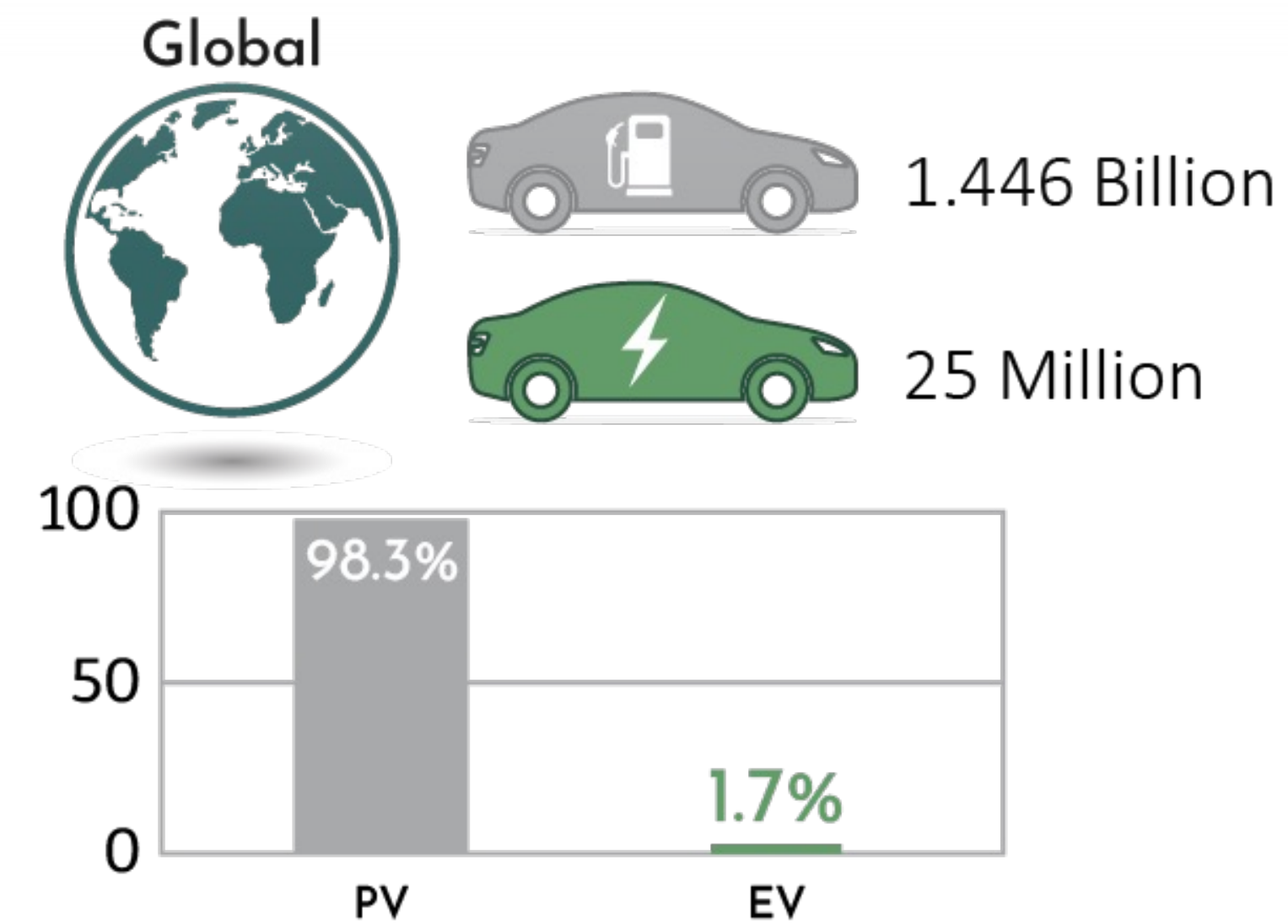
	2025	2030	2035	2050
Number of hybrid vehicles	226,198	320,167	410,983	731,959
Number of electric vehicles	90,091	370,933	779,700	2,330,676

Number of electric vehicles



Green Mobility

Status quo of EV penetration locally, regionally, and globally



The UAE took effective measures to decarbonize the building sector

Retrofitting existing buildings

Implementing green building codes

Enhancing implementation of energy efficiency standards and rating system for household appliances and equipment

Driving penetration of Distributed Renewable Resources Generators e.g. rooftop solar panels and solar water heating

Raising public awareness of ways to conserve energy and water resources

Increasing efficiency and reliance on recycled wastewater in landscape irrigation

○ Reducing energy consumption by **40%** and water use by **20%** from the building sector in the UAE by 2050

○ Improving air quality at construction sites by **95%**

○ Recycling **50%** of construction waste

○ Saving AED **17 billion** by 2050 through reduction in energy and water consumption and implementation of recycling policies

○ Achieving a reduction in carbon dioxide emissions equivalent to **MTCO 229** compared to BAU by 2050



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Thank You

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