





### RTA's Green Economy Framework (GEF)



#### Vision

#### Mission

The world leader in seamless & sustainable mobility

Develop & manage integrated and **sustainable roads & transportation systems** at a world-class level and provide pioneered services to all stakeholders for their happiness, and support Dubai's vision through shaping the future, developing policies and legislations, adopting technologies, innovations & world-class practices and standards.

# Alignment with GE related Directions & Strategies

#### International

- United Nations Framework Convention on Climate Change
- Paris Climate Agreement
- Sustainable Development Goals (17 goals) United Nations
- Network of Leading Cities for C40 Climate Change
- Global Sustainability Reporting Initiative

#### **National**

- UAE Green Development Strategy 2030
- The UAE Green Agenda 2030
- The National Climate Change Plan 2050
- UAE Energy Strategy 2050
- UAE Vision 2021
- National Innovation Strategy
- UAE Centennial 2071
- The UAE Water Security Strategy 2036
- The National Plan for Sustainable Production and Consumption (2019-2030)
- National strategy and action plan for environmental health

#### Local

- Dubai Plan 2021
- Smart Dubai Strategy
- Dubai waste management plan
- Dubai Integrated Energy Strategy 2030
- Energy Demand Management Strategy 2030
- Carbon Emission Reduction Strategy 2021
- Green Mobility Initiative
- Clean Energy Strategy 2050
- Dubai Paperless Strategy 2021
- Climate Adaptation Strategy in the Emirate of Dubai
- Dubai Air Quality Strategy 2021
- The three principles that underpin the future of mobility for the Emirate of Dubai, as directed by Sheikh Mohammed bin Rashid
- Dubai Government Excellence Program

RTA's Strategic Goals & Objectives

**Pillars** 

Assets Sustainability Pioneering RTA

Financial Sustainability

Safety & Environmental Sustainability

Smooth Transport for All

**Resource Efficiency & Management** 

(Efficient use of resources)

People Happiness Integrated Dubai Digital Dubai

RTA's GE Strategic

Climate Change (Support low-carbon economy)

Renewable Energy

Study & Awareness

Electricity Efficiency

Water Efficiency Fuel Efficiency Waste Management

























Philadelphia A zero-waste city by 2035

#### **New York**

All new buildings to be zero-emissions by 2030, existing buildings by vear 2050

#### **Britain & France**

Legislation has been adopted to commit to zero emissions by 2050 (transportation, waste, aviation, agriculture, electricity, heating).

#### UAE

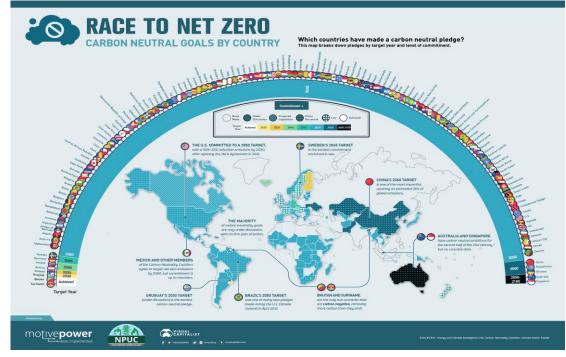
The National Agenda and Dubai Plan (reduce waste by 75% by 2021).

#### Japan & China

Japan's commitment to move towards zero carbon emissions by 2050 and China by 2060. Implementation of a roadmap for zero-emission buildings as soon as possible.



#### **International Move**



**C40 Cities Climate Leadership Group** (C40 Network)

- 24 cities have committed to generating electricity from 100% renewable energy by 2030.
- 63 cities have announced their commitment to achieving carbon-neutral buildings.
- 28 cities have announced their commitment to go zero waste.
- Mayors in 25 cities have pledged to deliver net-zero climate-resilient cities by 2050: London, Los Angeles, Melbourne, Mexico City, Milan, New York City, Oslo, Paris, Philadelphia, Portland, Quito, Rio De Janeiro, Santiago, Stockholm, Vancouver, Austin, Accra, Barcelona, Buenos Aires, Cape Town, Caracas, Copenhagen, Durban.







# **General Considerations Taken to in the Development of the Roadmap**

Global and federal directions, RTA's current plans, currently available technology and expected developments, current prices in the market



Partnership with the private sector, especially initiatives related to infrastructure



Distributing and reviewing the roadmap targets over five-year periods, starting from 2025 to 2050



The net cost of owning an electric bus is currently 28% higher than a diesel bus. Targets will be adjusted in the future based on the percentage difference (5% or 10%)





\*The roadmap and its targets shall be reviewed and evaluated every **five years**, according to technological developments and changes in strategic directions.

## **Key Outcomes of the 2050 Zero-Emission Roadmap**





First in the world to target public transportation and its infrastructure



First in the MENA region to develop an integrated net-zero emissions roadmap



Strengthening the position of Dubai and UAE within the global indicators for excellence and pioneership

Environmental Impact



Reduce GHG Emissions by 8
Million tCO2e



Equivalent to emissions of 1.7 billion vehicles/year



Estimated to equivalent of AED 600 Million indirect savings

Financial Impact



Reduce Operational Costs by AED 3 Billion



One billion dirhams is the direct additional cost of implementing the plan but there are significant environmental returns, investment opportunities and regional leadership













### 1- Green Mobility

- a) Electric & Hydrogen Public Buses
- ) Expansion of Electric & Hydrogen Taxis and Limousine Taxi Dubai
- c) Expansion of Electric & Hydrogen Taxis and Limousine Other Taxi companies
- d) Electric & Hydrogen School Buses

Zero Emission from Public Transportation by 2050



#### 2- Infrastructure

- a) Renewable Energy (Solar PV) in buildings and facilities 24 Buildings
- b) Retrofitting existing buildings 115 buildings
- c) Near Zero Energy buildings all new buildings
- d) Energy efficient street lighting

Zero (Near Zero) Energy Buildings by 2045



#### **3- Circular Economy**

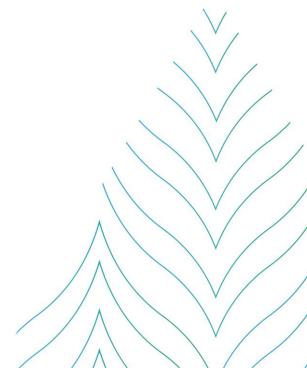
- a) Recycling of Municipal waste
- b) Recycling and reuse of water

Zero-Waste Sent to Landfill by 2030





# Considerations to Develop the Roadmap



### **Journey to Zero Emission Public Transportation by 2050**





# Zero Emission from Public Transportation by 2050 Public Buses - consideration

Electric/Hydrogen Limousine taxi plan 2026 **Available Technology and** RTA's approved Roadmap **Global Trends for Public** for alternative fuel Public 200 Tesla Taxi plan **Buses and light vehicles Buses 2026 Hybrid Taxi plan 2021 Dubai's pledge and commitment** to C40: **Procure Zero emission Buses and Taxis Current Prices of Electric** buses from 2025 **Decommissioning and** and Hydrogen Buses and **Procurement Plans** light vehicles **Support transition of city** centre to zero emission by 2030

## **Journey to Zero Emission Public Transportation by 2050**





# Zero (near zero) Energy Buildings by 2050 Buildings and Faciltieis - consideration

**Solar Roadmap 22 Partnership with Private DEWA's Targets for clean** buildings Sector (Zero capital energy - 25% by 2030 and **Smart Project for RTA HQ** investment) 75% by 2050 **Building Advancement of Solar** technology & utilization Increase site water New RTA Buildings to be of empty spaces in collection and recycling **LEED** certified depots and right of way (i.e. All bus depots) for Solar Installation

## **Journey to Zero Emission Public Transportation by 2050**





# Zero-Waste sent to landfill by 2030 Wate - consideration

Current practices - about 70% of waste is recycled/reused

 Dubai Municipality support to recycle the Construction Waste

Opportunity to reduce costs and generate revenue

Partnership with waste
 Management Company to
 handle all type of
 generated waste





**Towards Zero Emission Public Transportation in Dubai - 2050** 









# Roadmap & Targets until Year 2050











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	#	Pillar	Initiatives	2020	2025	2030	2035	2040	2045	2050	
	1	Green Mobility	Electric & Hydrogen Public Buses	0%	0%	10%	20%	40%	80%	%100	
	2		Expansion of Electric & Hydrogen Taxis and Limousine – Taxi Dubai	3.5%	10%	20%	40%	60%	80%	%100	
	3		Expansion of Electric & Hydrogen Taxis and Limousine – Other Taxi companies	0%	10%	20%	40%	60%	80%	%100	
	4		Electric & Hydrogen School Buses	0%	0%	10%	30%	50%	80%	%100	
/	5	Infrastructure	Renewable Energy (Solar PV) in buildings and facilities  24 Buildings		%100	Expanding the scope of application to the rest of RTA's buildings, facilities and infrastructure					
	6		Retrofitting existing buildings – 115 buildings	9%	35%	74%	83%	91%	%100		
	7		Near Zero Energy buildings – all new buildings	0%	%100	Continuous implementation on all new projects					
)	8		Energy efficient street lighting	17%	35%	70%	%100		s implementa new projects		
/(	9	Circular Economy	Recycling of Municipal waste	65%	75%	%100	Continuous implementation				
	10		Recycling and reuse of water	12%	15%	20%	26%	30%	36%	40%	

