



مجموعة عمل
الشركات متعددة الجنسيات
MULTINATIONAL COMPANIES
BUSINESS GROUP



Circular Packaging
Association
جمعية التغليف المستدام
Towards a responsible and sustainable future

Public-Private Partnerships and their role in accelerating the transformation to a circular economy in the MENA region.

Industry Mobilization – The Circular Packaging Association

WHO WE ARE

A UAE-based cross-sectoral industry forum licensed under the Dubai Chambers.



Official launch March 2023

HE Mariam AlMheiri

PARTNERSHIP MISSION

Address the diversion of packaging from landfill and develop circularity for post-consumer packaging materials.



Knowledge Partners

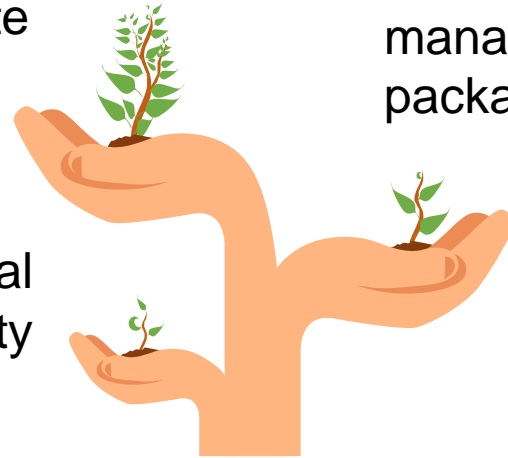
Circular Packaging Association | Goals

1 Collaborate to establish packaging circularity through Public Private Partnership

2 Bring industry **expertise** and global experience to address circularity through design for sustainability.

3 Identify **solutions** for the circular management of post - consumer packaging including consumer awareness.

4 Support the definition of an **EPR framework and regulations** for the GCC and MENA.



Circular Packaging Association

جمعية التغليف المستدام

Towards a responsible and sustainable future

Evidence based study on the Barriers and Enablers of the Circular Economy

*Conducted in Abu Dhabi in partnership with;

UNITED ARAB EMIRATES
MINISTRY OF CLIMATE CHANGE
& ENVIRONMENT



الإمارات العربية المتحدة
وزارة التغير المناخي
والبيئة



هيئة البيئة - أبوظبي
Environment Agency-ABU DHABI

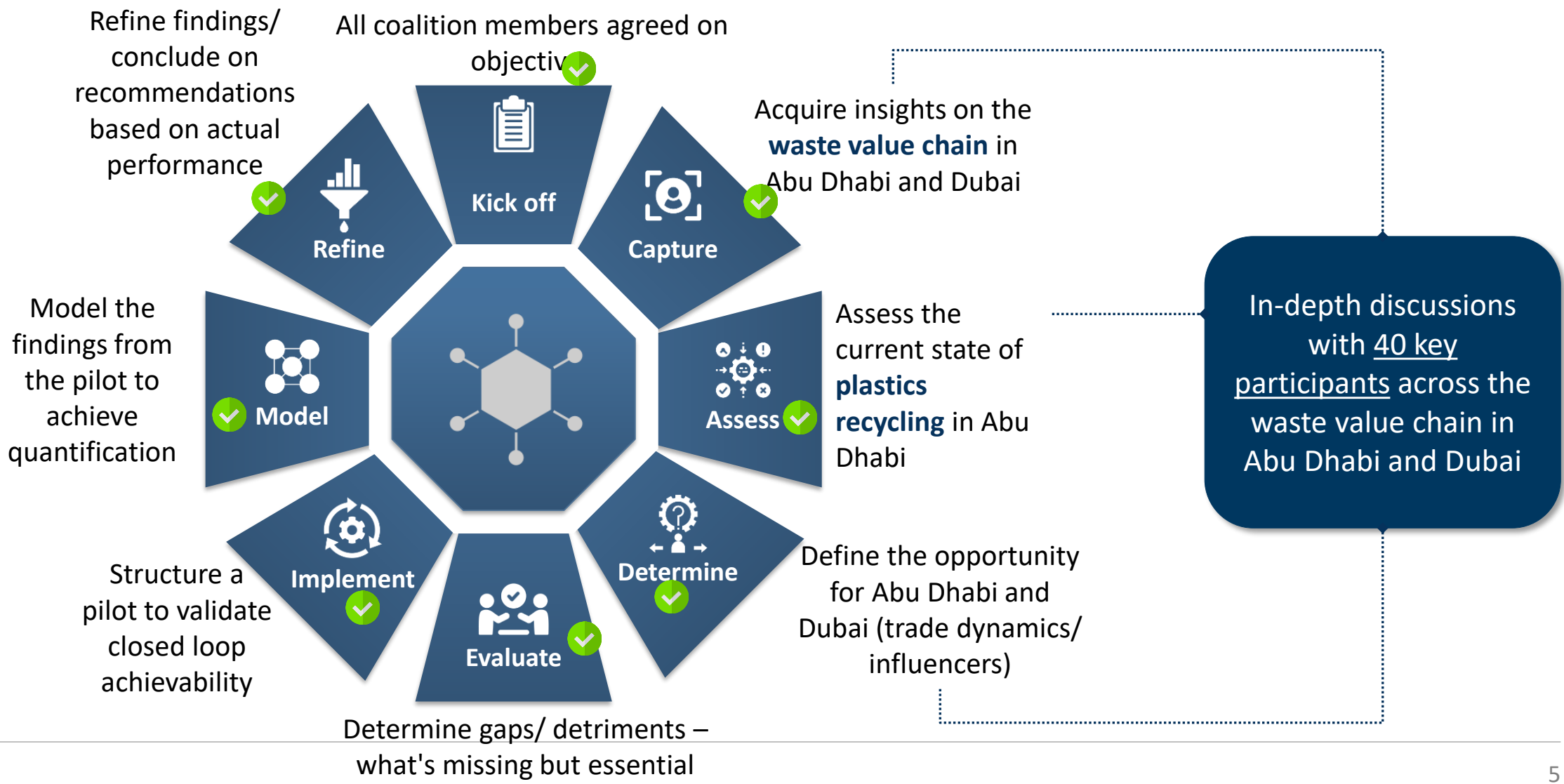
تدوير
Tadweer



Outlining the structure of the Project

A comprehensive approach was structured to achieve pertinent recommendations towards better plastic and packaging waste management in the UAE

✔ Completed



The opportunity for the UAE Circular Economy is AED 800 mio per annum*

Managing Waste presents a sizeable in-country value creation opportunity, while achieving sustainability goals

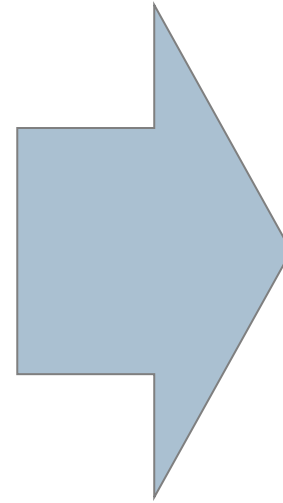
The Issue



Per Capita Waste

UAE Per Capita waste generation (MSW) is **68%** higher than the global average

UAE per capita average: 1.2 – 1.3 Kgs/ day;
Global per capita average: 0.74



Waste in the UAE

38 – 40 Million MT – Total UAE Waste
6.5 Million MT – Total UAE MSW
1.1 Million MT – UAE Plastics waste in MSW.
MT = Metric Tons

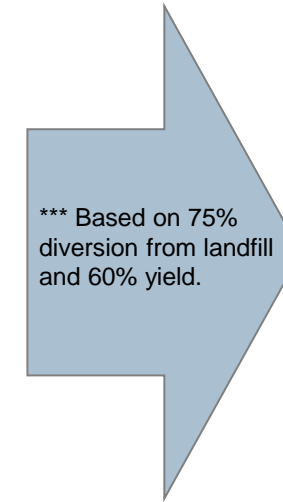
The opportunity



Plastic Waste Generation by type

Note: Consumer, not Construction plastics

LDPE: **0.65 Million MT**
HDPE/PP: **0.25 Million MT**
PET: **0.15 Million MT**
Others (PVC, PS): **0.075 Million MT**



*** Based on 75% diversion from landfill and 60% yield.



Opportunity - Packaging plastics***

Note: Volume terms

Landfill/Dumping Rate: **90%**
Recycling Rate: **7%**
Exports: **3%**
Revenue Potential for Plastics: **AED 800 mio per annum***

Illustrating the existing value chain – and recycling levels

Recycling is inhibited by inadequacies in waste management infrastructure and collection mechanisms – Posing a limitation to availability of feedstock for RPET and other secondary materials

Waste volumes collected (MTPA)		Price paid	Waste/scrap traders	Price paid	Plastic recycler
LDPE	 50,000 to 55,000 (7.5% - 8.4%)	AED 1,200-1,600/MT		AED 1,400-1,800/MT	 *AED 2,800 – 3,600/MT
PET	 12,000 to 14,000 (8% – 9%)	AED 500-800/MT		AED 600-900/MT	 *AED 2,200 – 2,600/MT
HDPE	 5,000 to 6,000 (4% – 5%)	AED 800-1,000/MT		AED 900-1,100/MT	 *AED 3,500 – 4,000/MT
PP	 5,000 to 6,000 (~4%)	AED 500-700/MT		AED 600-800/MT	 *AED 2,300 – 2,600/MT



AED 800 Mn per annum

RPET availability is scarce, and currently priced at premium over VPET

- Virgin PET/ton: **3,800-4,000 AED**
- RPET Pellet/ton: **5,000 AED***

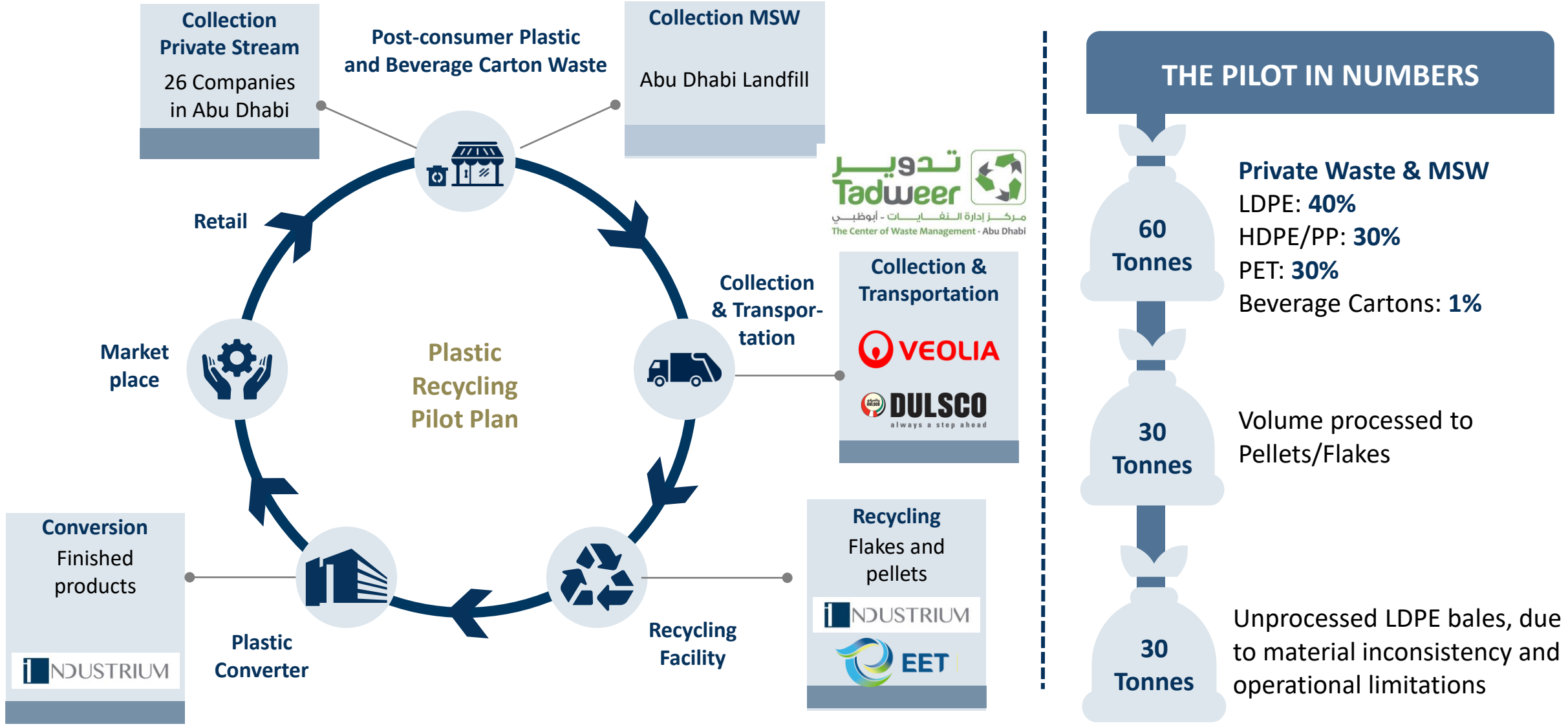
Note: Percentages mentioned here are indicating recycled volumes (mechanical) as a percentage of total plastic waste generated

Note: Pricing data collected for 2018 through ICIS pricing
 *Global Average Prices - PET bottle scrap bale - USD 250 - 350 / MT; HDPE Scrap bale - USD 450 - 500 / MT; PP Scrap bale - USD 450 - 500 / MT; LDPE Scrap bale - USD 400 - 450 / MT (Reference - import data entry from Spain, Denmark and USA)

Source: Frost & Sullivan, *Coalition

A pilot was initiated to identify Barriers and Enablers towards the CE*

This was leveraged to recommend actions for government institutions and the private sector



*CE = Circular Economy⁸

What are the Barriers to the Plastic CE: conclusive takeaways from the study.

Systemic improvements are required to address fundamental gaps in plastic waste management

OUTLINING THE CORE ISSUES



Insufficient Collection and Source Segregation

- Multinational Companies (Waste generators) have global commitments towards Circular Economy implementation by 2025.
- Lack of recycling segregation at household and small businesses level
- Lack of Material Recovery Facilities to segregate materials (eg low tipping fees).

Inadequate Infrastructure & process

- Recycling infrastructure is sub-optimal (e.g. lack of hot wash for PET, lack of capability to treat inconsistent input of LDPE - low MFI, oxo-additives etc.)
- Mechanism needed to develop eco system (eg EPR).

Lack of domestic demand for recycled content

- Current conversion limited to downcycled products – challenge in developing viable business case. Lack of standards to allow use of recycle in food grade packaging.

Opportunity loss

- Local recycling infrastructure not equipped to deal with high contamination levels; Materials is exported as secondary material, while local recyclers import clean material from Asia

The UAE has an opportunity to enhance material systems

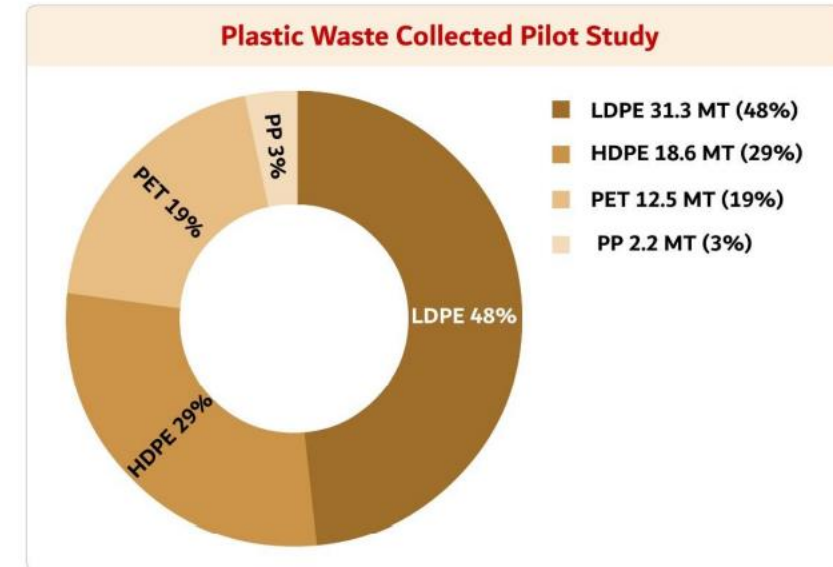
Savings on water, GHG, energy, and solid waste

Outcome of Environmental Impact Assessment

Pilot Study Quantitative Data	Plastic Waste Diverted from Landfill (MT)	Green House Gas (MT eCO2)	Water (MT)	Energy (GJ)	Solid Waste Generated (MT)
Pilot Study *	27	29	48	-96	2
Baseline (landfill)		115	904	1000	48
Savings (period)	26.7	87	856	1096	46
Pilot Study **	107	115	192	-385	8
Baseline		462	3616	4000	192
Savings (per annum)	106.9	346	3423	4385	185

* Results from pilot study

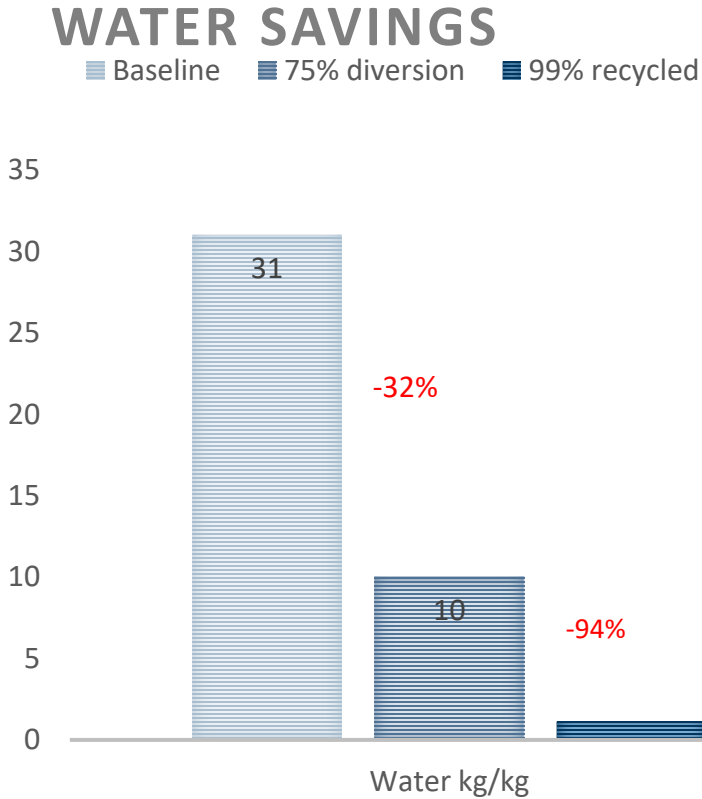
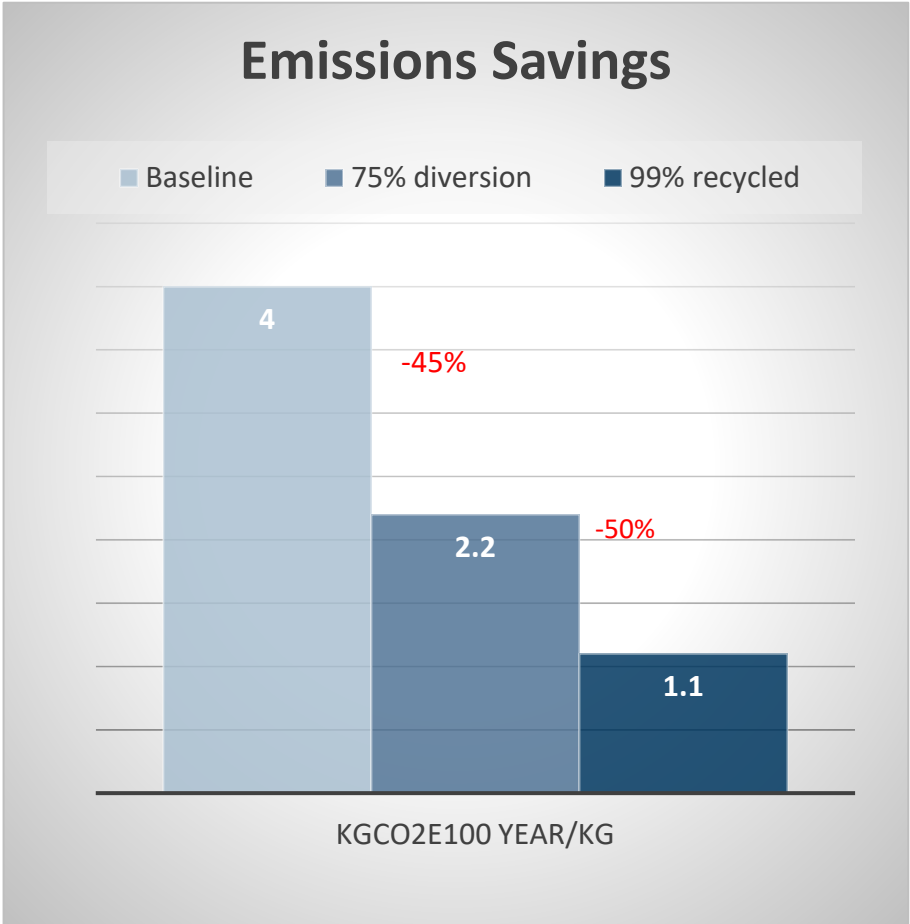
**Results extrapolated for full year.



- Period assessed August to October 2019.
- 64.6MT collected only 26.5MT recycled due to difficulty processing LDPE.
- Represents a Yield of 41%
- Represents only 0.03% of potential plastic material diverted from landfill in UAE.

Study shows savings on 27MT diversion from Landfill

Extrapolated for study volumes



Proof of Concept Pilot identifies enablers for the circular economy for packaging.

16 Recommendations

Policy Framework



7 Recommendations

Infrastructure & Processes



4 Recommendations

Prevention & Awareness



4 Recommendations

Assessment & Monitoring



4 Recommendations

Innovation



Belgium

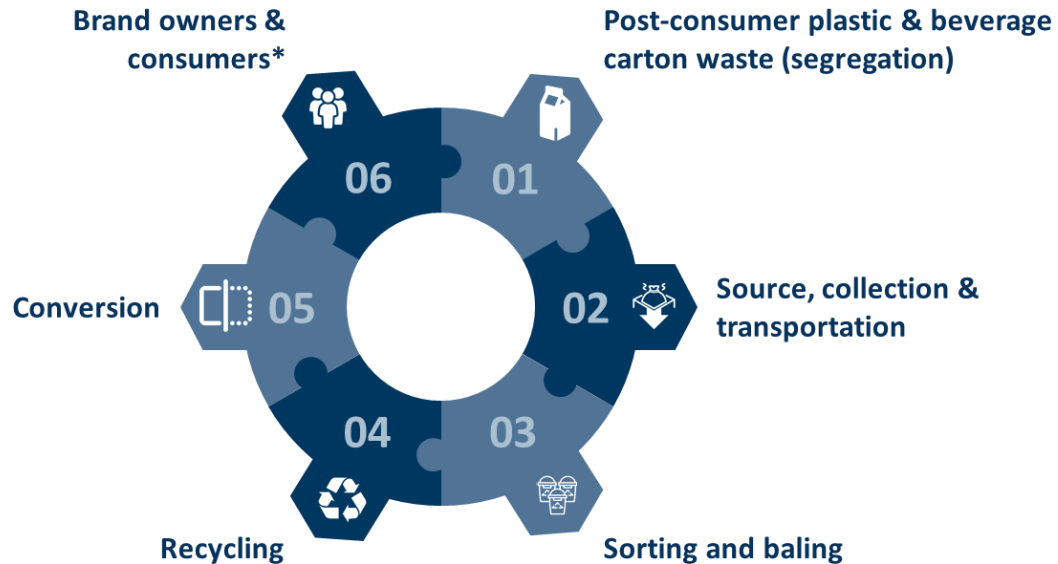
Canada

Germany

South Korea

South Africa

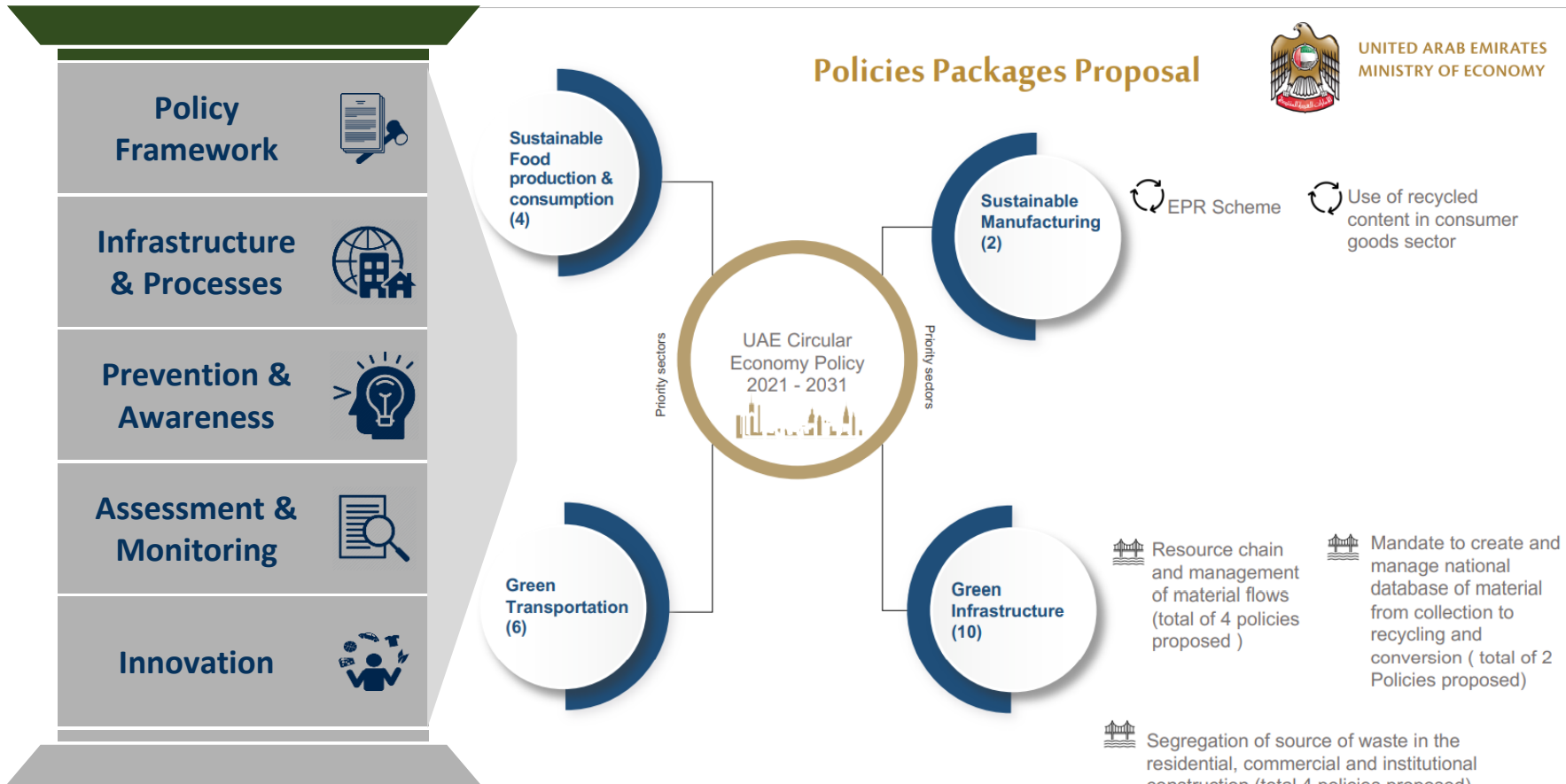
Sweden



**Outcome of proof-of-concept pilot
study adopted as policy package by
UAE Circular Economy Council**



Key enablers included as Policy recommendations in the UAE's Circular Economy Council Policy Committee.



UAE approves 22 policies to accelerate transition to a circular economy

The new policies will focus on four main sectors of manufacturing, food, infrastructure and transport



The UAE approved 22 policies to accelerate the transition to a circular economy. Photo: EPA

Deena Kamel
MAY 2022

Listen in English Listen in Arabic
May 04 - Recently submitted translation

The UAE has approved 22 policies aimed at accelerating the country's transition to a circular economy, as part of its push towards sustainable economic development.

The UAE Circular Economy Council's policies will focus on four main sectors: manufacturing, food, infrastructure and transport, the government said on Sunday.

"Our current linear economy consumes valuable materials and resources without being able to benefit from them after use, which represents waste in the modern concept of sustainability," said Mariam Al Mheiri, Minister of Climate Change and Environment and Minister of State for Food Security.

"Our approach seeks to protect our environment and to ensure the long-term economic and social prosperity of our country."

READ MORE
Dubai Supreme Council of Energy launches Circular Economy Committee

How the circular economy is driving Abu Dhabi's sustainable industrial development

The UAE, which has pledged to reach its net-zero carbon goal by 2050, has announced measures to drive sustainable economic growth and work towards its climate change targets.

A circular economy is an economic system that focuses on reducing the extraction of natural resources, minimising waste and regenerating natural systems. Raw materials, components and products keep their value for as long as possible, while renewable energy sources are used to fuel economic activity.

Adopting circular economy principles could deliver \$26 trillion in economic benefits by 2030, according to the Global Commission on Economy and Climate.

Last week, the Abu Dhabi government said it would invest Dh10 billion (\$2.72bn) to double the size of its manufacturing sector by 2031. To support this, it will develop a new circular economy regulatory framework to ensure that the industry is operating on a sustainable basis.

The UAE Circular Economy Council approved the 22 policies during its second meeting this year.

Application of recommendations to close the loop for packaging.

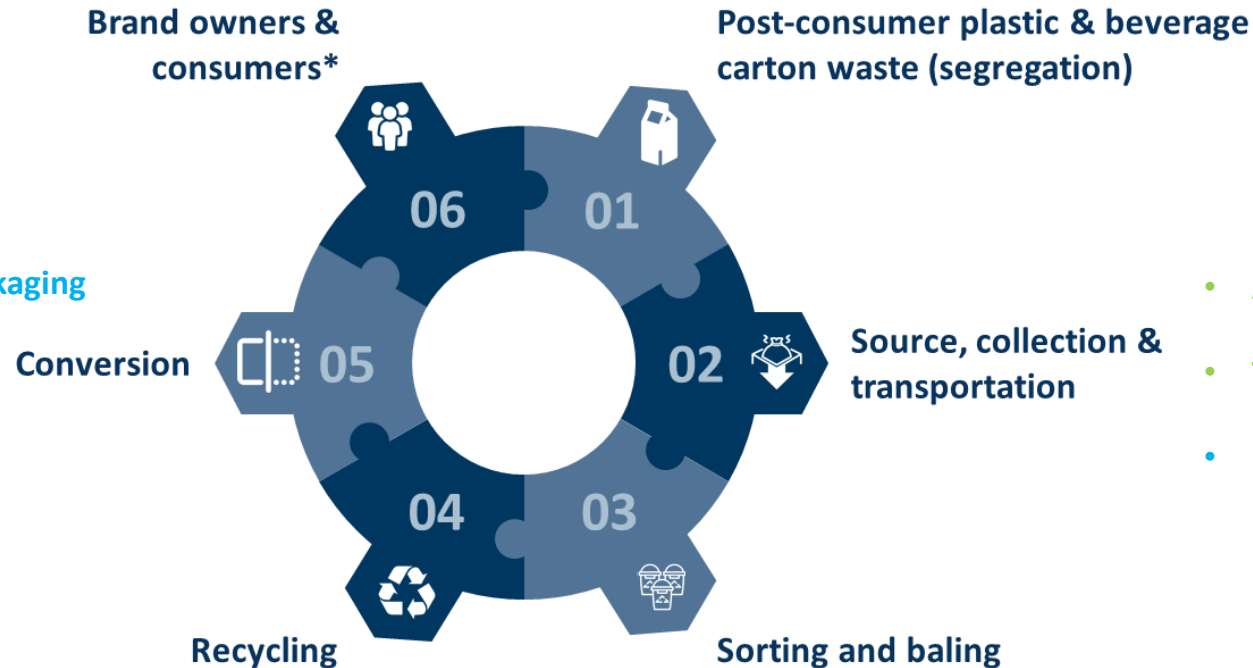
Closing the loop for rPET - 2024

- Regulate export of PET feedstock incl. flakes for local use.
- National framework for assessing the impact (Environmental impact, social impact, economic benefit).

- Government mandate EPR
- Industry led Packaging Recovery Organization

- Government mandate source segregation
- Consumer awareness and education

- Packaging suppliers to provide packaging containing recycled content.



- Alignment on colour coding of bins across Emirates.
- Transportation of 2nd materials between Emirates.
- Mass collection and sorting of plastics.

- Government/Public
- Private
- Public/Private

- Standards for recycled content usage in food-grade packaging.
- Investment in local recycling plant (WIP).
- Investment in chemical recycling plant for residual and end of life product.

- Commitment by local ESP's to prioritize local PET needs/right of first refusal.
- Provision of high quality, clean, segregated materials.

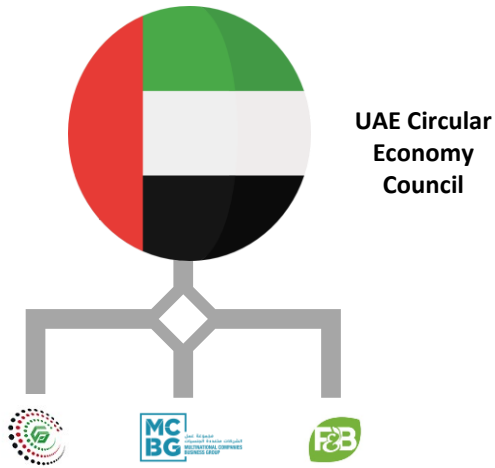
**How can this
collaboration be scaled
across industries and
countries?**



Public Private Partnerships can help unlock circular economy opportunities at scale in the MENA region.

Economic Opportunity:

*In 2019, a study performed by the consultancy firm 'Strategy&' estimated that GCC countries alone could save up to **USD 138 billion** by 2030 and reduce emissions by **150 million tons of CO2e** as a result of a circular approach to their economies.*



UAE Circular
Economy
Council

Scale up Opportunity:

- The UAE launched its Circular Economy Policy 2021 -2031 and established a Circular Economy Council to accelerate the transformation to circularity.
- KSA, Qatar, and Bahrain are developing Circular Economy Policies.

Multi-sectoral Opportunity:

- Several Industry Associations operate in the region (MCBG, CPA, NCPC, AIRE, ABA), with a commitment to sustainability and the transition to a circular economy as a key priority.
- The FMCG sector is, at the moment, the most advanced industry group in circular economy discussions, focused on plastics and packaging, but other sectors also present large opportunities for the region and are looking to contribute: e.g. automotive, tyres, electronic waste, built environment, agriculture.

Regional example of a public-private platform to drive the circular economy in the UAE.

Discussion.

