WES-BCA
Water and Environment Support - Biodiversity and Climate Action
in the Neighbourhood South region

WES-BCA Inception Findings Meeting

C1-N-JO-1: Pre-conceptualization and support to establish a Plastic Waste Recycling/Upcycling Hub near existing waste management infrastructure in Jordan

26 February 2026

Amman, Jordan - Hybrid

Presented by:

Eng. Daoud Bader, Senior Policy Expert in Solid waste and Plastic Pollution, WES-BCA

LDK CONSULTANTS S.A.

Funded by the European Union

Inception Findings Meeting

Thursday 26 February 2026
11:00 – 12:30 Amman Time - Hybrid event

AGENDA

11:00 - 11:05	**Welcome and Opening Remarks**
5’	**Overview of the purpose of the workshop** ▪ Mr. Haris Kamariotakis, Solid Waste/Circular economy Expert (lead expert), WES-BCA
11:05 - 11:45	**Inception Overview**
40’	**Overview of the project's objectives and main tasks.** ▪ Mr. Bader Daoud, Senior Policy Expert in Solid waste and Plastic Pollution, WES-BCA **Overview of the methodology, scope, and key preliminary findings.** ▪ Mr. Bader Daoud, Senior Policy Expert in Solid waste and Plastic Pollution, WES-BCA
11:45 - 12:15	**Opening Discussion**
30’	**Q&A**
12:15 -12:30	**Closing**
30’	**Way Forward & Closing remarks** ▪ Mr. Bader Daoud, Senior Policy Expert in Solid waste and Plastic Pollution, WES-BCA

WES-BCA in a snapshot

The EU funded “Water and Environment Support-Biodiversity and Climate Action (WES-BCA) in the Neighbourhood South region” project **aims to improve the protection of the environment**, the **restoration of biodiversity** and the **management of scarce water resources**, while enhancing the **resilience to climate change in the Mediterranean region**, **strengthening the formulation and enforcement of the relevant policies** of the Partner Countries and the two regional political frameworks, namely the **Union for the Mediterranean (UfM) and the Barcelona Convention**.

Partner Countries: 8 Countries in North Africa and the Middle East

Duration: November 2024 - November 2027

Main objective

This activity aims to **promote innovation in the reuse, recycling, and upcycling of plastic waste** materials in a selected area in Jordan by fostering collaboration with innovation drivers, entrepreneurs, and relevant stakeholders, **in support of the implementation of the Waste Sector Green Growth Action Plan 2021–2025**.

The specific objectives

- To **identify and assess opportunities for enhancing the economic value of recovered plastic waste materials**, focusing on plastics through innovative recycling and upcycling approaches, contributing to Action WS14 of the Green Growth Action Plan.
- To **support the efficient and effective use of municipal solid waste management infrastructure investments** by engaging key actors, including public institutions, private sector stakeholders, and civil society, in the development of scalable circular economy solutions.

Expected outcomes of the activity

Evidence & Market Intelligence
- National plastic mass-balance
- Priority streams identified (PET, PP, PE, SUP)
- Additional materials assessed

Institutional & Governance Architecture
- Define roles: Key stakeholders.
- Stakeholders mapping
- Alignment with GG-NAP WS14

Hub Concept & Intervention Model
- Core function
- Typology options
- Intervention location identification

Investment & Pre-Feasibility Pathway
- Revenue-based model
- Concept Note foundation

Implementation & Methodology

Schedule

Task	M i	M ii	M iii	M 1	M 2	M 3	M 4	M 5	M 6	M 7	M 8	M 9	M 10	M 11	M 12	M 13	M 14	M 15	M 16
TOR preparation																			
TOR approval by EC (up to 3 weeks)																			
Contracting																			
Task 0: Kick-off meeting **Task 1:** Inception Report and Preliminary Scoping of the Recycling and Upcycling Market				16.09.25				26.02.26											
Task 2: Stakeholder mobilization for Innovative Plastic Recovery and Upcycling Solutions																			
Task 3: Pre-Feasibility Study for a National Upcycling Hub and Sustainable Business Models																			
Task 4: Preparation of a Viability/Sustainability Concept Note of a Pilot Upcycling Hub																			

Workshop Objective

Inception Phase What Was Assessed

- Plastic value chain & mass-balance analysis
- Regulatory & policy framework review
- Stakeholder consultations & location screening
- Preliminary hub typology assessment

Strategic Insights Identified

- Untapped potential in clean commercial & post-industrial streams
- Gaps in source segregation & high-quality recycling capacity
- Regulatory momentum (EPR & national alignment)
- Viability linked to scale & material quality

Decisions Required Today

- Confirmation of hub typology and scale orientation
- Validation of preferred intervention location
- Other potential additional material streams

Policy & Strategic Context

National Policy Mandate for Circular Transition

- Waste Management Framework Law (2020) Introduces waste hierarchy, EPR, and polluter-pays principle, establishing the legal basis for circular waste management.
- Green Growth National Action Plan (2021–2025) Positions waste as an economic resource and introduces Action WS14: Establish a National Upcycling Hub.
- Economic Modernization Vision (2023–2033) Identifies waste management and circularity as drivers of green growth, job creation, and private-sector development.
- EPR System (2022 Instructions) Operationalizes packaging recovery financing through Producer Responsibility Organizations (AVTR under MoENV oversight).

Waste Management Framework Law (2020)

↓

GG-NAP 2021–2025

(Action WS14 – Budget 16.5M JOD)

↓

National Upcycling Hub

(Material Innovation + Incubation + Training)

Funded by the European Union

Plastic Sector Overview & Targeted Streams

Plastic Sector Structure

- > 600 plastic establishments
- ≈200 recycling & reprocessing facilities
- Heavy reliance on imported virgin polymers
- Post-consumer collection dominated by informal sector
- Fragmented downstream processing market

Targeted Plastic Streams

- **PET:** High volume, export-oriented, and limited domestic value capture
- **PP:** Strong domestic recycling loop, and stable local demand
- **HDPE:** Industrial scrap-driven, and relatively stable
- **LDPE:** High contamination, and low-value applications
- **PS & PVC:** Structurally constrained, and limited recovery

Why Focus on Plastics & SUPs

7%
Plastic Recycling Rate
[2015]

315,000 t/yr
End of Life
[2023]

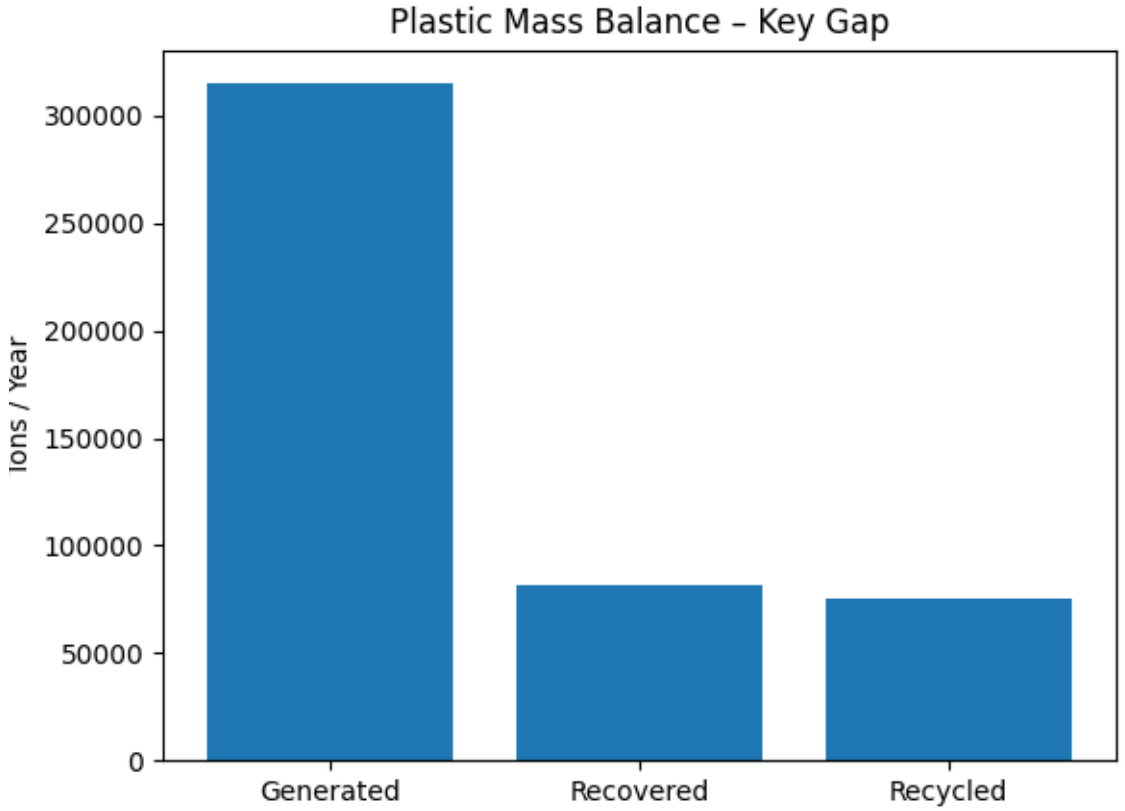
72,000 t/yr
Recycled Plastic
[2023]

3 Billion
Plastic Bags/year
[2023]

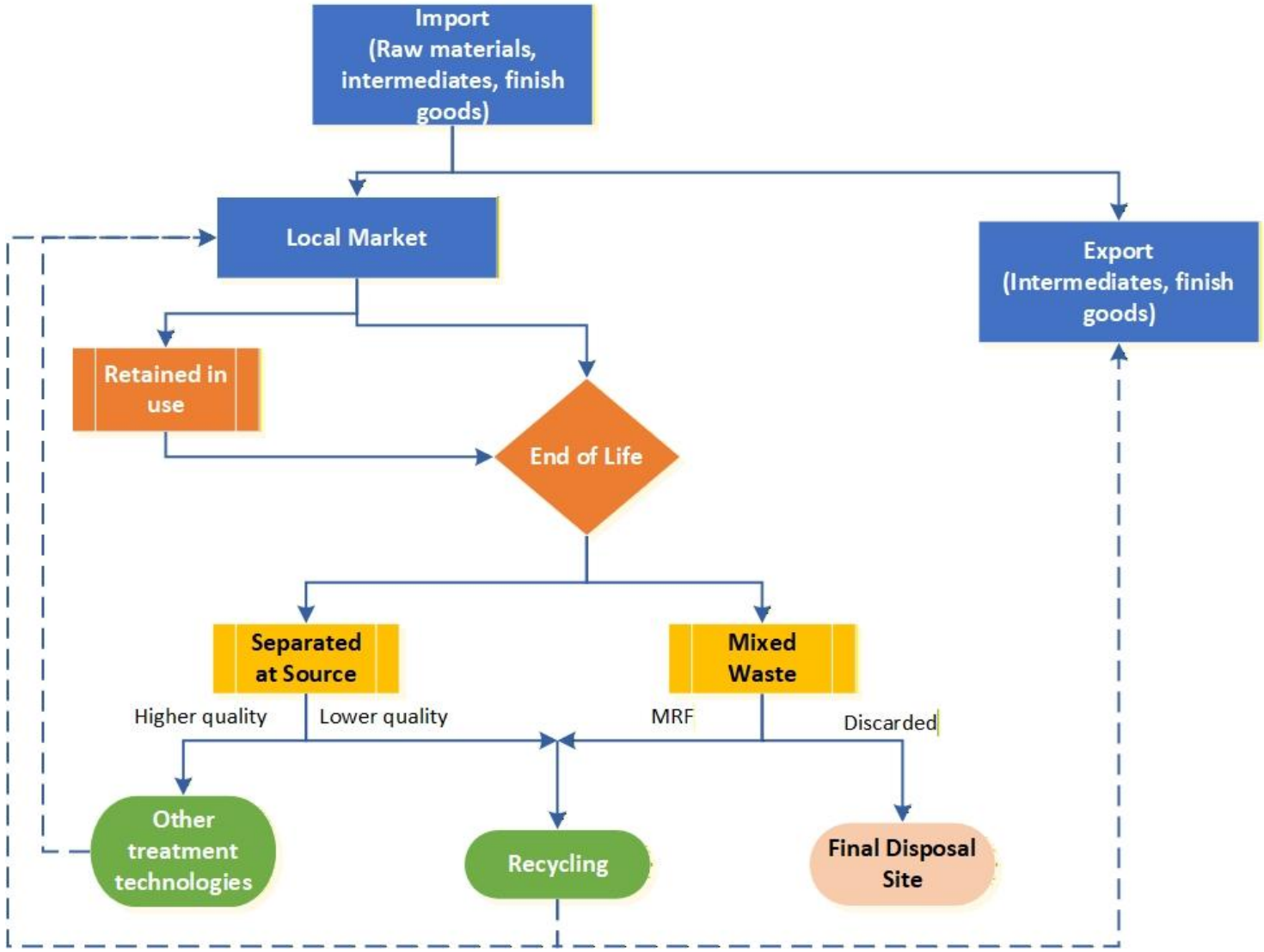
Plastic Mass Balance

Jordan generates over **300,000 tons** of plastic waste annually, yet recovery and recycling remain significantly below total generation. Only an estimated less than 30% high-quality fraction is suitable for advanced recycling or upcycling.

Contamination and limited source segregation constrain value retention, highlighting the need for **targeted intervention at sorting and quality stages, the core role of the Upcycling Hub**.

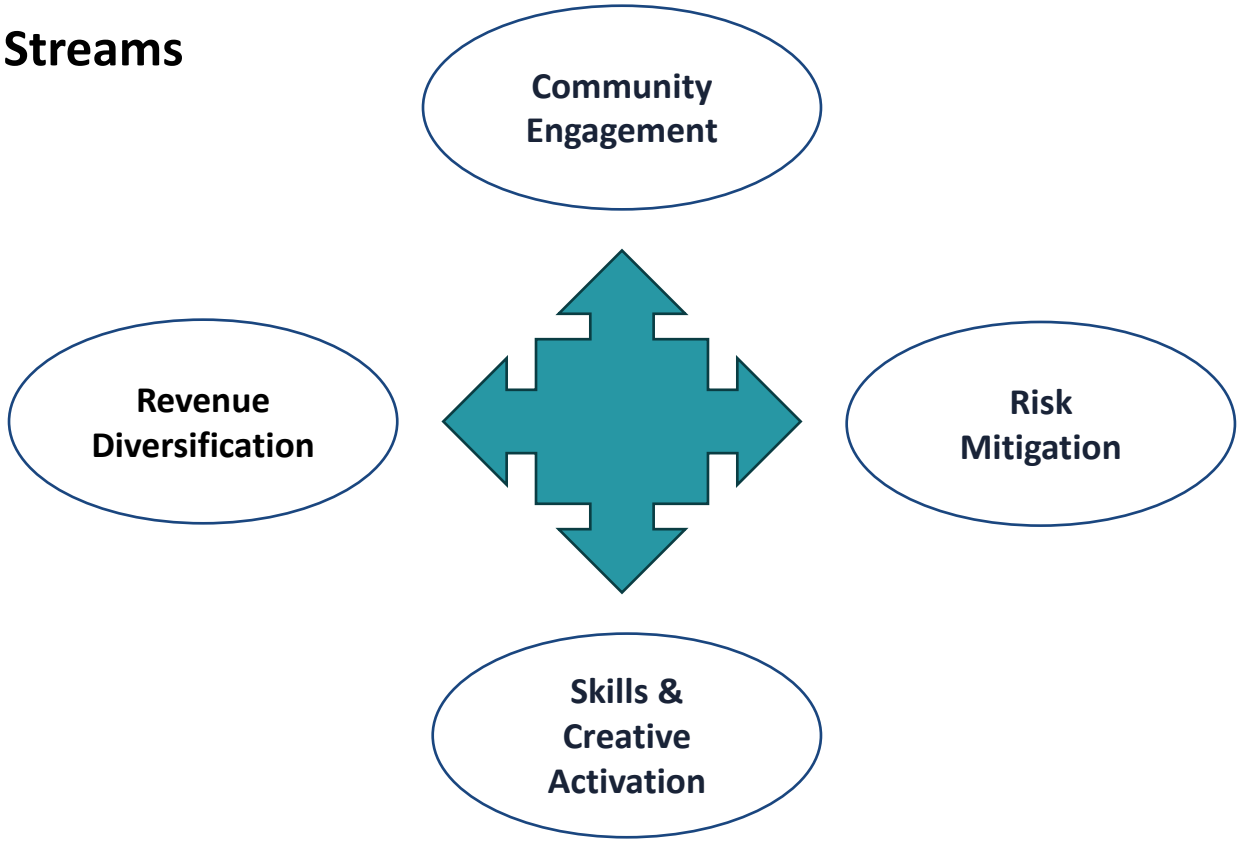


Plastic Waste Flow



Additional Material Streams

Why Consider Non-Plastic Streams



Non-plastic streams are considered as complementary revenue stabilizers, not core focus areas

Additional Material Streams

Potential Material Streams that will be evaluated

- Textiles
- Tires
- C&D Scraps
- Paper & Cardboard
- Furniture & Wood

Evaluation Criteria:

- **Technical Feasibility**
- **Market Demand**
- **Environmental Impact**

Additional Material Streams

WES-BCA
Water and Environment Support - Biodiversity and Climate Action
in the Neighbourhood South region

Potential Products of the additional materials

Funded by the European Union

Upcycling Hub Concept

Proposed Core Functions

Material Recovery / EPR alignment

Business Incubation (SME's, Green Ecosystem)

Environmental Awareness Raising

Upcycling Hub Concept - Typology

Two Operational Models Under Consideration

Semi-Industrial Hub

Function:

- Bridge between collection and manufacturing

Output:

- Standardized plastic flakes or pellets

Market Position:

- Competes with virgin plastic
- Supplies industrial processors

Operational Scale:

- Higher throughput
- Process-focused facility – High investment

Revenue Model:

- B2B

Creative Upcycling Hub

Function:

- Creative reuse model

Output:

- Finished products on-site

Market Position:

- Local retail/niche markets
- Design-driven products

Operational Scale:

- Smaller batches
- Product-focused facility – moderate investment

Revenue Model

- B2C

Upcycling Hub Concept - Typology

Types of Semi-Industrial Hub

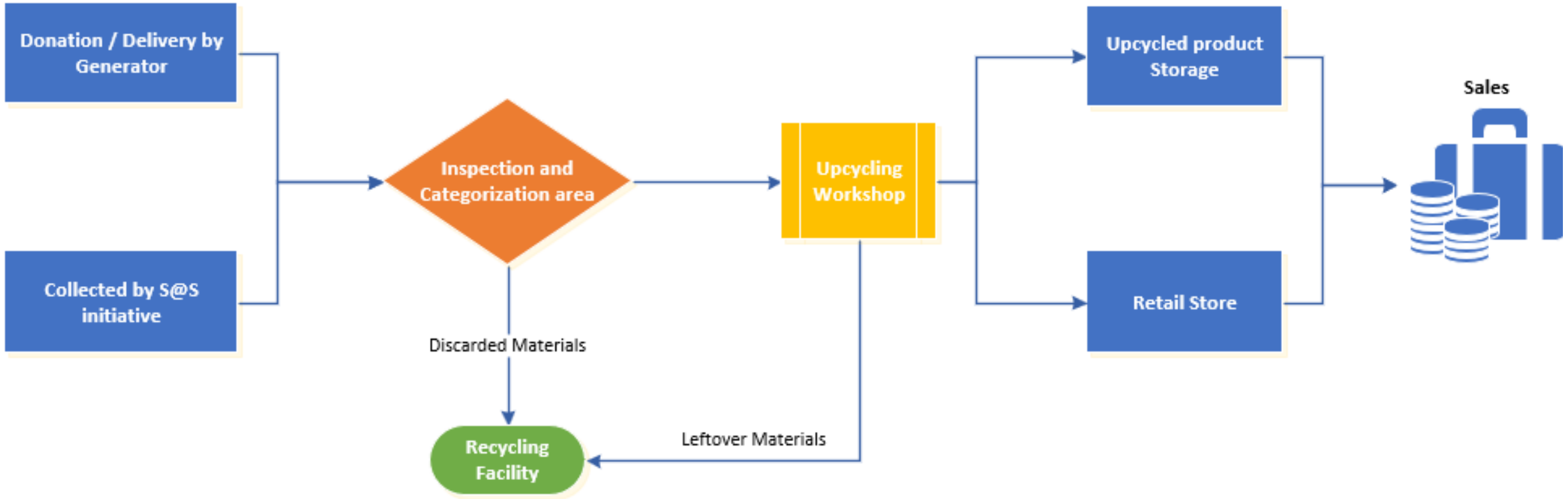
- **Chemical**: catalytic depolymerization and solvolysis.
- **Thermal:** pyrolysis, gasification, and hydrothermal.
- **Biological:** enzymatic degradation and microbial conversion
- **Flash Joule Heating:** Graphene production

Potential products of Semi-Industrial Hub

- Liquid Products (Pyrolysis Oil).
- Char/Carbon.
- Monomers (e.g., bis(hydroxyalkyl) terephthalate - BHET).
- Terephthalic acid (TPA)
- Ethylene glycol (EG) from PET,
- Lactic acid.
- high-purity graphene.

Funded by the European Union

Upcycling Hub Concept

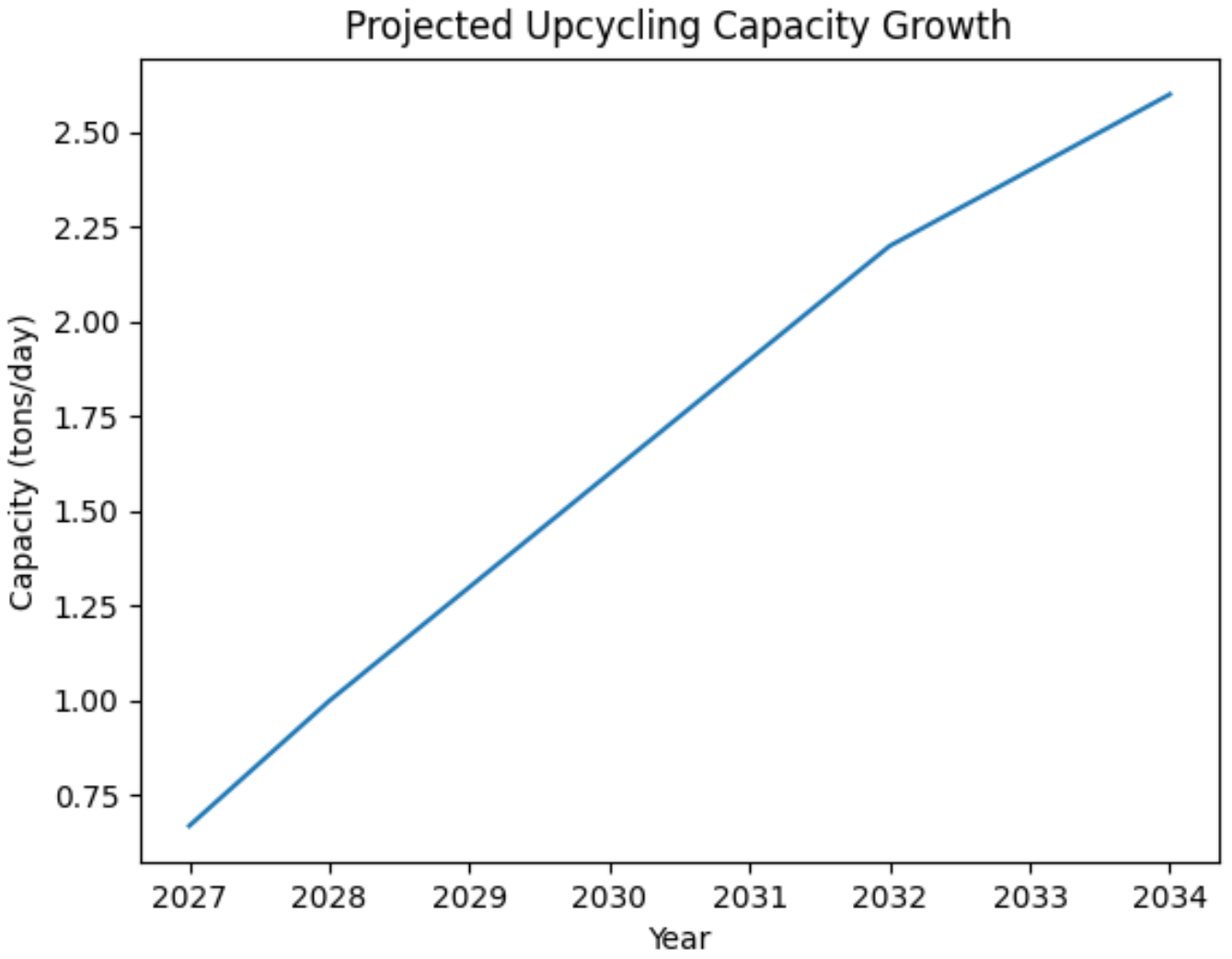


Potential Revenue Streams:

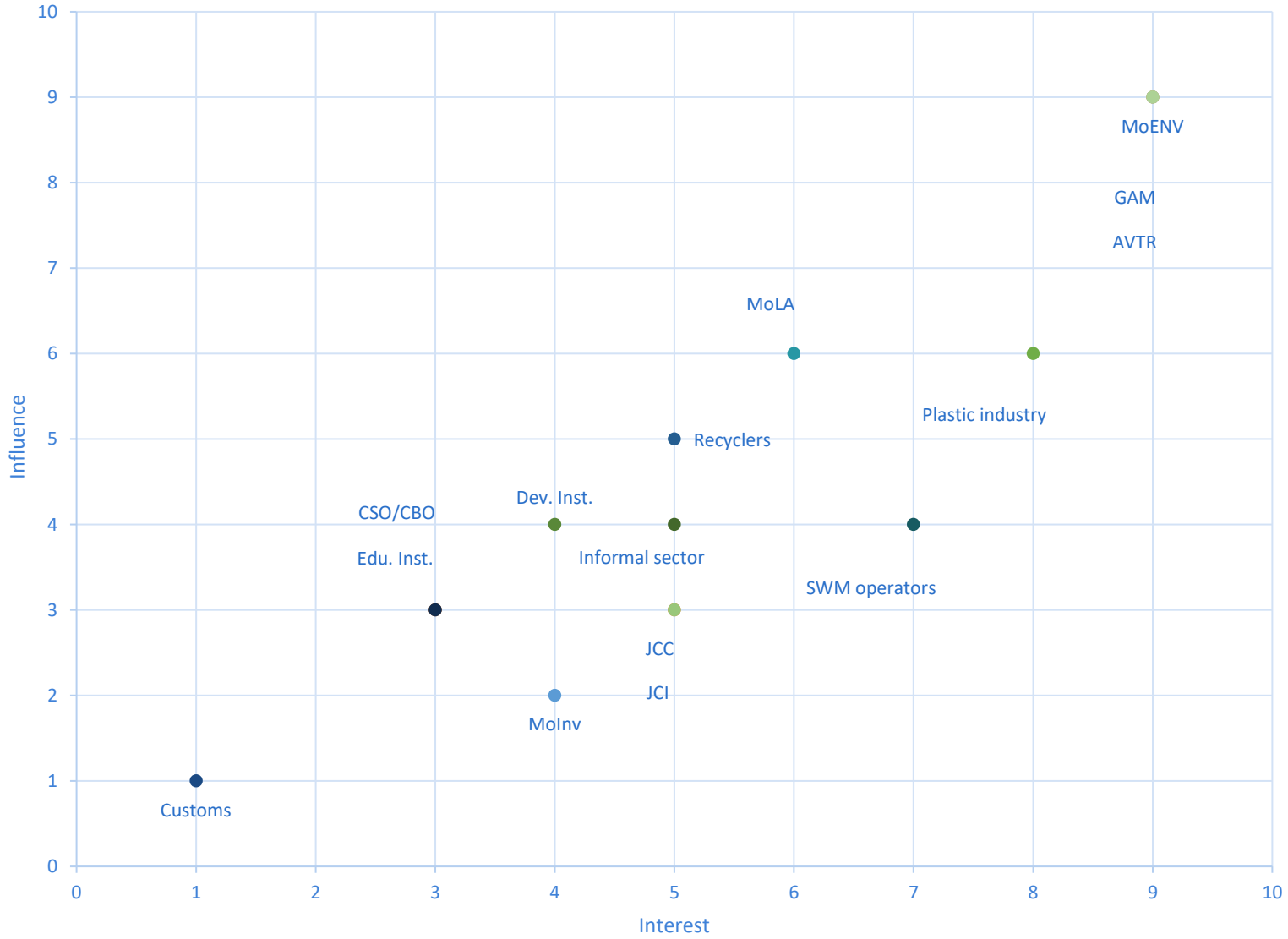
- Incubation services
- Training program
- EPR alignment
- R&D partnerships

Upcycling Capacity Projections (2027–2034)

- The hub is expected to start operations in 2027 with an initial capacity of approximately 670 kg/day.
- Capacity growth follows national recovery 65% and recycling 50% targets, assuming a 2% upcycling share from the 30% high-quality fraction.
- By 2034, daily capacity is expected to reach 2.6 tons, representing 285% growth and strengthening landfill diversion efforts.



Stakeholder Mapping



LDK CONSULTANTS S.A.

Funded by the European Union

Potential Stakeholders' Role in Upcycling Hub

Governmental entities

- Regulatory oversight
- Law enforcement

Educational & Development institutions, CBO/CSO

- R&D and troubleshooting
- Technical support
- Environmental awareness & Capacity-building

Plastic industry

- Material providers
- Upcycled product recipients

SWM Operators & Informal Sector

- Materials collection
- Sorting activities

Recyclers

- Feedstock providers
- Upcycling Hub Operators

Location Assessment

Sites Assessed

Waste Banks

Public Parks

Touta Yard

Screening Criteria:

- ✓ **Input availability**
- ✓ **Licensing feasibility**
- ✓ **Scalability**
- ✓ **Visibility**

Location Assessment

Preferred Option: **Touta Yard**

- Existing source-separation initiative
- Consistent material supply
- Proximity to commercial generators

Potential Risks:

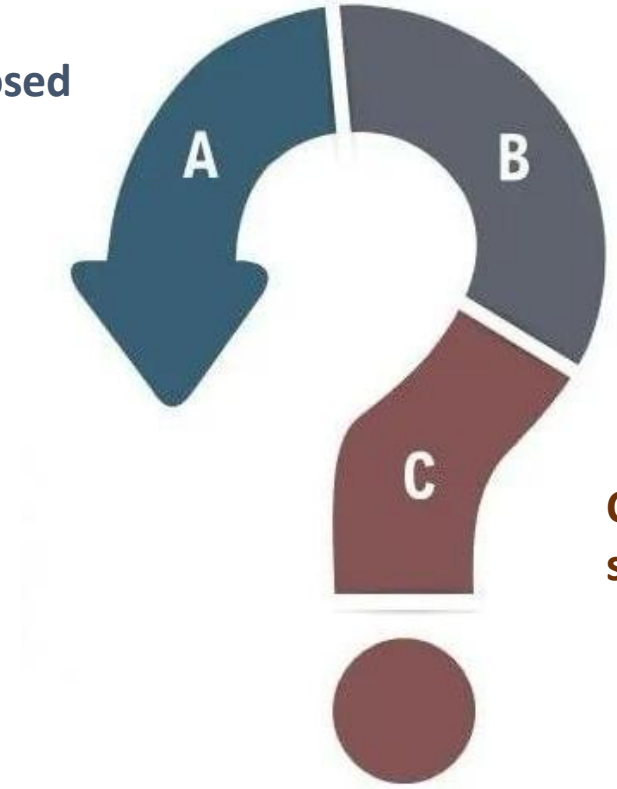
- Licensing status
- Environmental permitting
- Land-use classification

Risks Consideration

- **Feedstock Quality Risk:** Upcycling operations require high-quality materials that depend on a strict segregation and collection procedure.
- **Market price volatility:** Materials prices linked to various factors (i.e., supply and demand, geopolitics, oil prices)
- **Regulatory:** Regulatory updates affect the operations, value chain, etc. (i.e., EPR implementation)
- **Licensing delays:** complex requirements for licensing waste treatment facilities.

Q&A

A. Validation of the proposed intervention location?



B. Confirmation of hub scale and typology orientation?

C. Prioritization of alternative material streams?

Pre-conceptualization and support to establish a Plastic Waste Recycling/Upcycling Hub near existing waste management infrastructure in Jordan
C1-N-JO-1

EVALUATION FORM
Inception Findings Meeting

26 February 2026
Amman, Jordan - Hybrid

LDK CONSULTANTS S.A.

Funded by the European Union

WES-BCA
Water and Environment Support - Biodiversity and Climate Action
in the Neighbourhood South region

Thank you for your attention!

LDK CONSULTANTS S.A.

Funded by the European Union

WES-BCA

Water and Environment Support - Biodiversity and Climate Action in the Neighbourhood South region

Thank you for your attention and keep up with our latest news!

WES-BCA.EU

LDK CONSULTANTS S.A.

Funded by the European Union