

Towards a Circular Economy: 19 Business Opportunities for startups in Egypt's Waste Sector

Karina Boers, GIZ Advisor for Private Sector Engagement at the National Solid
Waste Management Programme

14th of January 2019, Safir Hotel, Dokki



Implemented by:



An aerial photograph of a lush green forest. In the center, a large, perfectly circular island of dense green trees is surrounded by a winding river. The river flows in a circular path around the island, creating a natural moat. The surrounding forest is also dense and green, with some areas showing different shades of green and brown, possibly indicating different tree species or a forest floor covered in fallen leaves. The overall scene is serene and natural, emphasizing the circular theme of the text.

Circular Economy

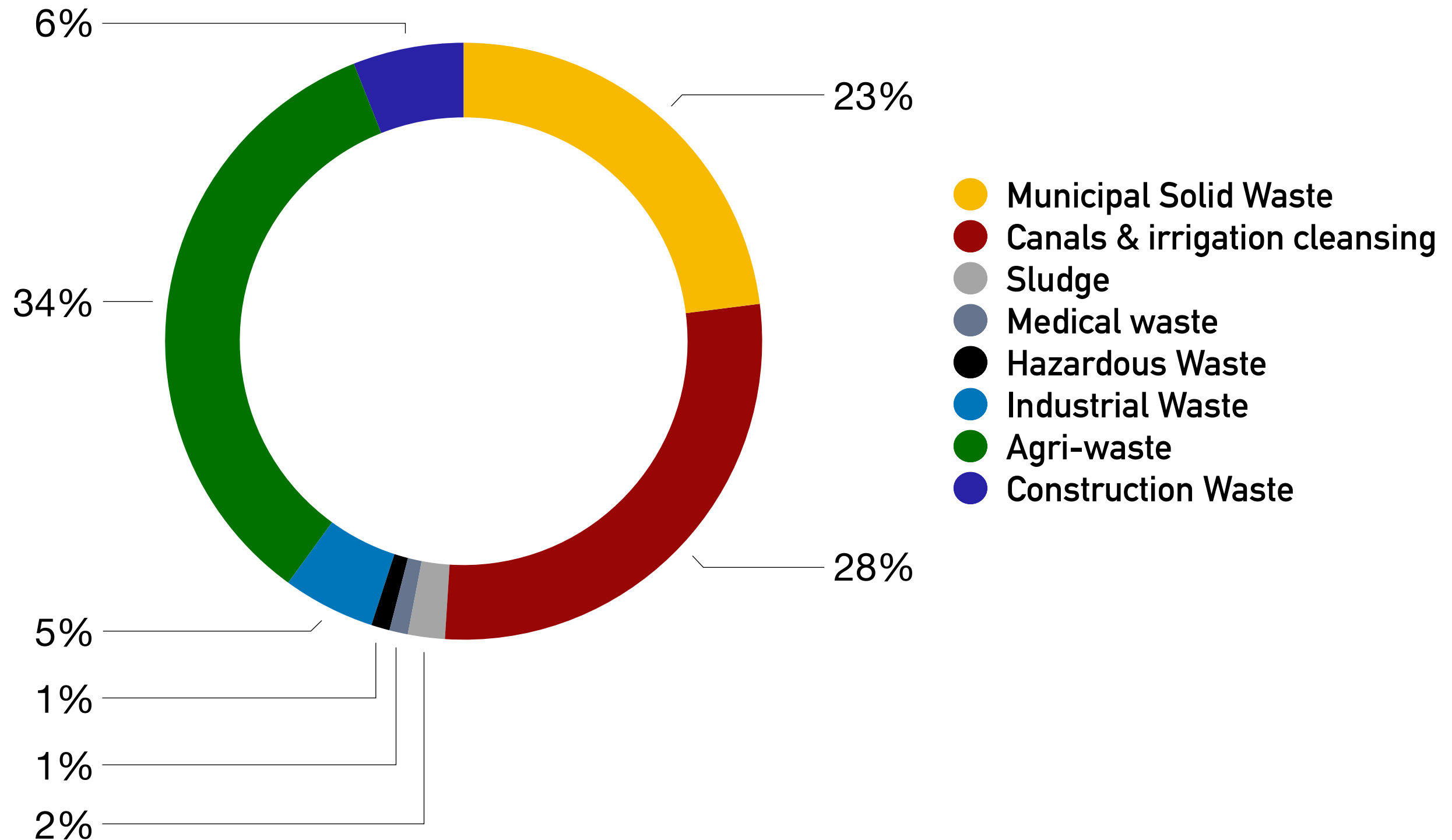
Circular Economy:
A **regenerative system** in which resource input and **waste**, emission, and energy leakage are minimized by slowing, closing, and narrowing energy and material loops; this can be achieved through long-lasting design, maintenance, repair, **reuse**, remanufacturing, refurbishing, **recycling**, and **upcycling**.*



**95.35 mil
tons/year*
waste
(2018)**

*Extrapolated amounts based on 2016 with a growth rate 2.5% 2018

Egypt's Waste Composition



Rural

Urban

How much waste do we produce each day?

0.5kg to 0.6kg/day

70-80% Organic Waste

around 1kg/day

50-60% Organic Waste



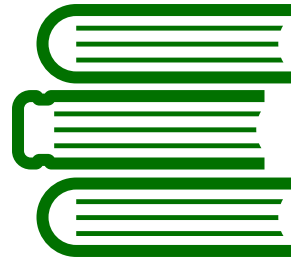
Composition of MSW in Urban Areas



How to turn waste into an opportunity for entrepreneurship?

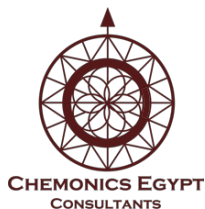


Objective

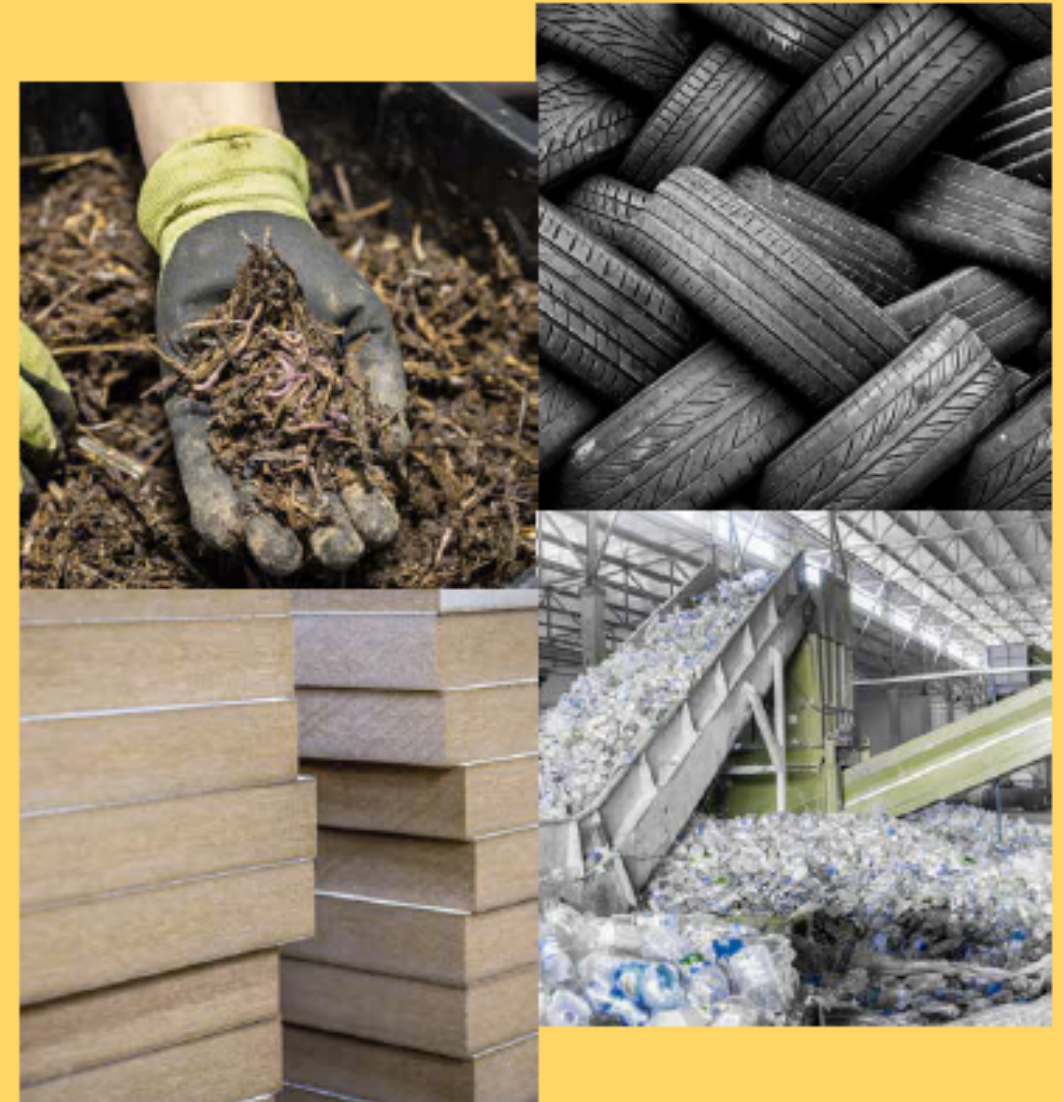


Unlocking business opportunities for startups in Egypt's waste management sector through data, technical knowledge, and market intelligence.

Authors:



**19 BUSINESS OPPORTUNITIES:
ECONOMIC BUSINESS MODELS IN
EGYPT'S RECYCLING SECTOR FOR
STARTUPS AND SMEs**





Study Results



Opportunities Studies:
70



Feasible opportunities for startups:
19



Potential economic impact:
63 billion EGP/year



Total potential waste absorbed:
13 million tons/year



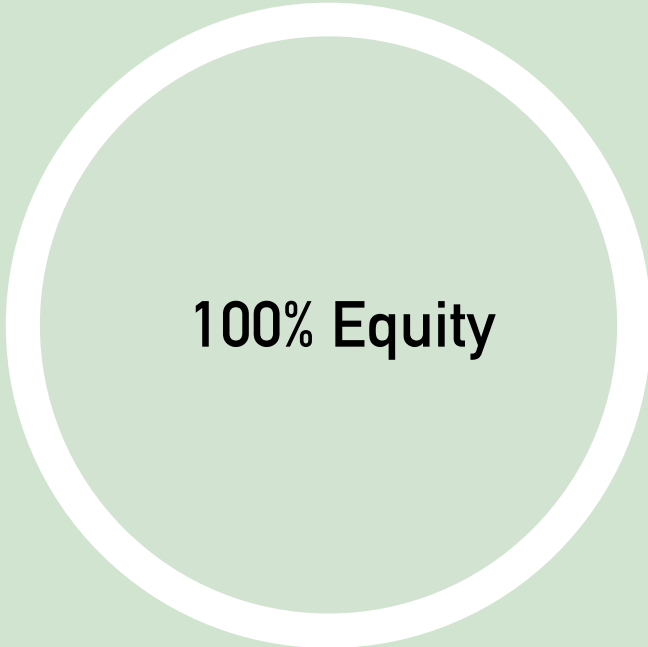
Total potential job creation:
850.000 jobs

Macroeconomic Assumptions



15% Inflation

A donut chart with a light green background and a dark green border. The white segment represents 15% of the total.



100% Equity

A donut chart with a light green background and a dark green border. The white segment represents 100% of the total.



20% Cost of Capital

A donut chart with a light green background and a dark green border. The white segment represents 20% of the total.



2% Terminal growth
of company*

A donut chart with a light green background and a dark green border. The white segment represents 2% of the total.



22.50% Tax Rate

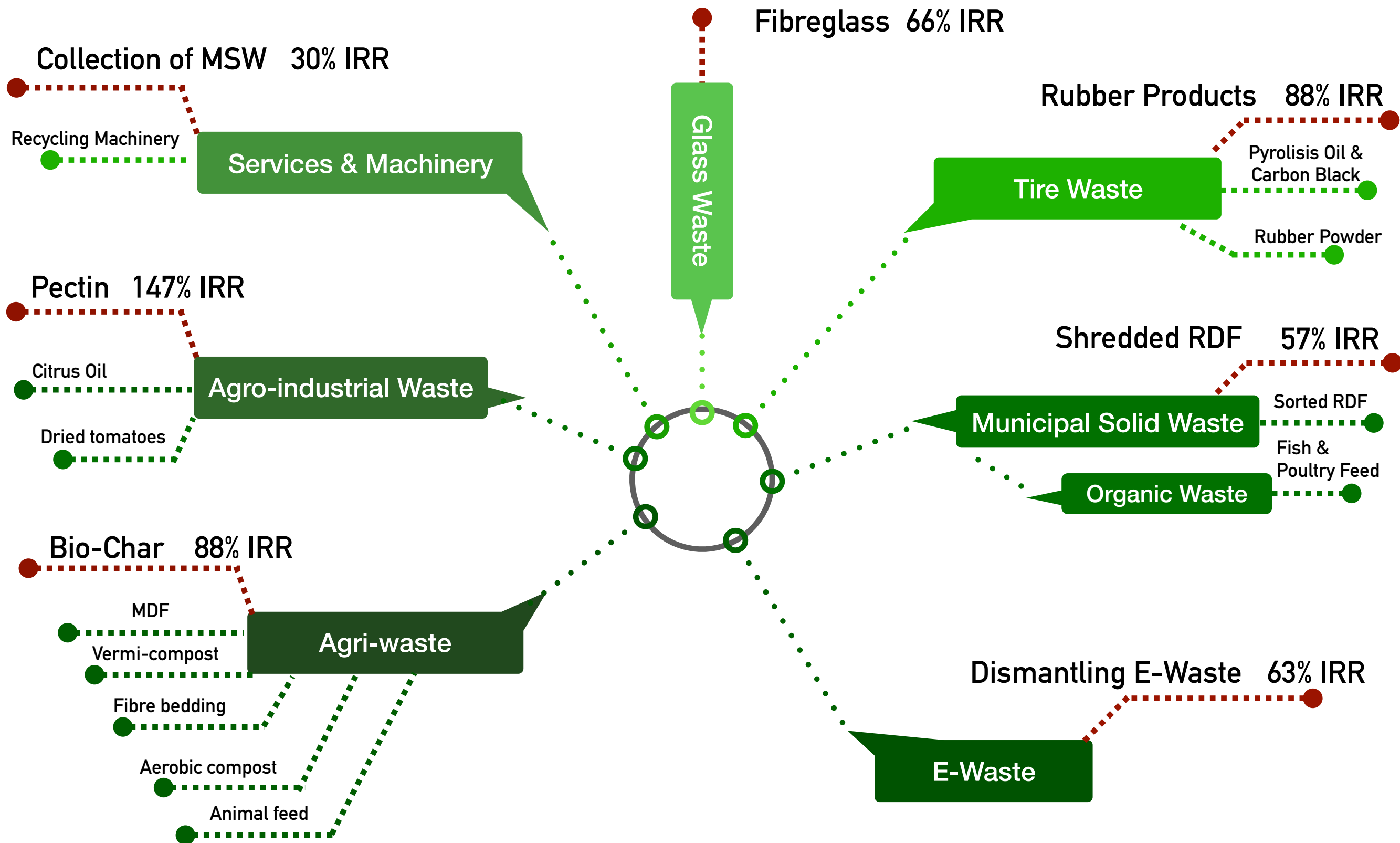
A donut chart with a light green background and a dark green border. The white segment represents 22.50% of the total.

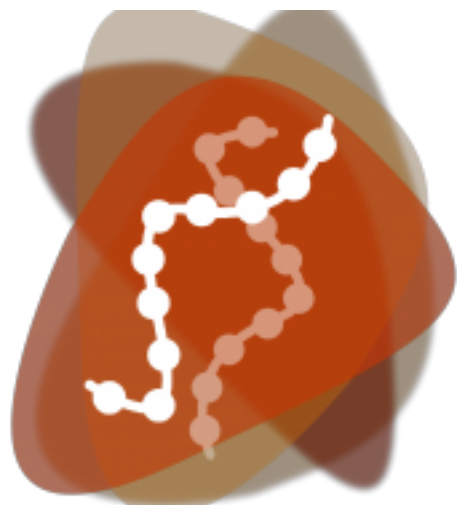


Max 16 Million EGP
investment

A donut chart with a light green background and a dark green border. The white segment represents the maximum investment of 16 Million EGP.

19 Business Opportunities

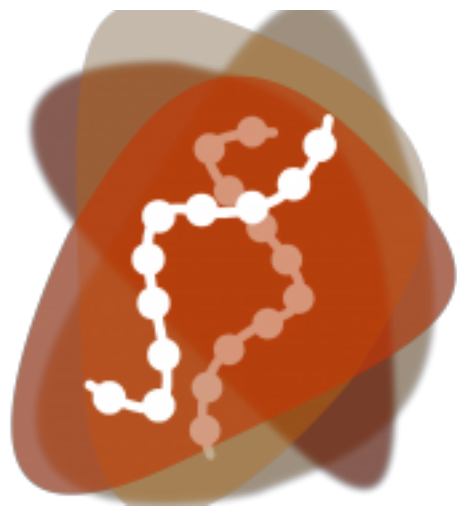




Pectin 147% IRR



- Pectin is a chemical substance that occurs in many fruit peels, including citrus fruits
- Can be extracted from citrus peel
- Essential food additive used as a gelling, thickening agent and stabilizer in food



Pectin 147% IRR

- Pectin is a chemical substance that occurs in many fruit peels, including citrus fruits
- Can be extracted from citrus peel
- Essential food additive used as a gelling agent, thickening agent and stabilizer in food

Pectin can be used for:



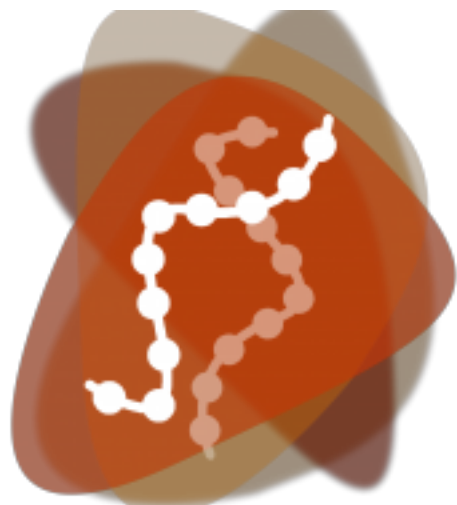
Jams and Marmelades



Jelly Candy



Cosmetics



Pectin 147% IRR

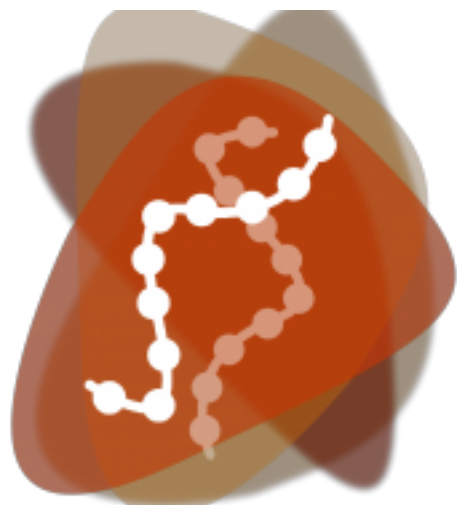


Market Outlook

**Abundance of
available supply**

**200 ton/year for
profitable production**

**125 million EGP/year
local market value
in 2016**



Pectin 147% IRR

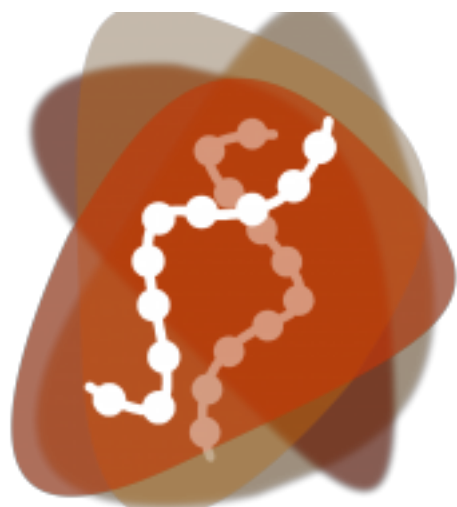


Financial Outlook

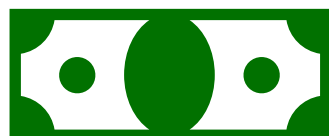
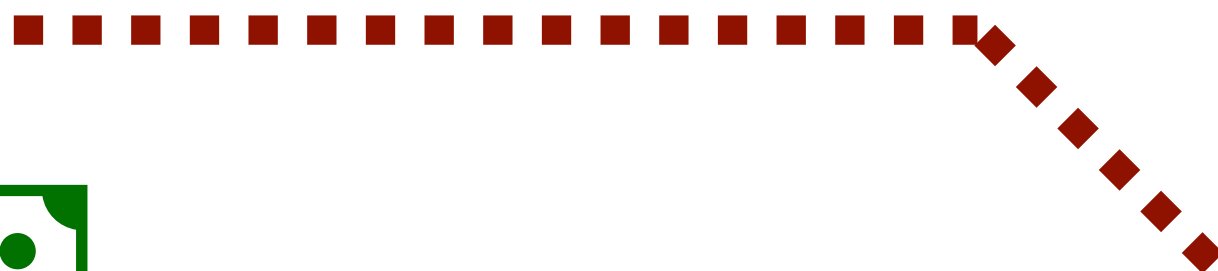
**10.000 EGP/ton
production cost
(1st year)**

**1 year payback
period**

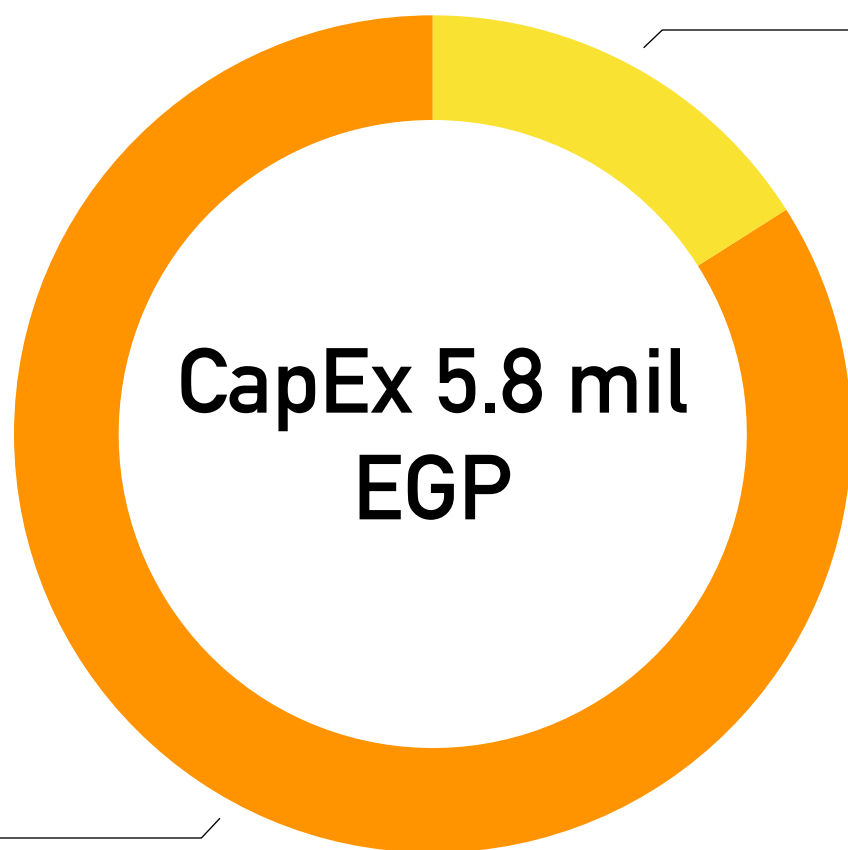
**90.000 EGP/ton
product selling price**



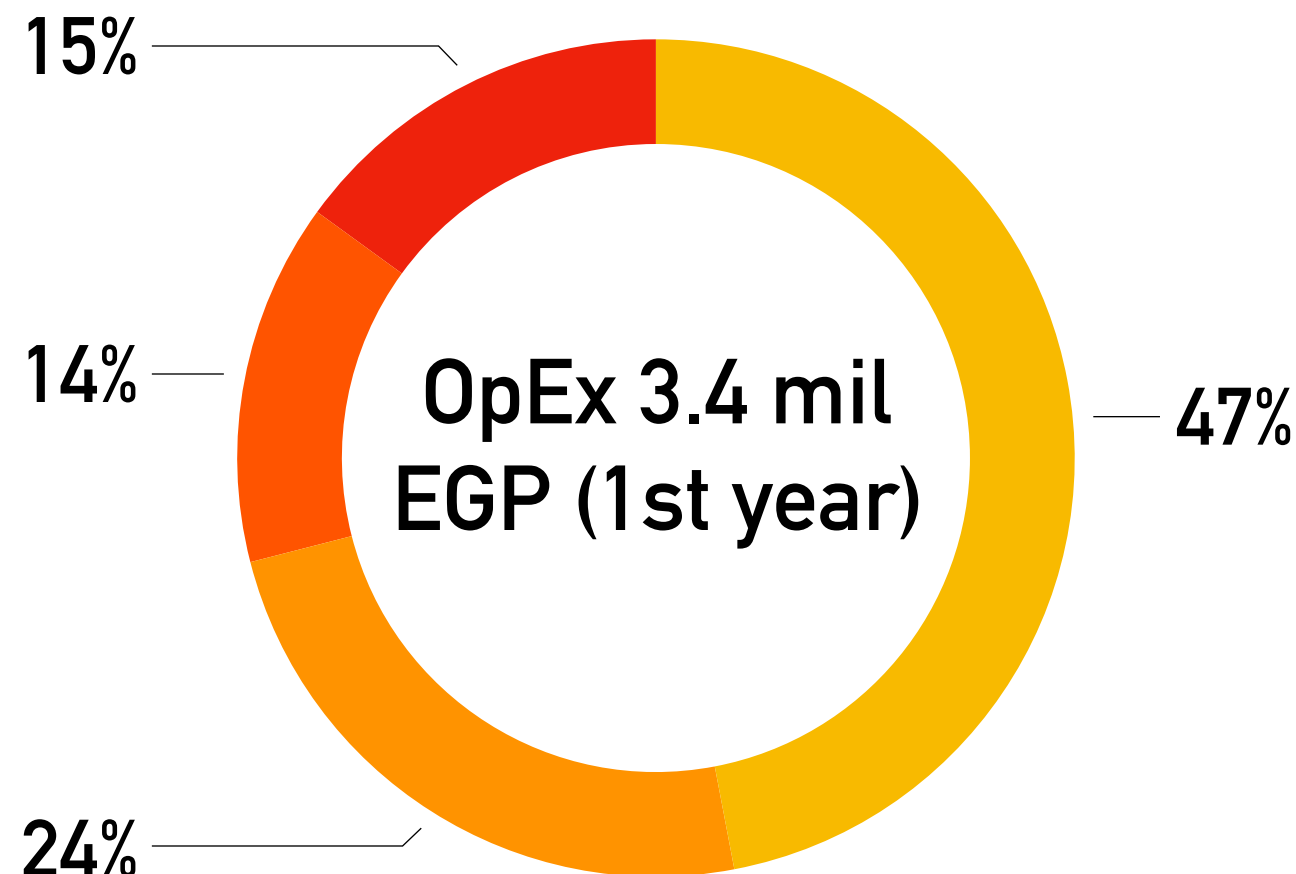
Pectin 147% IRR



Financial Outlook

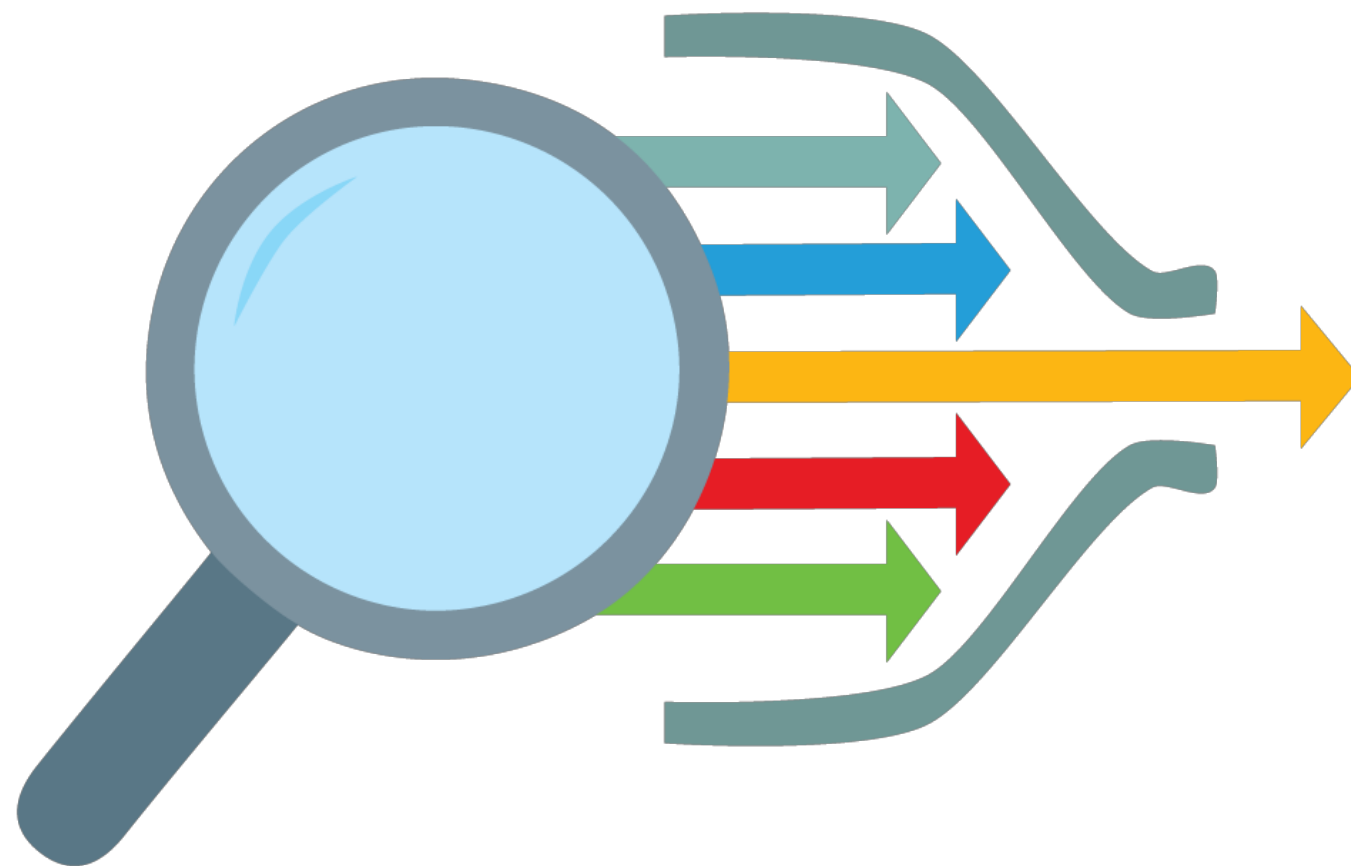


- Working Capital
- Machinery

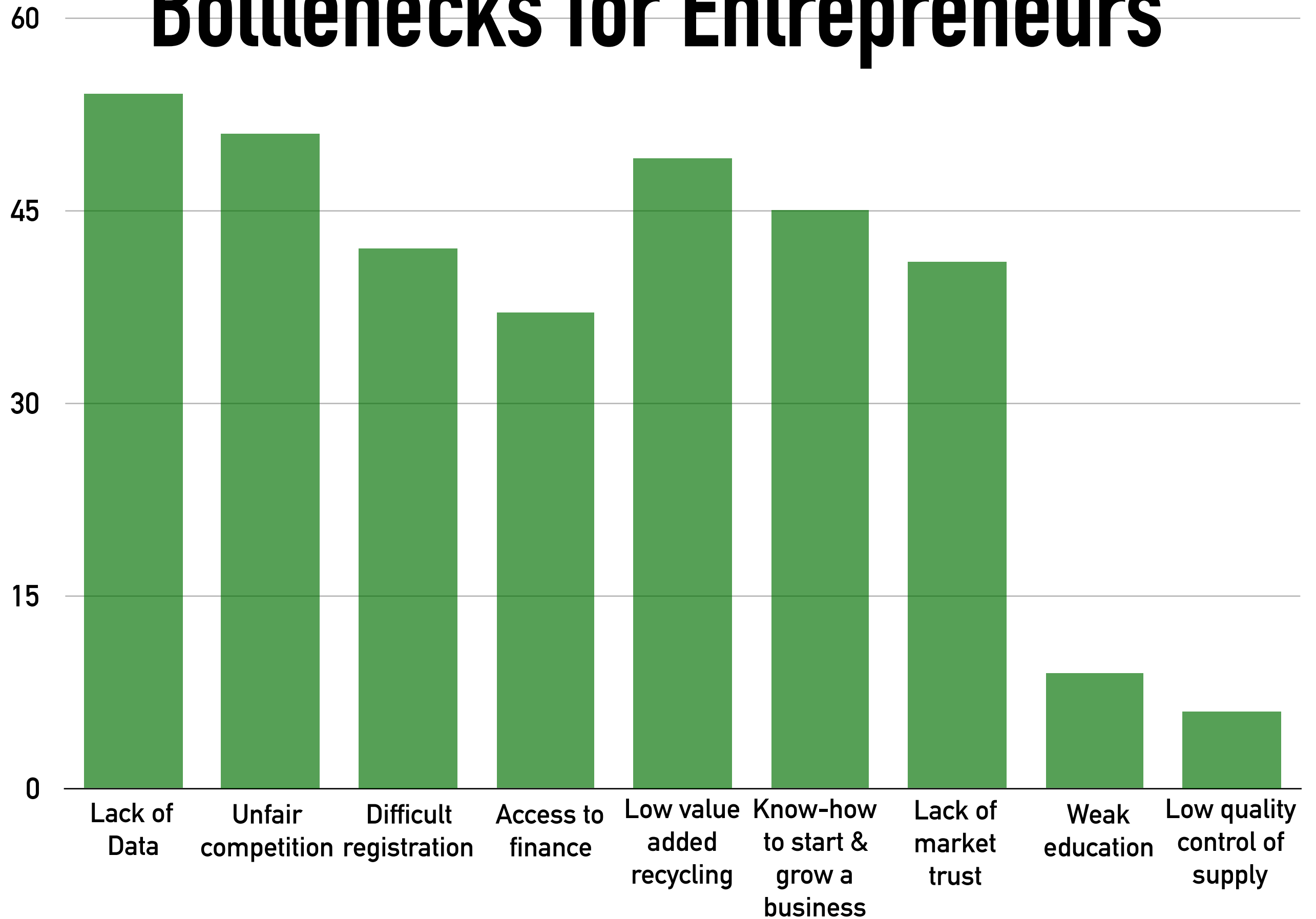


- Material cost
- Overhead
- Salaries
- Utilities

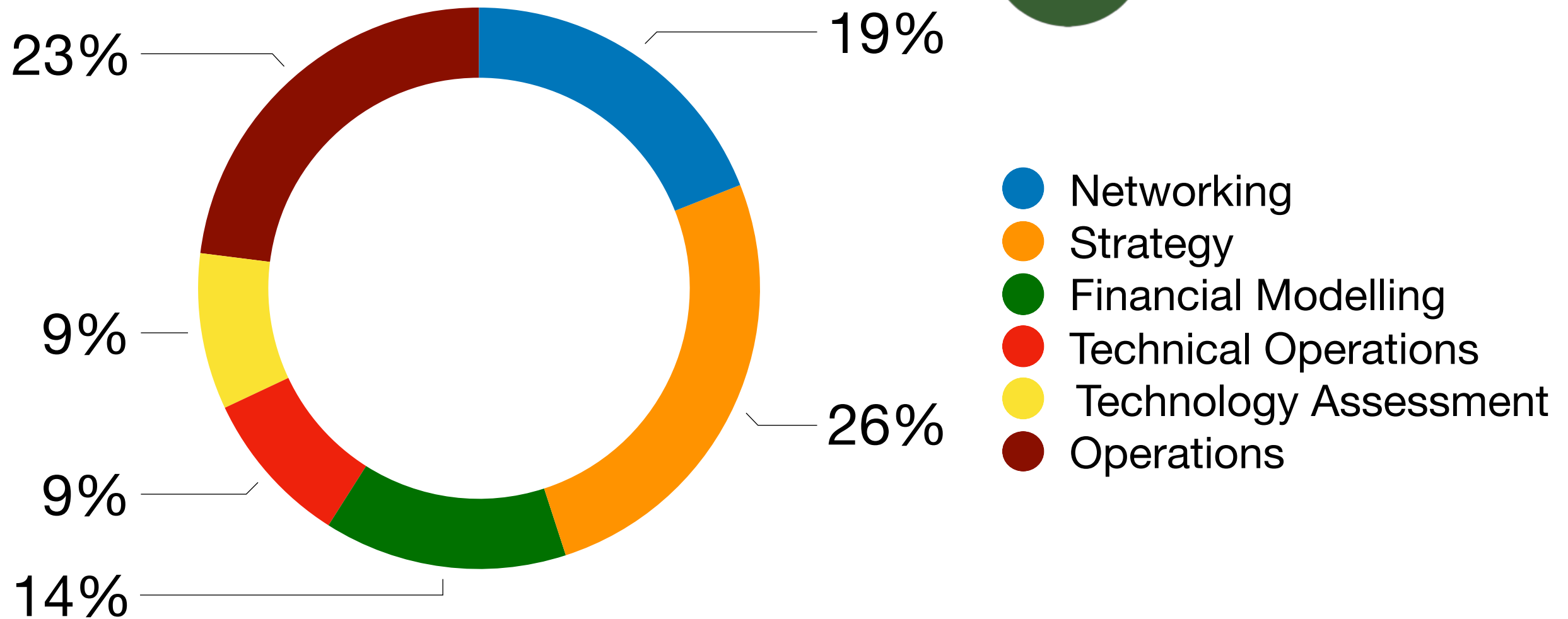
What is hindering entrepreneurs to enter the recycling industry?



Bottlenecks for Entrepreneurs



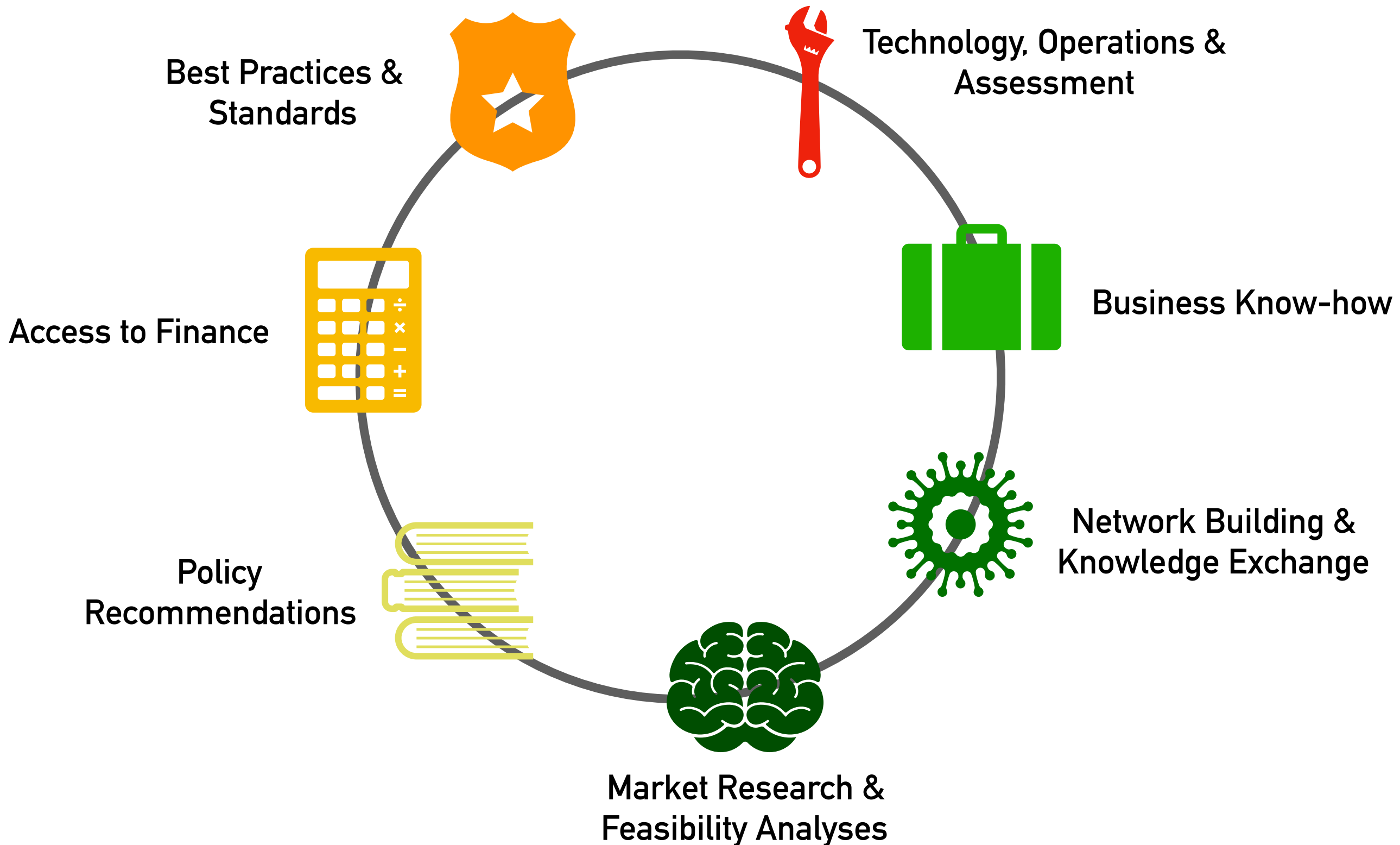
Waste businesses chosen topics for consultation sessions



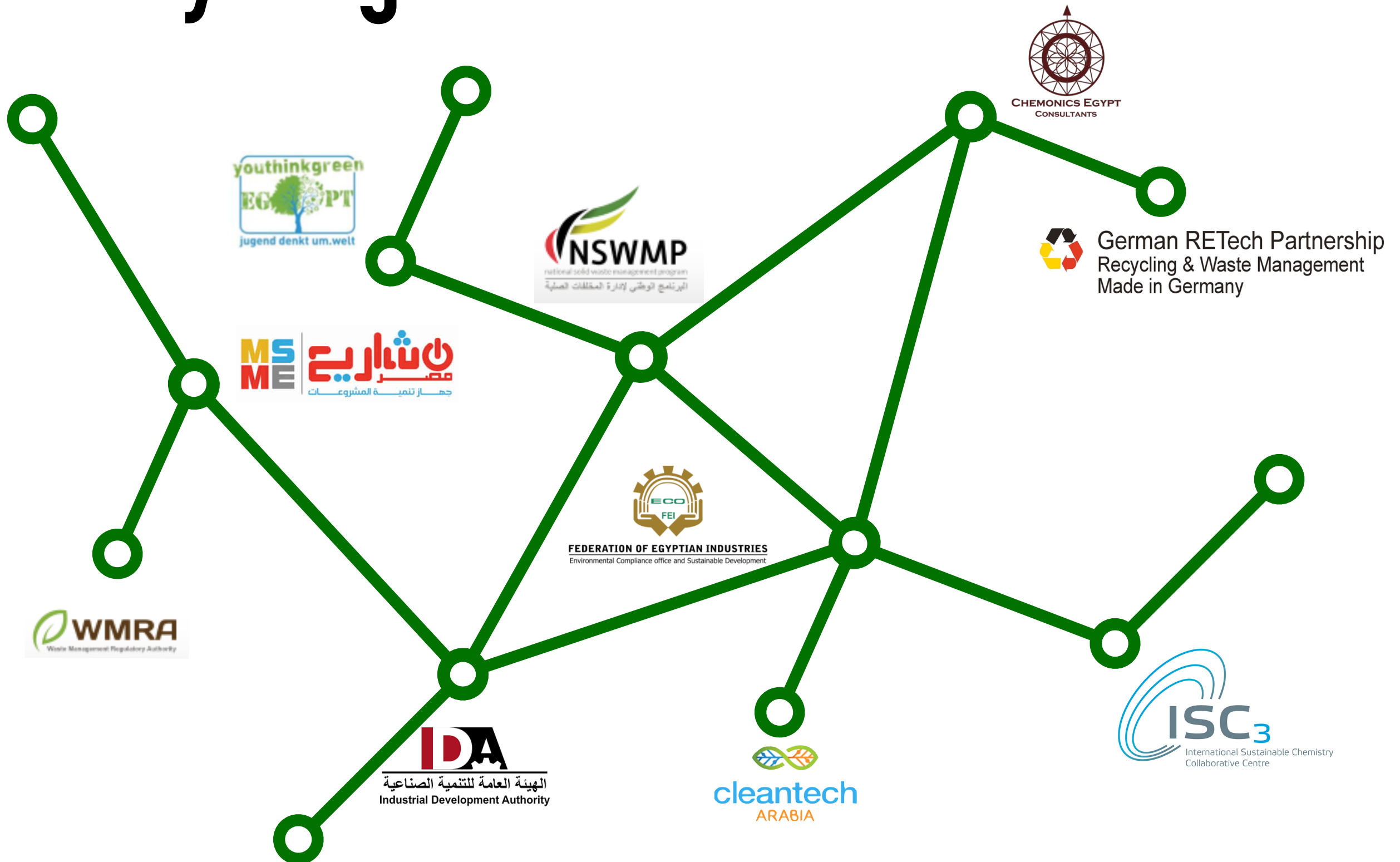
How to address these bottlenecks?



Recycling Promotion Hub



Recycling Promotion Hub Network



An aerial photograph of a dense green forest. A light blue circular path winds through the trees, forming a large loop. A small figure of a person is visible walking on the path. The text "Thank you" is centered in the middle of the image.

Thank you