Circular Economy in Port of Amsterdam

James Hallworth - Commercial Manager Circular & Renewable Industry

Marine Resources Group – Aberdeen, Scotland

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Part 1: Port of Amsterdam
Port of partnerships
The port of Amsterdam in 2020

One of the largest ports in Europe
Autonomous landlord port
100% Owned by city of Amsterdam
102 million tonnes transshipment
8% market share Hamburg-Le Havre Range
€ 7.2 billion added value
70,000 FTE direct and indirect employment
European energy hub
European supply chain hub
The ports regional role
Why circular economy?
Strong existing recycling cluster
Focus on innovation
Market Master
Matchmaker
Co-creator
Plastic Ecosystem Amsterdam

City & region
- AEB
- PARO
- Beelen
- Renewi
- Suez

AEB

Plastic
- E-waste
- Building and demolition waste
- Wood and green waste
- Metals
- Fats and foods

2D
- i.e. foils and films

3D plastics
- i.e. bottles and packaging

IGES Amsterdam (pyrolysis)

Plastic Recycling Amsterdam (MDS)
- IGES
- EN590 spec fuels + NAPHTHA
- Plastic Recycling Amsterdam
- PP, HDPE, PS, PET, ABS, PVC

Other themes:
- E-waste
- Metals
- Building and demolition waste
- Fats and foods
- Wood and green waste

Use by consumers/society

Port of Amsterdam
Process Plastic Recycling

80 M ton/yr = 1 Million plastic items every second

32% leakage = 1 package truck every minute
37% landfill
14% incinerated
4% process losses
8% cascaded recycling
5% closed loop recycling

Umincorp process

lowest cost
low CO2 footprint
highest output quality
world wide applicable

we have to recycle better...

we can!

1. sort
2. shred + sort
3. wash + flake
4. MDS (Magnetic density separation)

mixed rigid post-consumer plastics

PP HDPE PS PET
Part 2: Integrated Green Energy Solutions
Together, we make it better.

Integrate Green Energy Solutions (previously Bin2Barrel)
IGES Plant in Amsterdam
Global Plastic Problem

- 300 million tons of plastic created every year
- Only 9% of plastic is recycled globally
- 8 million tons of plastic enters the ocean every year
- By 2050, there will be more plastic than fish by weight
- Expanding cities means diminishing landfill capacity and sites
- 2018 China & India banned import of plastic scrap

Plastic is being unsustainably dumped in landfills or incinerated. At the same time, there is a looming oil and gas shortage.
How The IGES Technology Works
Conversion of EOL plastic into fuel

Step 1
End of Life Plastic Delivered
IGES is the only system that can accept and process a wide range of plastics

Step 2
Shredding/ Mixing
All plastic is sorted, shredded and then mixed so it can be ready for use in the plant

Step 3
Patented Technology
IGES patented technology is commercially sustainable as compared to other competitors. Reduction of approx. 80% CO2 emissions when compared to conventional diesel

Step 4
End Product
Meet fuel standards EN590 and EN228. Clean fuel, low emissions. NAPTHA output used to make new plastics
57,000 tons of CO2 reduction per year
Equivalent of 55 ha of solar panels costing EUR 75 mio

Contribute to circular economy
Rethink plastics as a valuable resource, extract its maximum value to reduce leakage into natural environments

Use wide range of end of life, unrecyclable plastics destined for landfill and incineration

Lower carbon footprint, cleaner fuel

Winner of IAPH World Ports Sustainability Award
Validation that IGES’s technology can tackle global crisis of plastic pollution
PLASTIC2FUEL PROJECT

COLLECTION OF OCEAN WASTE BY FISHERS
PICK-UP AND SORTING OF NON-RECYCLABLE WASTE PLASTIC
TRANSFER PLASTIC INTO TRANSPORTATION FUEL
DELIVERY LOW CARBON FUEL TO FISHERS

THIS PROJECT IS AN INITIATIVE OF:

THIS PROJECT IS SUPPORTED BY:
Part 3: The challenges
The ‘Valley of Death’ obstacle course

Environmental Permitting

Partnership / JV

Technology

Objection & Appeal

Financing
Preparing to summit....

- PERSEVERANCE
- TEAMWORK
- ENTREPRENEURSHIP
- PARTNERSHIP
Questions & discussion