

PolystyreneLoop

PROJECT LOCATION: Terneuzen

BUDGET INFO:

Total amount: €8.412.884

% EC Co-funding: 50,72%

DURATION: Start: 1 July 2017 - End: 1 July 2021

PROJECT'S IMPLEMENTORS:

Coordinating Beneficiary:

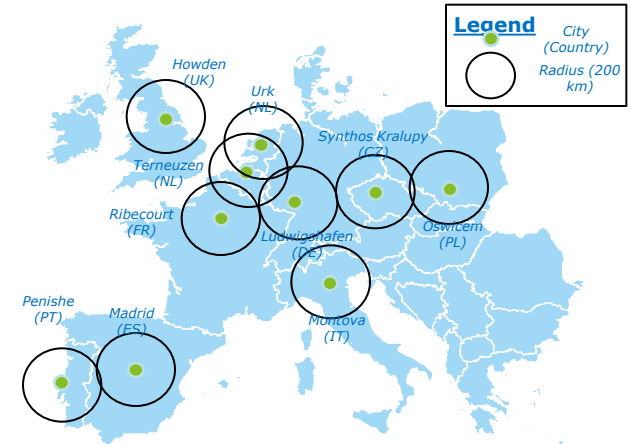
Synbra BV

Associated Beneficiary(ies):

Fraunhofer IVV

ICL Europe Coöperatief UA

Polystyrene Loop Coöperatief UA



OBJECTIVES & SCOPE:

PSLoop implements real, economically viable programs collect and recycle PS foam packaging



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The PSLoop demo plant is expected to run a test-phase of the PS Loop technology until 2020 (full ramp-up of 3000MT achieved)

The PSLoop concept, using the CreaSolv® process gradually rolled-out

- to 10 other locations throughout Europe in 10 years (2030)
- located in a densely populated region

Supply of waste should be organized through existing structures

Inclusion of PS Loop process in POP BASEL guidelines realised





EXPECTED IMPACTS

Unique dissolution process for plastics with POPs based on the CreaSolv® process , Upcycling of recycling material.

Innovative organizational approach of the whole polystyrene value chain , 52 entities from 13 countries.

Strong support from national and EU authorities given within the circular economy agenda.

Main KPI's :

- LCA shows 50% lower Carbon footprint than incineration
- Dissemination to multiple sites in different countries

- Product: Demonstration facility to remove HBCD from EPS used in construction sector. De-polluted upcycled PS. Recovered bromine products.
- Market: Construction industry and waste management sector (inputs). Users of PS, including construction industry (outputs)
- Competition: Only alternative disposal routes is incineration
- Replicability, sustainability and a unique value chain responsibility

Strategy: Construction of 3000tpa demonstration recycling facility and collection and pre-treatment system. Techno-economic analysis and development of business case. In 10 years planned replication in 10 other locations (EU wide) . Potential use in other plastic waste streams, e.g. WEEE and ELV, multilayer films.

Possible Financing /roll out:

- The 3 kt plant costs 6mil€ , pays off a loan of 4,5 mil€ in 5 years . IRR 20%
- Next phase is 6-10 kt , Capex 7-8mil€ , pays off its loan in 4 years.
- 10 plants : Capex 70-80mil€, thereafter growing to 1000ktona, multitude of smaller (10 kt) and 20 off (50 kt/20 mil€) bigger plants after 2030(400mil€)