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Trend Study Chemical Recycling

Technologies, key players, plants & projects and status of the plastic waste treatment as a business

Extract

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ecoprolog GmbH

Trend Study – Chemical Recycling

In the global fight against plastic waste, one of the greatest hopes lies in chemical recycling. This technology involves breaking down the molecular structure of plastic and using it to produce a basic substance for the production of new plastics. In this way, it is expected that the downcycling, that is often inevitable in mechanical recycling can be avoided and new waste streams can be fed into this ambitious recycling process.

At the same time, chemical recycling is being increasingly criticized by environmental associations, partly because of its energy requirements and the associated CO₂ footprint.

In order to further investigate the opportunities and market development of chemical recycling, ecoprolog has examined the global plant market of chemical recycling in more detail. Almost 120 chemical recycling plants and projects worldwide were surveyed.

The "Trend Study – Chemical Recycling" contains:

- The description of essential technologies and functioning of chemical recycling as well as a comparison of their strengths and weaknesses.
- The analysis of key market factors and trends in plastics production and recycling, and above all an assessment of the advantages and disadvantages of chemical recycling compared with conventional (mechanical) recycling.
- An account of nearly 120 chemical recycling facilities and projects worldwide, including descriptions of capacities, inputs and technologies (as far as known).
- The analysis of major competitors in this market at the level of technology providers and operators/projectors.
- A monthly update on projects and facilities over the next 12 months.

The study is available in English language starting from 2,000.- €*. Readers of our waste & bio Infrastructure Monitor will receive a discount starting from 600.- €. **Detailed information can be found at the end of this extract.**

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Sweden

Inhabitants [million]	10.3	Municipal waste [1,000 t/a]	4,611
Plastic waste composition [%]	6.58%	Current MSW recycling rate [%]	46.6%
Number of active facilities	0	Number of projects	6

Plastics

According to the Swedish Environmental Protection Agency, in 2016, with import and production around 2.41 million tonnes of plastic raw materials entered the Swedish market, of which 325,500 tonnes is to be estimated as the volume for the packaging sector. A total of 1.7 million tonnes of plastic waste was recorded in Sweden in the year 2016. No information was available regarding the volume of plastics that were processed.

Current Waste Status

Sweden has a well-controlled waste management system in practice with waste segregation and recovery given top priority.

Around 4.6 million tonnes of MSW are generated annually, of which more than 670,000 tonnes can be attributed to packaging waste (plastic, glass and metal).

[...]

Waste Legislation & Recycling Targets

[...]

Figure 61: Number of plants & projects based on industries involved



[...]

Plants

We currently do not know of any operational facilities for chemical recycling in Sweden.

Projects

We are, at the moment, aware of 6 projects in Sweden. There are 2 commercial-scale facilities to be operated by Eastman, one will use gasification and the other a method of Solvolysis.

Figure 62: Projects for chemical recycling in Sweden

#	Project	Operator	Start	Capacity (tpy)	Technology	Scale	Status
1.	Billingsfors	Billingsfors Plastic Recycling	2023	1460	Unknown	Pilot	planned
2.	Jönköping	Hällstorp Recycling	n/a	n/a	Unknown	Uncertain	planned
[...] More information is provided in the report							

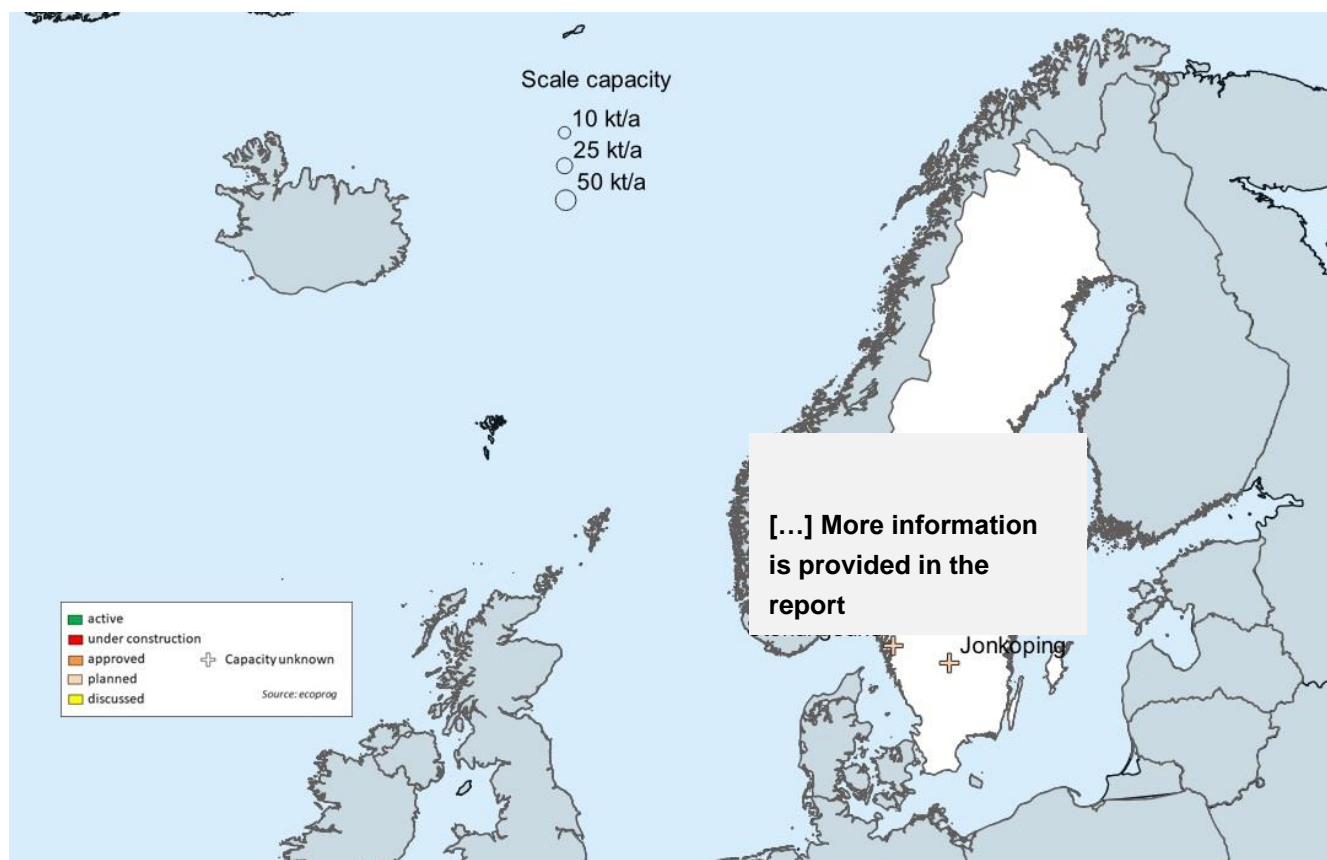
Swestep will construct two plants in Billingsfors and Jönköping, which will treat mixed wastes using a technology developed by Siemens. A laboratory scale facility will be developed by Borealis solely to study and develop input streams for processing.

Outlook

We expect an uncertain future for this technology in Sweden. Though there are several projects which also involve key market players that can influence the waste management in Sweden, there is no recognition from the Swedish government for chemical recycling.

[...]

Figure 63: Location of known plants and projects in Sweden



Annex

Projects

Billingsfors, Sweden

Operator: Billingsfors Plastic Recycling

Status: planned

Capacity: 1460

Start of Operation: 2023

Input Category: multiple plastics

Input: waste plastics

Output: oil

Technology: Unknown

Scale: Pilot plant

External remarks: According to Scandinavia-based company Green Ideas Group AB, a demo plant with a daily capacity of 2 to 4 tpd is to be set up first, which is then to scale up its capacity to 24 tpd by

2023 or 2024. The plant should be operated by Billingsfors Plastic Recycling and convert waste plastics into oil using chemical recycling.

Jönköping, Sweden

Operator: Hällstorp Recycling

Status: planned

Capacity: n/a

Start of Operation: n/a

Input Category: dry recyclables

Input: organic waste, plastic, wood, cardboard

[...]

Price and product information

You can order the market report here:

<https://www.ecoprolog.com/publikationen/energiwirtschaft/chemisches-recycling/order-chemisches-recycling.htm>

Price models:

- Single-user version: 2,000.- €*
- Company version: 4,000.- €*
- Corporate version: Price on request

Product information:

Single-user copy: personal copy (personalized and password-protected PDF file, sent via email)

Company version: company-wide copy (legal entity), PDF file, sent via email

Corporate version: for different, legally connected companies (e.g. sister companies, subsidiaries abroad). Price depends on number of companies and employees.

All versions include a monthly update on projects and facilities over the next 12 months.

Subscribers of ecoprolog's waste & bio Infrastructure Monitor ([Info](#) | [Order](#)) will receive a discount of 600.- € (1,200.- € in case of a company version).

Options: Additionally, you can order all detailed information on plants and projects in MS Excel: 2,000.- €*
Additionally, you can order a printed copy of the study: 150.- €*

* plus 19% VAT for customers within Germany and EU customers without a VAT ID.