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The European Market for Waste Paper Sorting

Sites, plants, backgrounds and market assessments

Extract

Cologne, June 2018

ecoprolog GmbH

The European Market for Waste Paper Sorting

Europe currently has more than 2,000 operational sorting plants that process paper and cardboard wastes. The demand for such waste paper sorting plants will increase in the years to come.

The construction of additional capacities is based on increasing waste paper amounts that are available for material recovery – which is the result of many European countries furthering their separate waste collection systems. France, the UK and Poland currently hold the greatest market potentials.

Altogether, additional sorting capacities of 6.7 million tons will be constructed by 2025. Additionally, about 2.1 million tons of sorting capacities, installed in dated plants, will be modernised or replaced by 2025. The latter will mainly be the case in large traditional markets such as Germany and Spain.

Against this backdrop, ecoprolog has identified and analysed the European waste paper sorting plants as well as forecast the future development of the market by using a transparent methodology.

The study “The European Market for Waste Paper Sorting” includes:

- Identification and analysis of 2,000 sorting plants and projects that process paper and cardboard wastes, including technical data and contact addresses
- Profound assessment of the future market development by country, based on a transparent methodology
- Competitive analysis of the most important operators and technology providers on the European market
- Overview of the most important plant technology and cost factors for waste paper sorting
- Thorough explanation and interpretation of the European legislative framework

The study is available in English and German language starting from 3,500.- € plus VAT. Subscribers of ecoprolog's w&b Monitor will receive a discount starting from 600.- €. **Please find detailed price information at the end of this extract.**

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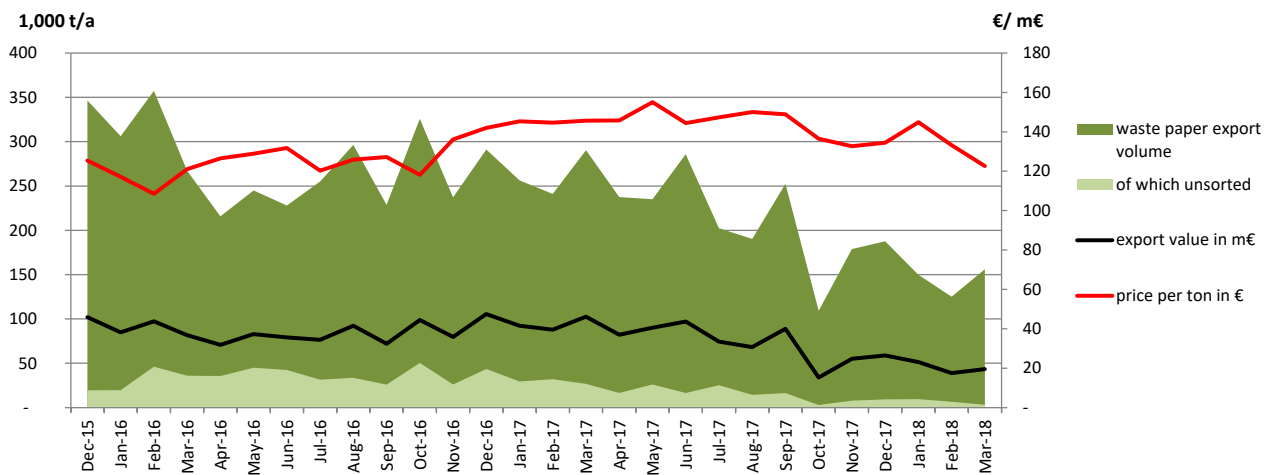
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[...]

In 2016, waste paper exports to China increased to 8.6 million tons. A year after that, in 2017, the export dropped to 6.8 million tons after China had announced to introduce import restrictions.

The Chinese government established import bans for specific types of waste, and also for unsorted wastes papers, coming into effect from the beginning of 2018. In March 2018, additional strict requirements were introduced for imported wastes. A maximum impurity content of 0.5% for all imported material streams is the centre of these.

Figure 28: Waste paper exports from the EU to China



The Chinese authorities additionally regulate waste paper imports through granting licences to Chinese waste paper recovery companies. These are usually the large national paper producers such as Nine Dragons, Lee & Man and Guangzhou Paper Co.

According to a market survey by German specialist trade publisher EUWID, the 2018 licences are expected to amount to 18 to 21 million tons. In 2017, 26 million tons of waste paper was imported (with the EU accounting for a 26% share); in 2016, waste paper imports amounted to 28 million tons (EU share of 30%).

In the waste paper sector, an import ban was introduced for unsorted waste paper (HS code 4707900090). However, this strict import ban does not affect the market considerably, because the export of unsorted waste paper only plays a minor role. In the past 2 years, it only accounted for a 6% share of the overall exported waste paper amount from the EU to China.

The restrictions for sorted waste paper unfold much more significant effects, as this type of waste paper accounts for the largest import amounts from the EU. Since March 2018, sorted waste paper must have a maximum impurity content of 0.5%. The licences put further restrictions on this business.

The Chinese purchasers are also facing planning uncertainties, because the import licences are only granted in substeps.

[...]

[...]

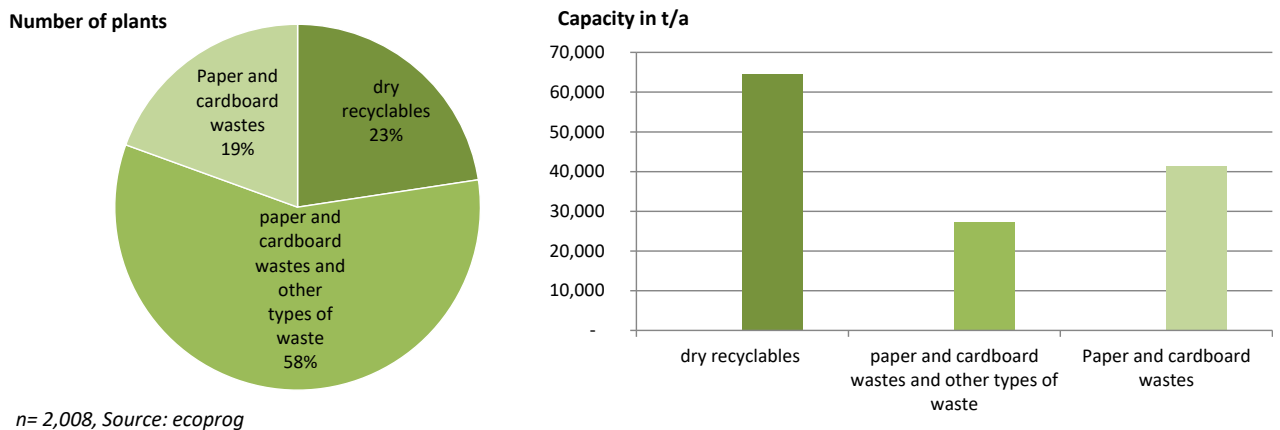
The type of waste collection determines the extent of sorting efforts in the sorting plants. Most European countries collect paper and cardboard wastes separately. The UK, France and Greece collect these types of waste jointly with other dry waste streams such as plastic or metal packagings, which entails more complex sorting efforts in the facilities the wastes go to.

In terms of technical equipment, the sorting plants analysed in this report may be classified into three plant categories:

- sorting plants that process paper and cardboard wastes only
- sorting plants that sort paper and cardboard wastes as well as other separately collected waste streams
- plants that sort dry recyclable waste streams that were jointly collected (dry recyclables bin)

The sorting plants that process waste paper only reach a market share of almost 20% and therefore only account for a low number of plants. Throughout Europe, about 350 facilities are operational that sort nothing but paper and cardboard wastes. In terms of technical design, the variety ranges from small-scale plants with low mechanisation grades to fully automatic large-scale facilities with capacities larger than 100,000 t/a. Whereas the first type is common in Southern Europe, the largest plants with the most complex technology can be found in Germany, the Netherlands and Belgium.

Figure 41: Number and shares of different types of paper and cardboard sorting plants in Europe



This is due to sufficient paper and cardboard waste amounts thanks to an advanced separate collection system and quite densely populated areas. Investing in automated facilities also tends to pay off in these countries with their higher wage levels. The sorting plants processing paper waste and cardboard only have an average capacity of 40,000 t/a.

[...]

7.23 Switzerland

Number of inhabitants 2016 [million]	8.3	No. of waste paper/cardboard sorting plants	20
Municipal solid waste 2015 [1,000 t/a]	6,030	Estimated sorting capacity [1,000 t/a]*	350
Material recovery share in %	32	Estimated Ø plant size [1,000 t/a]*	18.4
Paper/cardboard pack. waste 2014 [1,000 t/a]	1,323	ecoprolog market development index (1-10, 10 max)	4.0
Material recovery shares in %	91		

*Sorting capacities also include other dry waste streams, e.g. plastic packagings.

Management summary

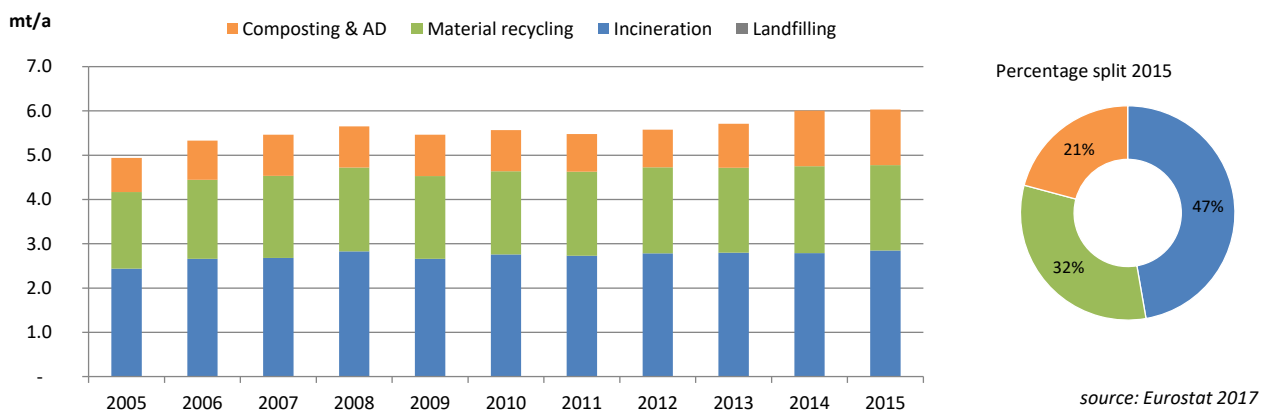
Switzerland’s waste paper sorting sector is already well-advanced. As paper and cardboard are collected separately from each other in large parts of the country, further sorting demands are limited. A new sorting plant with a capacity of 70,000 t/a was constructed in Bern. In the years to come, the sorting infrastructure cannot be expected to be developed further to a significant extent.

Background/legislative framework

Switzerland is no EU member state and therefore not obliged to fulfil the goals of the European waste policy. However, as Switzerland does not have extensive areas for landfill sites and the national economy is well-advanced, an ecological awareness has developed already early.

Switzerland’s waste legislation is based on the Environmental Protection Act (EPA), which firstly came into effect in 1986.

Figure 136: MSW incineration, recycling and landfilling in Switzerland



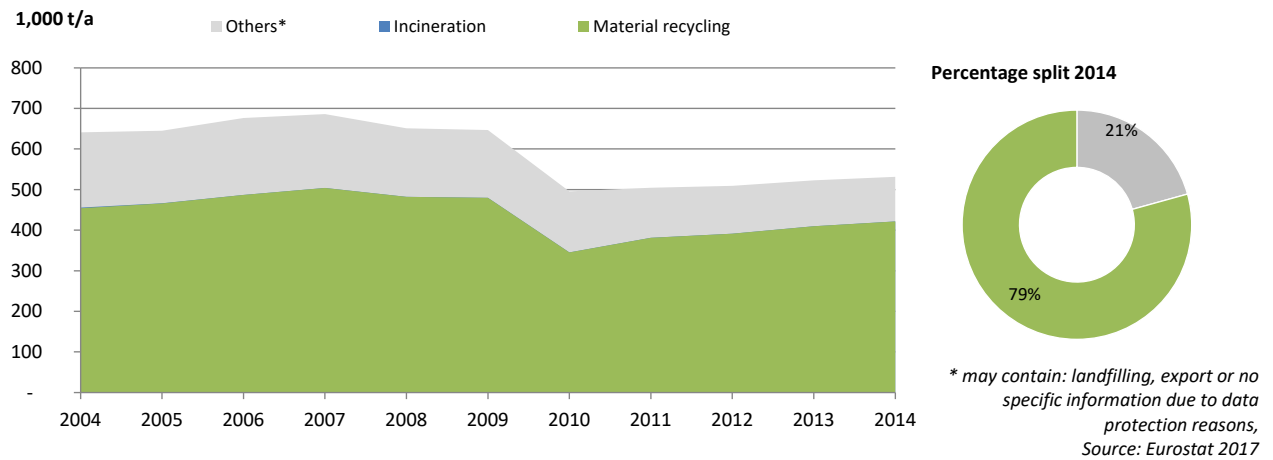
[...]

Current disposal

As a consequence of past decades' reforms, Sweden landfills less than 1% of all MSW. Thermal recovery benefitted in particular from the reduction of landfilling. In 2015, about 50% of the MSW was incinerated. Another reason for the great importance of thermal recovery is the fact that it delivers almost 20% of the district heat generated in Sweden.

The other half of the waste is recycled, which also includes a 16% organic treatment share. About 1.5 million tons go to material recovery.

Figure 134: Production and treatment of paper and cardboard packaging wastes in Sweden



In 2014, about 420,000 tons of paper and cardboard packaging waste underwent material recovery. For 111,000 tons, information on the type of recovery is lacking.

Waste paper amounts and usage for paper production

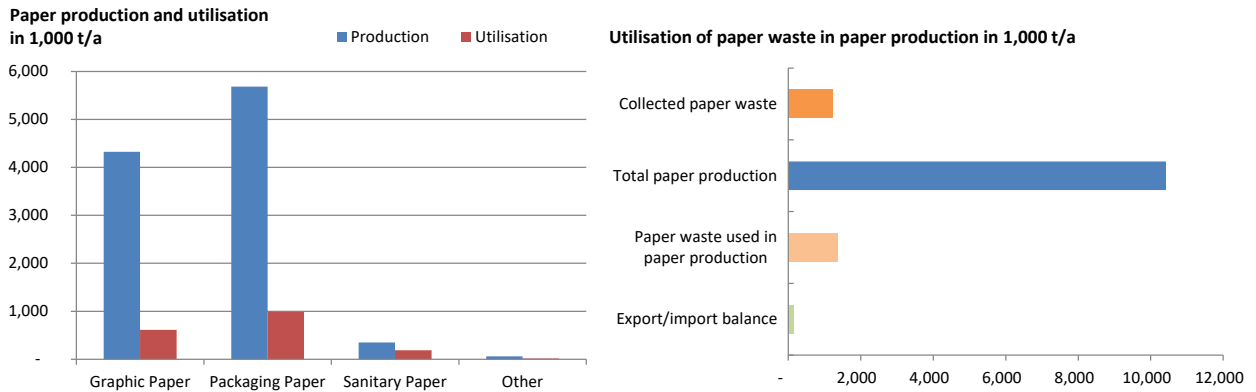
Sweden produced 10.4 million tons of paper in 2014. Throughout Europe, Germany is the only country with larger production capacities (around 22.5 million tons).

The vast forest areas and the low population density are the foundation of Sweden's strong paper and forestry industry. About 73% of the country is covered with forests and 80% of these areas are cared for in terms of forestry.

Paper production focuses on packagings and graphic papers as well as pulp. Sweden is an especially important raw material supplier of long-fibre pulp made from softwood. In 2015, the country exported about 540,000 tons of long-fibre pulp to Germany alone and thus is Germany's most important importer in this sector.

The Swedish paper industry mainly focuses on the use of pulp from domestic softwood and hardwood. Based on the country’s comparatively low population, only about 1.2 million tons of waste paper was collected in 2014 (about 500,000 tons of which was packaging material). The paper industry uses almost 100% of the produced waste paper.

Figure 135: Waste paper amounts and usage for paper production in Sweden



Paper consumption calculated from production, import and export figures, balance of trade for waste paper from export and import amounts, data for 2014, source: VDP

As the Swedish production capacities are very large, the industry only reaches a waste paper utilisation rate of 13% (2014). As importing waste paper hardly ever makes sense (in economic terms) because the domestically produced pulp can be used, Sweden does not import significant amounts of waste paper. The balance of trade shows that waste paper imports are exceeding exports by about 160,000 tons. These amounts mainly come from southern Norway.

Plants

By comparing several official sources, we were able to identify 87 plants the Swedish authorities classify as sorting plants.

We expect these sorting plants usually to sort all types of separately collected waste streams. For processing paper and cardboard wastes, most of them use impurity removal technology and balers. This is due to the fact that the separate collection system differentiates between newspapers as well as packagings and other papers. Furthermore, the quite large number of sorting plants with comparatively high capacities indicate the sorting of several material streams.

The statistics differentiate the plants by capacity classes. Whereas 80 plants have sorting capacities of over 10,000 annual tons, 5 belong to the category of 1,000 to 5,000 tons.

[...]

Market development

Poland reaches a market development index of 8.8 and thus is one of the most dynamic markets in this study.

This is based on the country's ambitious plans to further develop its separate waste collection system. The current bring system should be transitioned into a nationwide household collection system by 2022.

Through this change, an additional amount of about 480,000 annual tons of paper and cardboard wastes (rough estimation) will be made available for material recovery until 2025.

The voivodeships developed regional waste management plans, addressing the sorting of the separately collected MSW and defining concrete plans for expanding existing facilities or constructing new sorting capacities. These regional waste management plans were published in 2016 and 2017.

Figure 126: Project outlook Poland

plant name	country	throughput (t/a)	input category	start of operations	status
Chróścice	Poland	2,500	dry recyclables	2020	planned
Hajnówka 2	Poland	3,000	dry recyclables	2020	planned
Miasto Wysokie Mazowieckie	Poland	1,000	dry recyclables	2020	planned
Suwałki 3	Poland	20,000	dry recyclables	2020	planned
Wrocław 3	Poland	50,000	dry recyclables	2020	planned
Drohiczyn	Poland	9,000	dry recyclables	2021	planned
Bładzikowo	Poland	1,400	dry recyclables	2022	planned
Jędrzychowice	Poland	10,000	dry recyclables	2022	planned
[...]					

Source: Polish regional waste management plans 2016/2017

The plans provide for 56 newly constructed sorting plants for separately collected MSW, reaching an overall capacity of 872,000 annual tons. Most of these facilities should be able to sort several waste streams. Only the plants in Brodnica and Wrocław are planned to sort paper and cardboard wastes only.

As experience teaches, not all the projects envisaged in the waste management plans will be realised. However, the current projects are quite advanced, as responsible project executing organisations have already been appointed in most cases. For 50% of the projects, these are municipal disposal organisations. About 27 planned projects will be executed by private companies – Polish disposal companies, but also German disposers such as Remondis (3 plants) and Alba (1 facility). [...]

Competition

The operator segment in the UK is very open, in line with the liberal market traditions of the country. The two most important MRF operators are the internationally active companies Veolia and Suez. Both are headquartered in France.

Viridor is the largest national company and operates 8 MRFs, making it the most important national recycler in the UK.

Figure 163: Competition in the UK

Operator	Plants	Capacity in 1,000 t/a (MRF)
Veolia	23	1,900
Suez	19	1,100
Viridor	9	500
Biffa	9	1,000

Some numbers are based on information of the operators, some are estimations based on known plant characteristics. Some plants of some operators may not be included, especially because of different participations of the companies.

In 2010, British disposal company Biffa took over company Greenstar UK and therefore another 4 MRFs in the UK. Sutco Recycling Technik LM Group is the leading technology supplier of MRFs and equipped 13 of these plants (6 of which are operated by Veolia).

Plants in the UK

Allington / UK

Operator: Kent Enviropower Limited
 Group affiliation: FCC Environment
 Laverstoke Road
 ME16 0LE Allington
 Tel.: 0049 266162670
 www.fccenvironment.co.uk

Status: active
 Start of operation: 2008
 Throughput (t/a): 65.000
 Input: paper and cardboard, plastics, aluminium and metal cans, beverage cartons
 Input category: dry recyclables
 Main technical parts: single stream (automated and manual separation of source separated co-mingled waste), Proportion that is household recyclables: 100%, various belt conveyors, bunker belts and chain belt conveyors; Baler for recycles

Altens (Aberdeen) / UK

Operator: Suez UK
 Group affiliation: Suez
 AB12 3LG Altens

Status: active
 Start of operation: 2017
 Throughput (t/a): 60.000
 Input: paper, cardboard, aluminium cans, ferrous cans, plastics, beverage cartons
 Input category: dry recyclables
 Investment sum: GBP 27 million
 Main manufacturer: Bulk Handling Systems (BHS)
 Main technical parts: five BHS Tri-Disc screens, six NRT optical sorters, and a Nihot Single Drum Separator
 Remarks: The project will also include an RDF centre for converting residual waste into fuel blocks.
 [...]

Plants in Romania

[...]

Adjud / Romania

Operator: SC Vrancart SA
Str. Ecaterina Teodoroiu nr.17 Adjud
Tel.: 0040 237 640800
Fax: 0040 237 641720
www.vrancart.ro

Status: active
Throughput (t/a): 300 t/d
Input: paper, cardboard, glass, plastic, metals
(ferrous, non ferrous), wood
Input category: paper/cardboard and other waste

Remarks: This site is a paper mill that buys, collects and sorts waste paper and cardboard and uses it for paper production. According to the company's website it recycles over 30 % of the Romanian waste paper. Other types of waste than paper and cardboard are pressed into bales, granulated or co-incinerated if non-recyclable.

Arad / Romania

Operator: SC Metalcomp International SRL
Str. Câmpul Liniștii nr.1 Arad
Tel.: 0040 257 254251
Fax: 0040 257 229044
www.metalcomp.ro

Status: active
Input: paper, cardboard, plastic and metals
(ferrous, non ferrous)
Input category: paper/cardboard and other waste

Remarks: Paper and cardboard and aluminium cans are pressed into bales.

Baia Mare / Romania

Operator: SC Remat Maramureș SA
B-dul București nr.51 Baia Mare
Tel.: 0040 262 222661
Fax: 0040 262 225690
www.rematmm.ro

Status: active
Input: paper, cardboard, plastic and metals
(ferrous, non ferrous)
Input category: paper/cardboard and other waste
Main manufacturer: Baler: Presona
Main technical parts: Presona baler

Remarks: Paper and cardboard and plastic are sorted by types and qualities and pressed into bales.

Băile Tușnad / Romania

Operator: S.C. HeBo Plast S.R.L
Str. Avântului nr. 13B Băile Tușnad
Tel.: 0040 266 334776
Fax: 0040 266334776

Status: active
Input: paper, cardboard, plastic
Input category: paper/cardboard and other waste

Remarks: Paper and cardboard are pressed into bales, plastic is sorted, milled and used for extrusion.

Balotești / Romania

Operator: S.C. Ecoline Acvila S.R.L
Str. Unității nr.38 Balotești
Tel.: 0040 733 105889

Status: active
Input: paper, cardboard, plastic, non-ferrous metal
Input category: paper/cardboard and other waste

Remarks: Paper and cardboard and aluminium are pressed into bales, plastic is granulated.

Balș / Romania

Operator: SC Baby Magic Impex SRL
Str. Ion Creangă nr.5, Bl.17, ap. 30, Balș
Tel.: 0040 752 085803
Fax: 0040 249 451144

Status: active
Input: paper, cardboard, plastic, ferrous metals
and wood
Input category: paper/cardboard and other waste

Remarks: Paper and cardboard and metal are pressed into bales, plastic is milled and wood pallets are produced and reconditioned.

[...]

Plants in Germany

[...]

Augsburg 3 / Germany

Operator: AVA Abfallverwertung Augsburg GmbH
Am Mittleren Moos 60
86167 Augsburg
Tel.: 0049 821 7409 0
Fax: 0049 821 7409 100
www.ava-augsburg.de

Status: active
Input: paper, cardboard, bulk waste, municipal waste, biodegradable waste, wood glass, metals, electronic devices, tires
Input category: paper/cardboard and other waste
Main manufacturer: Entsorgungstechnik Bavaria GmbH

Bad Essen / Germany

Operator: Kastrup Recycling GmbH & Co. KG
Gewerbegebiet 2
49152 Bad Essen
Tel.: 0049 5472 95430 10
Fax: 0049 5472 95430 26
www.kastrup-recycling.de

Status: active
Throughput (t/a): 34.000
Input: paper, cardboard
Input category: paper/cardboard waste only

Remarks: Throughput (t/a): paper, cardboard: 34,000, scrap: 64,000, metals: 6,000, plastic: 3,500, commercial waste: 21,000. Total throughput (t/a): 130,000.

Bad Kreuznach / Germany

Operator: Weinand Recycling GmbH & Co. KG
Schwabenheimer Weg 3
55543 Bad Kreuznach
Tel.: 0049 671 8864 00
Fax: 0049 671 88640 40
www.weinand.de

Status: active
Input: paper, cardboard, glass, wood, plastic, construction waste, biodegradable waste, electronic waste, others
Input category: paper/cardboard and other waste

Bad Nauheim / Germany

Operator: Vetter's Containerservice GmbH
Feldbergstraße 4
61231 Bad Nauheim
Tel.: 0049 6032 910129
Fax: 0049 6032 910133
www.vetters-containerservice.de

Status: active
Input: paper, cardboard, plastic, construction waste, commercial waste
Input category: paper/cardboard and other waste
Main technical parts: Sorting unit for paper, cardboard, plastic, construction waste, commercial waste; horizontal baler

Bayreuth 1 / Germany

Operator: Bilsheim Recycling
Weiherstr. 37
95448 Bayreuth
Tel.: 0049 921 78919 0
Fax: 0049 921 78919 87
www.jean-bilsheim.com

Status: active
Throughput (t/a): 16.104
Input: paper, cardboard, packaging, tinfoil, aluminium, metal, others
Input category: paper/cardboard and other waste
Main manufacturer: Entsorgungstechnik Bavaria GmbH

Remarks: Plant throughput referred to accepted waste amounts from municipalities 2015.

[...]

Price and product information

You can order the market report here:

<https://www.ecoprogram.com/publikationen/abfallwirtschaft/papierrecycling/order-papiersortierung.htm>

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