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The RDF market in France

Background, producers, projects and market estimations

Extract

Cologne, January 2017

ecoprogram GmbH

The RDF market in France

With the 2015 law on the “Energy Transition for a Green Growth”, France has drastically changed its political attitude towards thermal waste treatment. Under this new legislation, the energy recovery of non-recyclable waste will be a major pillar of waste disposal as well as a key instrument to enlarge the share of renewable energy in France.

The new French policy unambiguously sets the focus of thermal waste treatment on pretreated waste that occurs from the sorting of different waste streams and in the form of refuse-derived fuel (RDF). This RDF comes from, amongst others, mechanical biological treatment (MBT) plants and materials recycling facilities (MRFs). Other waste infrastructures such as shredding plants or animal byproducts facilities may also be sources for RDF.

The RDF production in France should increase to more than 2 million tons per year due to a higher share of sorting residues used for RDF. This growth in RDF is accompanied by new renewable energy auctions dedicated to RDF power plants. In total, RDF combustion plants with a thermal capacity of more than 100 MW are to be supported until 2025. First RDF combustion projects are already being prepared.

Against this backdrop, ecoprogram has analysed the RDF market in France on the basis of a transparent methodology.

The market study “**The RDF market in France**” includes:

- A detailed analysis of the French legislation for waste management and renewable energy with a focus on RDF support schemes.
- An overview of the different waste streams in France and estimations on the future RDF amounts in the country.
- A list of nearly 700 waste infrastructure plants and projects that produce RDF or are by law intended to do so in the future. This mainly includes mechanical biological treatment Plants, household waste MRFs, C&I waste MRFs, shredding plants and animal byproducts facilities. Plant information (as far as this was available) includes details regarding owner, operator, capacities, start of operations and waste input.
- Evaluation of the market players active in the ownership and operation of these plants.
- Geographical preparation of possible RDF sources in the form of regional maps.

The study is available starting at **3,400,- € plus VAT**.

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The decree introduces a new ICPE category for RDF combustion plants (category n°2971). Vice versa, it modifies the section on non-hazardous waste thermal treatment plants (2771), non-hazardous waste treatment plants (2791) and other combustion plants (2910) insofar as it excludes RDF combustion from these categories.

Figure 12: ICPE plants allowed to prepare RDF

ICPE section	Description	Summary
2714	Transit, grouping or sorting facilities of non-hazardous waste of paper/cardboard, plastics, rubber, textiles, wood	Sorting plants for private or household separately collected waste
2716	Transit, grouping or sorting facilities of non-inert non-hazardous waste	Sorting plants for mixed C&I waste or mixed household waste
2731	Storage or transit facilities of animal by-products	Animal byproduct transit plants
2782	Facilities for biological treatment of non-hazardous waste other than composting/stabilisation plants and anaerobic digestion plants	MBT plants with rotating dryers or the otherwise commonly called biological stabilisation reactor (BRS) technology
2791	Shredding plants (metals, plastics, wood, glass, unsorted waste, etc.) Centrifugation facilities for used cooking oils and greasy waste (e.g. animal fat, bone meal, etc.) Facilities treating their own waste before disposal	Shredding plants Oil treatment plants Overall treatment plants

As for the new RDF combustion plant category, it regards RDF mono-combustion plants and co-incineration plants using biomass and biogas (which will essentially be a gasification plant)¹. The biomass allowed for co-incineration is plant waste from the food processing industry, virgin pulp and paper industry and untreated wood waste. On the other hand, the biogas should come from wastewater treatment plants, animal waste and the fermentable fraction of household waste. The RDF plants may be integrated in a manufacturing process (e.g. industrial, agricultural) or an urban heating network.

Within the same decree, the term refuse-derived fuel is defined (...).

The processing of waste as RDF is regulated by the Ministerial Order² implemented on 26 May 2016. It describes the precise chemical and physical characteristics of RDF and the list of plants that are allowed to produce RDF.

¹ The specific biomass and biogas sources are the same as those authorised under ICPE 2910.

² Arrêté du 23 mai 2016 relatif à la préparation des combustibles solides de récupération en vue de leur utilisation dans des installations relevant de la rubrique 2971 de la nomenclature des installations classées pour la protection de l'environnement.

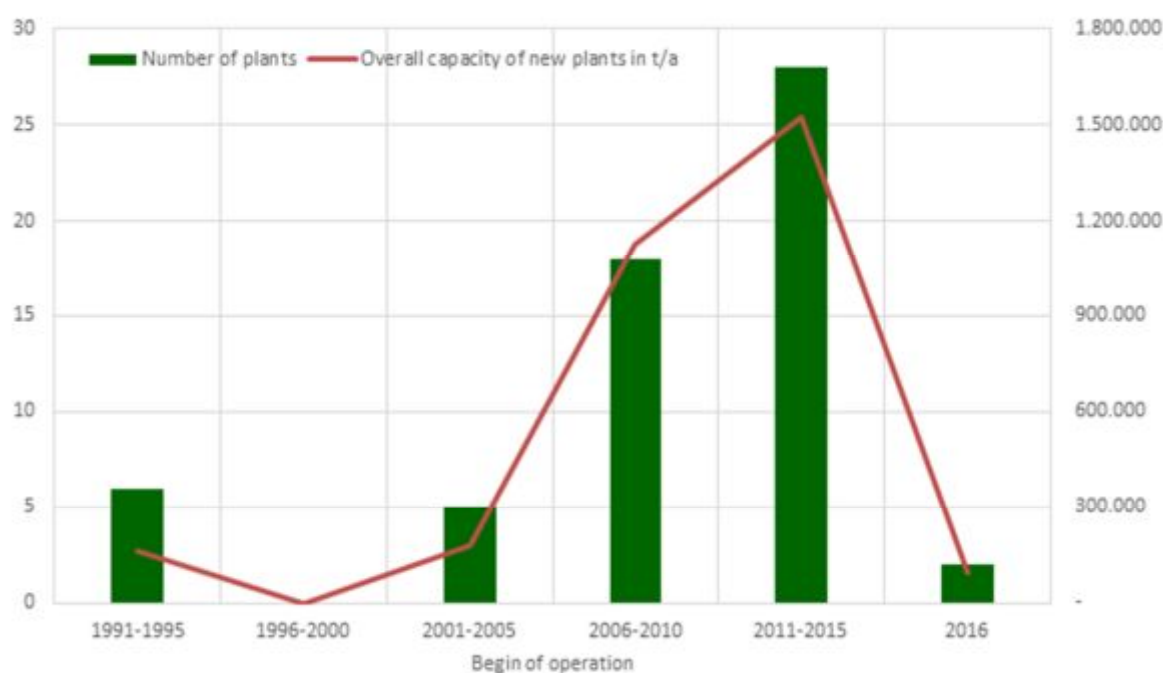
Eventually, the output of this treatment is 100% organic and it is easy to market this material as compost.

Almost all plants are currently using (aerobic) composting (rotting) or anaerobic digestion (AD) technologies. Again, a plant's function significantly determines which technology to apply. Other market factors are important as well, for instance marketing a plant's output as compost or obtaining subsidies (e.g. feed-in tariffs) for generating electricity in an AD unit.

Waste air purification is mainly based on national emission limits, also within the EU. Some countries have specific limits for MBT plants; others have not yet introduced such restrictions. MBT plants primarily emit dusts, germs, odours and other gaseous organic substances, such as solvents.

Other supporting processes may include wastewater treatment, drying, temporary storage and commissioning.

Figure 33: Age of active MBT plants



Graph: ecoprogram

6.2 Current asset

(...)

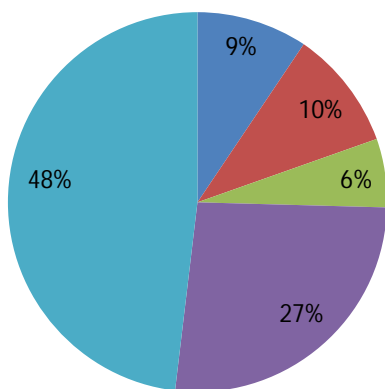
While the differences between any one MBT plant and the other may vary significantly, the technical capacity of most facilities ranges between 20,000 to 90,000 tons per year. The average

The geographical characteristics of the catchment area also influence the sorting residues. The more urbanised a region, the higher the share of waste residues in the input stream mainly due to the relative accessibility of waste collection points, which are often far from the residence of the inhabitants compared to other regions. This share also increases when the sorting centre mainly receives multimaterial waste streams, which are collected for the most part in urban regions.

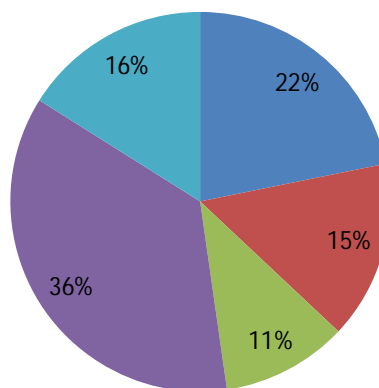
The capacities of existing sorting plants³ treating household waste are very diverse. On the upper end of the capacity range, plants with capacities above 60,000 tpy⁴ are outliers since the treatment of bulky waste and/or waste from C&I activities constitutes a much larger share in the treatment capacity compared to other plants. For instance, the sorting plant in Gennevilliers has a total authorised capacity of 545,000 tpy, only 35,000 tpy of which is for the treatment of separately collected household waste. However, these plants should still be considered in the household sorting plants category as they are categorised as such according to the SINOE database of French Environment Agency ADEME.

Figure 41: Market share in the household waste MRFs

Ownership, share in number of plants



Ownership, share in capacities

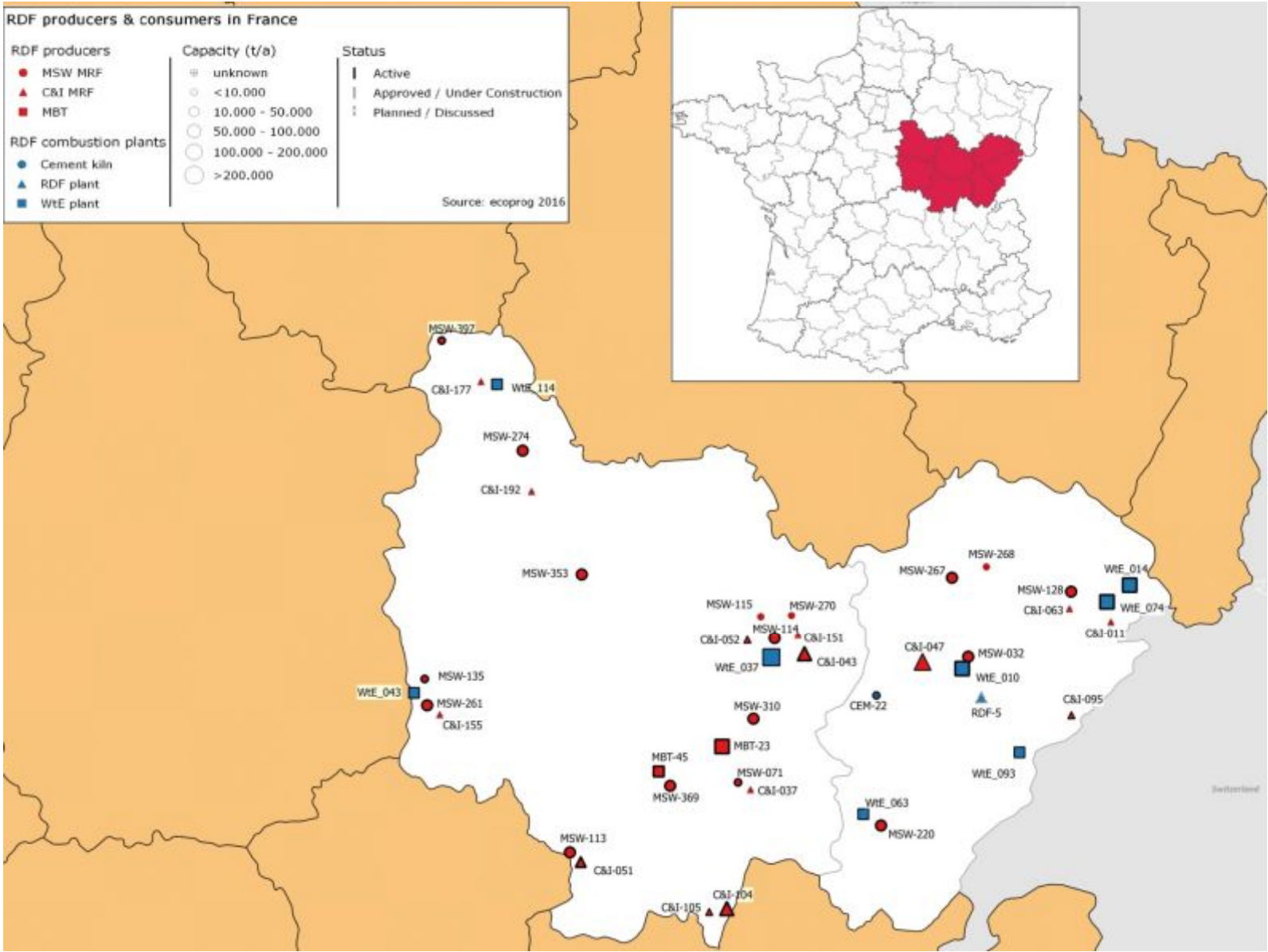


Please find full data in report

The number of sorting centres has considerably increased with the development of selective waste collection schemes in France since 1992. According to the group Eco-Emballages, there were only 26 sorting centres covering 2.8 million inhabitants in 1994, while today the whole population is connected to a separate waste collection/sorting scheme.

³ Data only available for 311 plants.

⁴ This number was taken as a reference since the largest sorting plant for separately collected household waste in France has only recently started operations, in September 2016. The latter (Centre de tri Trivalo Paprec Bretagne) is located in the town of Rheu and was built by Paprec after winning a tender call from the municipality.



MBT-39

Amiens

Status: active
Capacity (t/a): 94.000
2014

Owner

Amiens Métropole
BP 2720
80027 Amiens
Tel.: +33 3 22 97 40 40
Fax: +33 3 22 97 42 53

Operator

IDEX Environnement Picardie
14 Rue de la Croix de Pierre
80080 Amiens
Tel.: +33 3 22 67 34 00

Remarks: The generated steam is sold to the industry. The Amiens plant also consists of a biogas plant with 4 digesters (3 x 2,400 m³, 1 x 3,500 m³). It produces 15,000 tpy of agricultural compost.

MBT-23

Amilly

Status: active
Capacity (t/a): 29.000
1991

Owner

SMIRTOM Région Montargis
2 rue du President Francklin Roosevelt
45203 Montargis
Tel.: +33 (0)2 38 95 02 02

Operator

Sita
15 route du bassin n°5
92230 Gennevilliers
Tel.: +33 01 55 17 15 00
Fax: +33 (0)1 55 17 15 01
michel.brun@sita.fr

MBT-7

Andrézieux-Bouthéon

Status: discussed
Capacity (t/a): 60.000

Owner

Syndicat mixte zain loire sud
2, rue Charles de Gaulle

42022 Saint-Étienne

Remarks: The project aims to reduce landfilling in the region and should also utilize waste from Montbrison and Saint-Étienne.

MBT-37

Arras

Status: planned
Capacity (t/a): 35.000
2017

Owner

Syndicate Mixed Artois Valorisation
19 Boulevard de Strasbourg
62000 Arras

Operator

Suez Environnement
Tour CB21 16, place de l'Iris
Paris la Défense Codex
Tel.: +33 (0)1 58 81 20 00
Fax: +33 (0)1 58 81 25 00

MBT-32

Aspach le Haut

Status: active
Capacity (t/a): 75.000
2011

Owner

Syndicat Mixte Secteur 4
14 rue raymond poincare
68700 Cernay
Tel.: +33 (0)3 89 82 22 50

MBT-82

Aubagne

Status: discussed
Capacity (t/a): 45.000

Owner

CA du Pays d'Aubagne et de l'Etoile
Z.I. Les Paluds 932 avenue de La Fleuride
13400 Aubagne
Tel.: +33 4 42 62 80 00
Fax: +33 4 42 62 85 24

Remarks: Preliminary studies underway.

SB-140

Alizay

Centre de Tri Alizay Npc
Route de Manoir, Zi le Clos Pré
27460 Alizay

Status: active

Waste input: C&I waste, Household biowaste,
Mixed non-hazardous C&I Waste , Construction &
demolition waste, Bulky waste(without metallic w),
Plastic waste, Paper & cardboard waste, Ferrous
metal waste

Capacity (t/a): 58.538

Start of operation: 01.01.1980

Owner

Negoce Papiers Cartons
Route du Manoir, Zi le Clos Pré Bp 32
27460 Alizay
Tel.: 02 35 23 19 26
Fax: 02 35 02 02 63
virginie.duchaussoir@yahoo.fr

Operator

Negoce Papiers Cartons
Route du Manoir, Zi le Clos Pré Bp 32
27460 Alizay
Tel.: 02 35 23 19 26
Fax: 02 35 02 02 63
virginie.duchaussoir@yahoo.fr

SB-87

Amiens

Tri Amiens (dib)
21 Rue du Fief, Espace Industriel Nord
80046 Amiens

Status: active

Waste input: C&I waste, Household and
assimilated waste, Wood waste

Capacity (t/a): 123.450

Start of operation: 01.01.1995

Owner

Veolia Propreté Nord Normandie - Amiens
(valnor)
21 Rue du Fief, Espace Industriel Nord
80046 Amiens
Tel.: 03 22 54 26 09
Fax: 03 22 54 26 21
philippe.herdhebaut@veolia.com

Operator

Veolia Propreté Nord Normandie - Amiens
(valnor)
21 Rue du Fief, Espace Industriel Nord
80046 Amiens
Tel.: 03 22 54 26 09

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Fax: 03 22 54 26 21

philippe.herdhebaut@veolia.com

SB-96

Amiens

Centre de Tri Amiens
Rue du Canal
80000 Amiens

Status: active

Waste input: C&I waste, Mixed non-hazardous
C&I Waste

Capacity (t/a): 10.000

Start of operation: 11.03.1993

Owner

VIDAM
128, rue Sully
80000 AMIENS
Tel.: 0322666660
Fax: 0322666661

Operator

VIDAM
128, rue Sully
80000 AMIENS
Tel.: 0322666660
Fax: 0322666661

SB-158

Angoumé

Centre de Tri Angoumé
Rue du Potier
40990 Angoumé

Status: active

Owner

Sita Sud Ouest - Pessac 33
20, Avenue Gustave Eiffel, Bp 184
33607 PESSAC CEDEX
Tel.: 05 57 26 18 81
Fax: 05 57 26 18 88

Operator

Sita Sud Ouest - Pessac 33
20, Avenue Gustave Eiffel, Bp 184
33607 PESSAC CEDEX
Tel.: 05 57 26 18 81
Fax: 05 57 26 18 88

SB-109

Argenteuil

Centre de Tri Dae Argenteuil

Plant register

Ablis, MSW-001	101	Aucamville, C&I-010	216
Achères, MSW-002	101	Auch, MSW-021	105
Aigueblanche, MSW-003	101	Auch, MSW-022	106
Aire-sur-la-Lys, MSW-004	101	Audincourt, C&I-011	216
Airvault, CEM-01	348	Aurillac, MSW-023	106
Albens, MSW-005	101	Avion, C&I-012	217
Alès, MSW-006	102	Badaroux , MBT-07	78
Alizay, C&I-001	214	Bapaume, MBT-08	78
Altkirch, CEM-02	348	Bayeux, MBT-09	78
Ambérieu-en-Bugey, MSW-007	102	Bayonne, MBT-10	78
Amiens, MBT-01	77	Bayonne, MSW-024	106
Amiens, MSW-008	102	Beaucaire, CEM-03	348
Amiens, C&I-002	214	Beaucaire, MBT-11	79
Amiens, C&I-003	214	Beaucaire, MSW-025	106
Amilly, WtE-001	307	Beauchamp, MSW-026	107
Amilly, MBT-02	77	Beaupreau, MBT-12	79
Andrezé, MSW-009	102	Beaurainville, MSW-027	107
Andrézieux-Bouthéon, MBT-03	77	Beauregard Baret, MBT-13	79
Andrézieux-Bouthéon, MSW-010	103	Beffes, CEM-04	348
Anglet, MSW-011	103	Bègles, WtE-006	308
Angoumé, C&I-004	215	Bègles, MSW-028	107
Annecy, MSW-012	103	Bègles, MSW-029	107
Antibes, WtE-002	307	Beine-Nauroy, MSW-030	108
Anzin, MSW-013	103	Bellac, MBT-14	79
Arçonnay, MSW-014	104	Bellegarde-sur-Valserine, WtE-007	308
Argentat, MSW-015	104	Bellentre, WtE-008	309
Argenteuil, WtE-003	307	Belloy-en-France, C&I-013	217
Argenteuil, MSW-016	104	Bénesse Maremne, WtE-009	309
Argenteuil, C&I-005	215	Bergheim, MSW-031	108
Arlès, MSW-017	104	Berville-sur-Seine, C&I-014	217
Arnage, C&I-006	215	Besançon, WtE-010	309
Arnas, C&I-007	215	Besançon, MSW-032	108
Arpajon-sur-Cère, C&I-008	216	Bessancourt, C&I-015	217
Arques, WtE-004	307	Bessières, WtE-011	309
Arques, MSW-018	105	Bessières, MSW-033	108
Arrabloy, WtE-005	308	Béthune, C&I-016	217
Arras, MBT-04	78	Betting, C&I-017	218
Aspach le Haut, MBT-05	78	Béziers, MBT-15	79
Aspach-le-Haut, MSW-019	105	Béziers, C&I-018	218
Athis-Mons, C&I-009	216	Blanquefort, C&I-019	218
Aubagne, MBT-06	78	Blaringhem, MBT-16	80
Aubagne, MSW-020	105		

Price and product information

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