

CEWEP



2016

Country Report: Belgium (Flanders + Brussels + Wallonia)

“Municipal Waste” (MW) means waste from households as well as commercial, industrial and institutional waste, which because of its nature and composition is similar to waste from households (excluding hazardous waste).

“Solid Recovered Fuels” (SRF):- solid fuel prepared from non-hazardous waste to be utilised for energy recovery in incineration or co-incineration plants, and meeting the classification and specification requirements laid down in CEN/TS W100343003.

“Refuse Derived Fuels” (RDF): broader than definition of SRF. In the Country Report only RDF expression is used and it comprises SRF as well.

A. Amount of Waste

In your <u>country</u>	Year ____	In million tonnes
Total amount of Municipal Waste (MW): MW production / inhabitant / year: ____ kg/inhabitant		
Total amount of household waste	2014	FL: 3.167 BR: 0.494 <u>WA: 1.64</u> BELGIUM:5.301
Total amount of commercial/industrial/institutional waste similar to household waste		

Total amount of industrial/commercial waste		
Total amount of waste		

B. Treatment of Waste

In your <u>country</u> (concerning HOUSEHOLD WASTE)	%	Year 2014	In million tonnes
Recycling (including composting)	FL:65.01 BR:33.2 <u>WA:63.60</u> BE: 61.61		FL:2.059 BR:0.164 <u>WA:1.043</u> BE: 3.266
Incineration	FL:29.14 +0.1.9 %MBT BR:66.40 <u>WA:34.15</u> BE:34.16		FL:0.923 (+ 0.061 MBT) BR:0.328 <u>WA: 0.560</u> BE: 1.811
Landfilling	FL:3.92 BR:0.40 <u>WA:2.26</u> BE:3.07		FL:0.124 BR:0.002 <u>WA:0.037</u> BE: 0.165

Total Amount of thermally treated waste in million tonnes	Country	Organisation/ Company 2014
In WtE plants/dedicated RDF plants	3.330	2.643
In Cement kilns		

Number of	Country	Organisation/ company
WtE plants	17	14
Dedicated RDF plants	2	0
R1 plants	17	14

Capacity development in your country	Years			
	2017 – 2020		2021 – 2025	
	Additional Capacity, ktonnes	Additional number of plants	Additional Capacity, ktonnes	Additional number of plants
Planned Waste-to-Energy plants:	110	Replacement and extension of existing plant		
Planned RDF plants:				
All (if it is not possible to specify separately)				

C. Energy production in Waste-to-Energy and dedicated RDF plants

1. Total Electricity and Heat production in Waste-to-Energy and dedicated RDF plants

Reference year: 2014 (if data from 2015 are available, please add them and specify the year)

Total Electricity and Heat production	Waste-to-Energy plants and dedicated RDF plants	
	Country	Organisation/company 2014
Reference amount of thermally treated waste in million tonnes:		2.643
Number of plants:		14
Electricity produced in million MWh/ year		1.448
Electricity exported in million MWh/ year		1.171
Heat* produced in million MWh/ year		1.266
Heat* exported in million MWh/ year		0.316

* incl. heating, cooling and steam

2. Recognition of energy produced in Waste-to-Energy and RDF plants as renewable

How much %? (Please indicate if it refers to energy production or waste input:

- FL: 47.78 % of the electricity production
 - o new % were calculated (C14) in 2015 for different types of waste (household waste 58 %, industrial waste 54.4 %, RDF 48.1 %, sludges 95 %, but no political will to apply them)
- WA : the amount of renewable energy is calculated every three month (the calculation is based on the amount and composition of waste)
- BR: 47.8 % of the electricity production

Contribution of WtE to the production of renewable energy in your country (%) no info

In your <u>country</u>	Electricity	Heat
Market price per kWh in €cent/kWh - 2014	FL: 4 BR: no sale of electricity (only heat) WA: 4.5	FL: 2.7 BR: 2.2 WA: 2.5
Subsidy or market based instruments (Please specify e.g. green certificates, feed in tariffs)	FL: green certificates : 4-4.5 BR: start contribution of GC in 2015 WA: guarantee of origin: +/- 0.15 €/MWh	FL: Call system (investment subsidie)
Price incl. subsidy or market based instruments in €cent/kWh		

D. Residues

Reference year: 2014 (if data from 2015 are available, please add them and specify the year)

Slag/bottom ash	Country	Organisation/company
Annual amount in million tonnes:		0.500
Method of utilisation or disposal (%): (road construction, cement production, construction block fabrication, landfill)		Dry and wet bottom ash treatment Use of granulates as secondary built material
Recovery of metals: <ul style="list-style-type: none"> • Annual amount (%): • Ferrous (F) material extracted (gross weight, %): • Non Ferrous (NF) material extracted (gross weight, %): • Typical composition of the NF fraction (% Al, other NF, inert): 		Ferrous: 2014 : 35 517 tonnes Non Ferrous: 2014:4 621 but both <u>underestimated</u> (some info not available)

FGC (Flue Gas Cleaning) residues, (incl. filter dust and boiler ash)	Country	Organisation/company
Annual amount in million tonnes:		2014:89 834 tonnes (fly ashes + residues of FGT + filtercakes)
Method of treatment or disposal (e.g. stabilisation, salt mine, hazardous landfill site):		Solidification and landfill hazardous waste Valorisation of FA in salt mines Recycling salts in Bicarbonate.

E. Export and Import of MUNICIPAL and SIMILAR WASTE

Into/from your country, reference year: 2014 (if data from 2015 are available, please add them and specify)

	MSW	RDF
Export	FL: 46 583 tonnes WA: 77259 (MSW + RDF)	FL: 22684 tonnes BR: 4506 tonnes
Import	No info	No info

F. Responsibilities Public - Private

Type of waste:	Responsibility for <u>treatment</u> : Public/Private	Responsibility for <u>collection and transport</u> : Public/Private	Municipalities' responsibility for <u>monitoring</u> : Yes/No
from private households	FL & WA : public (sometimes outsourced) BR: public/ppp	BE : public (sometimes outsourced)	BE: yes
commercial waste similar to household waste	FL: private BR & WA: private, public or ppp	FL: private BR & WA: private or public	FL: no BR: yes/no WA: yes for public treatment
industrial/commercial waste	FL: private BR: public or private WA: private or ppp	FL & WA: : private BR: public or private	FL & WA: No BR: yes/no
hazardous waste	FL: public for the hazardous part of municipal waste / private for the hazardous part of industrial waste WA: idem FL + ppp for hospital hazardous waste BR: private	FL & WA: private BR: public for the hazardous part of municipal waste / private for the hazardous part of industrial waste	BE: Yes for the hazardous part of municipal waste

G. Refuse Derived Fuels (RDF)

In your country, reference year: _____

1. **Amount of RDF/year**
 - a. **Current Production:** _____
 - b. **Potential:** _____
2. **Experience (market development etc.):** _____
3. **Capacity for mechanical-biological treatment/ year**
Currently: 150 kton
Planned: 0

H. Prices and taxes

1. Waste-to-Energy prices for Municipal Waste (MW)

Reference year: 2014

Average Net fee in €/tonne	VAT (Value Added Tax) rate %
FL: household waste 60-130 €/t – commercial waste: 99 (low calorific- 92 (high calorific) BR: commercial: 85-100 €/t WA: household waste: 60-130/t – commercial waste 85-100 €/t (taxes included but VAT not included)	21 %

	Tax in €/tonne MW	Tax for export in €/tonne MW	Tax for import in €/tonne MW	Rules to avoid double taxation if MS of destination and of dispatch have taxes	Comments
Incineration	FL: Private incineration: 5.73 (+ max 20 % local taxes) Public incineration: 8.18 BR: 6 WA 9.89	FL: Private incineration: 5.73 (+ max 20 % local taxes) Public incineration: 8.18 BR 6 WA 9.89	FL: Private incineration: 5.73 (+ max 20 % local taxes) Public incineration: 8.18 BR 6 WA 9.89	FL: Non bis in idem	
Co- Incineration	FL: Private incineration: 5.73 (+ max 20 % local taxes) Public incineration: 8.18 BR: NA WA : 0	FL: Private incineration: 5.73 (+ max 20 % local taxes) Public incineration: 8.18 BR :NA WA : 0	FL: Private incineration: 5.73 (+ max 20 % local taxes) Public incineration: 8.18 BR: NA WA : 0		

Waste-to-Energy total price in €/tonne MW _____

2. Landfill taxes and bans

Reference year: 2014

Average Net fee for landfilling in €/tonne	VAT (Value Added Tax) rate %	Landfill tax in €/tonne (If landfill tax is planned please indicate when and the amount planned)	Total price for landfilling €/tonne MW	Landfill ban (If landfill ban is planned please indicate when and for what type of waste)
FL: +/- 50 € for household waste, 38 € for commercial waste BR: NA WA : +/- 40 €/t		2013: - Combustible waste-public landfill:87.62 - Comb. Waste-private landfill: 61.34 (+ max 20 % local taxes) - Non-combustible waste – public landfill: 46.73 - Non-comb waste – private landfill: 32.72 (+ max 20 % local taxes) BR: NA WA: 75.71 €/ton (some exceptions)		Landfill ban since 2006 for combustible household waste + landfill ban for industrial/commercial waste but exceptions possible until 2015 BR: NA WA : landfill ban for household waste, organic waste, bulky waste, bottom ash ...

I. Investment

1. The average investment cost per tonne of annual capacity (for a new plant, considering 15-20 years operation):
2. Investment cost regarding flue gas cleaning system (% of total investment):
3. The average investment cost per MW heat and electricity installed respectively:

J. Employment

The amount of employment created by the Waste-to-Energy industry

Jobs (full time equivalent) per WtE plant including operation process, administration and outsourced personnel hired on regular basis i.e. during maintenance (reference to total capacity): _____

You can also provide this information in another unit, e.g. jobs per 100,000 t/a capacity