CEWEP
Country Report
2016

Hungary

"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 WI00343003.

"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 2014	In million tonnes
Total amount of Municipal Waste (MW): **MW production / inhabitant / year: _____ kg/inhabitant**		3.795
Total amount of household waste		3.136
Total amount of commercial/industrial/institutional waste similar to household waste		0.659

Total amount of industrial/commercial waste		
Total amount of waste		

B. Treatment of Waste

In your <u>country</u> (concerning MW)	%	Year 2014	In million tonnes
Recycling (including composting)	31.2		1.159
Incineration	10		0.372
Landfilling	58.8		2.181

Total Amount of thermally treated waste in million tonnes	<u>Country</u>	<u>Organisation/ company</u>
In WtE plants/dedicated RDF plants		2014: 0.378 2015: 0.377
In Cement kilns		

Number of	<u>Country</u>	<u>Organisation/ company</u>
WtE plants		1
Dedicated RDF plants		
R1 plants		1

Capacity development in your <u>country</u>	Years			
	2017 – 2020		2021 – 2025	
	Additional Capacity, ktonnes	Additional number of plants	Additional Capacity, ktonnes	Additional number of plants
Planned Waste-to-Energy plants:			500	1
Planned RDF plants:			200	2

All (if it is not possible to specify separately)				

<table>
<tr><td colspan="5" align="center">**C. Energy production in Waste-to-Energy and dedicated RDF plants**</td></tr>
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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	
	<u>Country</u>	<u>Organisation/company</u>
Reference amount of thermally treated waste in million tonnes:		2014: 0.378 2015: 0.377
Number of plants:		**1**
Electricity produced in million MWh/ year		2014: 0.161 2015: 0.154
Electricity exported in million MWh/ year		2014: 0.132 2015: 0.129
Heat* produced in million MWh/ year		2014: 0.209 2015: 0.220
Heat* exported in million MWh/ year		2014: 0.147 2015: 0.158

* 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): _50%_____

Contribution of WtE to the production of renewable energy in your country (%) _____

In your <u>country</u>	Electricity	Heat
Market price per kWh in €cent/kWh	4 €cent/kWh	1.32 €cent/kWh
Subsidy or market based instruments (Please specify e.g. green certificates, feed in tariffs)	no subsidy	no subsidy
Price incl. subsidy or market based instruments in €cent/kWh		

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<tr><td colspan="3" align="center">**D. Residues**</td></tr>
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Reference year: 2014 (if data from 2015 are available, please add them and specify the year)

Slag/bottom ash	<u>Country</u>	<u>Organisation/company</u>
Annual amount in million tonnes:		2014: 0.077 2015: 0.084
Method of utilisation or disposal (%): (road construction, cement production, construction block fabrication, landfill)		landfill
Recovery of metals: • Annual amount (%): • Ferrous (F) material extracted (gross weight, %): • Non Ferrous (NF) material extracted (gross		2014 F:0.012 2015 F:0.005 separation system under reconstruction

weight, %): • Typical composition of the NF fraction (% Al, other NF, inert):		

FGC (Flue Gas Cleaning) residues, (incl. filter dust and boiler ash)	Country	Organisation/company
Annual amount in million tonnes:		2014: 0.0117 2015: 0.0114
Method of treatment or disposal (e.g. stabilisation, salt mine, hazardous landfill site):		hazardous landfill site

E. Export and Import of MUNICIPAL and SIMILAR WASTE

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

	MSW	RDF
Export		
Import		

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	Public/Private	Public	Yes
commercial waste similar to household waste	Public/Private	Public	No
industrial/commercial waste	Public/Private	Public/Private	No
hazardous waste	Public/Private	Public/Private	No

G. Refuse Derived Fuels (RDF)

In your <u>country</u>, 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: _____

    Planned: _____

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

Reference year: __2014_____

Average Net fee in €/tonne	VAT (Value Added Tax) rate %
55	**27**

	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	-				
Co-Incineration	-				

Waste-to-Energy total price in €/tonne MW __55 + VAT_____

2.   Landfill taxes and bans

Reference year: __2014___(FKF Zrt Budapest)___

Average Net fee for landfilling in €/tonne	VAT (Value Added Tax) rate %	Landfill <u>tax</u> in €/tonne (If landfill tax is planned please indicate when and the amount planned)	Total price for landfilling €/tonne MW	Landfill <u>ban</u> (If landfill ban is planned please indicate when and for what type of waste)
41	**27**	**19**	**60 + VAT**	

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:

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): ___160_____

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