

# **CEWEP Country Report 2016**

**Ireland**



“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 2012*	In million tonnes
<b>Total amount of Municipal Waste (MW): MW production / inhabitant / year: 344 kg/inhabitant</b>		2.692537
Total amount of household waste		1.362900
Total amount of commercial/industrial/institutional waste similar to household waste		1.115437

<b>Total amount of industrial/commercial waste</b>		0.222666
<b>Total amount of waste</b>		2.701003

\*data from 2012, 2014 national data not available until June 2016.

#### B. Treatment of Waste

In your <u>country</u> (concerning MW)	%	Year 2012*	In million tonnes
<b>Recycling (including composting)</b>	39		0.984704
<b>Incineration</b>	17		0.427093
<b>Landfilling</b>	41		1.027577

\*data from 2012, 2014 national data not available until June 2016.

<b>Total Amount of thermally treated waste in million tonnes 0.427093</b>	<u>Country</u>	<u>Organisation/ company</u>
In WtE plants/dedicated RDF plants	Republic of Ireland	Indaver Ireland Limited
In Cement kilns	Republic of Ireland	Lagan Cement Limited Irish Cement Limited Quinn Cement

<b>Number of</b>	<u>Country</u>	<u>Organisation/ company</u>
WtE plants	1	Indaver Ireland Limited
Dedicated RDF plants	n/a	n/a
R1 plants	4	Indaver Ireland Limited, Lagan Cement Limited, Irish Cement Limited, Quinn Cement

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:	840	2	-	-
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 - Republic of Ireland	Organisation/company
Reference amount of thermally treated waste in million tonnes:	0.228773 2014 0.227524 2015	Indaver Ireland Limited
Number of plants:	1	Indaver Ireland Limited
Electricity produced in million MWh/ year	0.145220 MWh/year 2014 0.151608 MWh/year 2015	Indaver Ireland Limited
Electricity exported in million MWh/ year	0.129298 MWh/year 2014 0.134445 MWh/Year 2015	Indaver Ireland Limited
Heat* produced in million MWh/ year	n/a	n/a
Heat* exported in million MWh/ year	n/a	n/a

\* 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): 52.6

Contribution of WtE to the production of renewable energy in your country (%) 4.2

In your <u>country</u>	Electricity	Heat
Market price per kWh in €cent/kWh	7.796	n/a
Subsidy or market based instruments (Please specify e.g. green certificates, feed in tariffs)	Renewable feed in tariff	n/a
Price incl. subsidy or market based instruments in €cent/kWh	7.934	n/a

## D. Residues

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

<b>Slag/bottom ash</b>	<b>Country</b> Republic of Ireland	<b>Organisation/company</b> Indaver Ireland Limited
<b>Annual amount in million tonnes:</b>	0.033454 2014 0.033922 2015	Indaver Ireland Limited
<b>Method of utilisation or disposal (%):</b> (road construction, cement production, construction block fabrication, landfill)	Landfill – used for capping	Indaver Ireland Limited
<b>Recovery of metals:</b> <ul style="list-style-type: none"> <li>• Annual amount (%):</li> <li>• Ferrous (F) material extracted (gross weight, %):</li> <li>• Non Ferrous (NF) material extracted (gross weight, %):</li> <li>• Typical composition of the NF fraction (% Al, other NF, inert):</li> </ul>	20.3% (2014) 15.53%(2015)  1.18% (2014) 2.16% (2015)  53% Al, 11.3% mixed (2014) 53.3% Al, 15.6% mixed (2015)	Indaver Ireland Limited

<b>FGC (Flue Gas Cleaning) residues, (incl. filter dust and boiler ash)</b>	<b>Country</b> Republic of Ireland	<b>Organisation/company</b> Indaver Ireland Limited
<b>Annual amount in million tonnes:</b>	0.010136 2014 0.012382 2015	Indaver Ireland Limited
<b>Method of treatment or disposal</b> (e.g. stabilisation, salt mine, hazardous landfill site):	Salt mine	Indaver Ireland Limited

## 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)

	<b>MSW</b>	<b>RDF</b>
<b>Export</b>	120,267.24 Tonnes	7210.685 Tonnes
<b>Import</b>	75.70 Tonnes	114.72 Tonnes

## F. Responsibilities Public - Private

<b>Type of waste:</b>	<b>Responsibility for treatment:</b> Public/Private	<b>Responsibility for collection and transport:</b> Public/Private	<b>Municipalities' responsibility for monitoring:</b> Yes/No
from private households	Private	Private	Yes
commercial waste similar to household waste	Private	Private	No
industrial/commercial waste	Private	Private	No
hazardous waste	Private	Private	No

## G. Refuse Derived Fuels (RDF)

In your country, reference year: 2014

1. **Amount of RDF/year**
  - a. **Current Production:** Data not available
  - b. **Potential:** Growing
2. **Experience (market development etc.):** Growing, but waste also exported as 20 03 01 (baled MSW)
3. **Capacity for mechanical-biological treatment/ year**

**Currently:** Separate MT and BT operation but no MBT

**Planned:** None

## 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 %
90-110	13.5%

	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	n/a	n/a	n/a		
Co-Incineration	n/a	n/a	n/a		

Waste-to-Energy total price in €/tonne MW 102.15 – 124.85 €/tonne

### 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)
€94	13.5	€75	€182	Limit in BMW intake

## I. Investment

1. The average investment cost per tonne of annual capacity (for a new plant, considering 15-20 years operation): 600-800k euro/t
2. Investment cost regarding flue gas cleaning system (% of total investment): 50-60%
3. The average investment cost per MW heat and electricity installed respectively: 700-900k/MW

## 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):

Approx. 180 people employed by Indaver Ireland during 2014.

During construction Dublin WtE will employ up to 750 people, construction started in 2015.