

v01.00.000

v01.01.001

v02.00.000

v03.00.000

Generic

Short name

Waste incineration of municipal solid waste (MSW); Europe, RER

Complete name

Waste incineration of municipal solid waste (MSW); without collection, without energy recovery; technology mix, at incinerator plant; Europe, RER

Ecobilan identifier	External identifier	Version	Internal reference
CODDE-2793	e89d0a5f-149c-459e-9712-bfb7265410ab	03.00.000	335dac57-817d-4df3-ba1d-f49644e878e3
Type	Process with material	Configurable dataset	Date of availability
Process	No	No	2025 04 14
Category	Activity Type	Sectors	
Non Hazardous Wastes - Municipal Solid Wastes	Not applicable	Waste Treatment & Recycling	

Information

Impact indicators

Inputs/Outputs

Process information

Description

This data set represents the activity of non-hazardous waste disposal in a municipal solid waste incinerator (MSWI). Included activities starts: waste incineration from waste reception gate and delivery into waste bunker at incinerator plant site (without transports to the incinerator). Included activities ends: emission to air from flue-gas treatment and emissions to water from landfill (leachate). Waste composition (in weight): 32.2% of biodegradable wastes, 21.5% of paper/cardboard, 12.7% of glass, 11.5% of plastic, 10.6% of textile, 3.0% of metal, 8.5% of miscellaneous waste. The incineration process itself requires energy for its operation. This data set includes the electricity demand and the heat demand for the entire incineration plant (electricity: 0.264 MWh per ton of waste; heat: 0.700 MWh per ton of waste). Most incineration plants in Europe produce and export electricity, heat or both. Energy recovery is excluded. This data set includes the substances consumed by the incineration process : support fuels, water, and chemical agents. Support fuel (usually a very limited amount) is needed for the incineration of waste with a low LHV such as non-dried sewage sludge. The main consumption of water in waste incineration plants is for flue-gas cleaning. To neutralise the acids contained in the flue-gas sodium bicarbonate is used. Typical reagent for the removal of NOx from the flue-gas is ammonia. The emissions to air include in this data set are emissions from flue-gas after the boiler and the flue-gas treatment. Emissions to water from landfill (leachate) are considered.

Dataset key information	
Synonymes	
[0:100] [100:0]	
General comment on dataset	
-	
Treatment, Standards, Routes	Quantitative product or process properties
Without collection, without energy recovery	Incineration of 1 kg of waste
Mix and location types	Other content
Technology mix, at incinerator plant	-
CAS number	
-	

- Process information
- Description

Dataset key information

Quantitative reference

Time representativeness

Geographical representativeness

Technological representativeness

End of life characteristics

Physical characteristics
- Modeling and validation
- LCI method and allocation

Data sources, treatment and representativeness

Completeness

Validation

Compliance

Data Quality Ranking
- Administrative information
- Commissioner and objective

Creator / Modeler of the dataset

Data entry by

Publication and ownership

Quantitative reference

Reference flow (category)	Reference flow
Product flow / End-of-life treatment / Incineration without energy recovery / Non Hazardous Wastes - Municipal Solid Wastes	waste incineration of municipal solid waste (MSW); without collection, without energy recovery; technology mix, at incinerator plant
Reference weight in kg	Functional unit
0.0	Incinerate 1 kg of waste

Time representativeness

Reference year	Validity of the data set
2022	2032
Description of the temporal representativity	
Annual average	

Geographical representativeness

Location
RER
Description of the geographical representativeness
The data set represents a typical European situation (EU-28).

Technological representativeness

Pictogram of technology	Flow diagram or picture
-	-
Description of the technology and process included	
A typical waste incineration plant includes the following operations: incoming waste reception; storage of waste and raw materials; pre-treatment of waste (where required, on site or off site); loading of waste into the process; thermal treatment of the waste; energy recovery (e.g. boiler) and conversion; flue-gas cleaning (FGC); flue-gas cleaning residue management; flue-gas discharge; emissions monitoring and control; waste water control and treatment (e.g. from site drainage, flue-gas cleaning, storage); ash/bottom ash management and treatment (arising from the combustion stage); solid residue discharge/disposal. This data set represents the average technology available in Europe in 2022.	
Technological applicability	
Standard end-of-life treatment service for average European municipal waste via thermal treatment.	

End of life characteristics

Potential recyclability for dismantling (range 0 to 1)	Energy recovery potential for grinding (interval from 0 to 1)	Specific end-of-life treatment
0.0	0.0	false
Energy recovery potential for dismantling (range 0 to 1)	Potential recyclability for grinding (range 0 to 1)	Comments and advice
0.0	0.0	

Physical characteristics

Lower heating value (MJ/kg)	Dimensions	Loss rate (%)
0.0	-	0.0

Renewable percentage (%)	Recycled content percentage (%)	Biogenic carbon content (kg)
0.0	0.0	0.0

Modeling and validation

LCI method and allocation		
Type of dataset	LCA methodology report	
Unit process black box		
Principle of the LCI method	Deviations from the principle of the LCI method	
attributional	None	
LCI method approach	Deviations from the LCI method approach	
Not applicable	None	
Modeling constant	Deviations from the modeling constants	
None	None	

Data sources, treatment and representativeness	
Principle of data cutoff and completeness	Deviations from data cut off and completeness principles
Cut-off rules for each unit process: Coverage of at least 95% of mass and energy of the input and output flows, and 98% of their environmental relevance (according to expert judgement).	None
Principles of data treatment and extrapolation	Deviations from data treatment and extrapolations principles
All data treated balancing with their contribution	None
Data selection and combination principles	Deviations from data selection and combination principles
All data selected and balancing with their contribution to the data set	None
Sampling procedure	
Not applicable	
Uncertainty adjustments	
Not studied	
Annual supply or production volume	Percentage of supply or production covered (%)
Amount of non-hazardous municipal solid wastes in Europe in 2018: 244.82 10E+06 tonnes	-
Data handling report	Data collection period
Documentation recorded in the LCIE Bureau Veritas’ Quality System.	2025
Use advice for data set	
The data set represents an end of-life inventory for the incineration of an average European municipal solid waste (MSW). The data set includes the emissions and resource consumption for the thermal treatment of waste. The behaviour of bottom ash and air pollution control residues on a landfill is considered. Produced electricity and process steam are excluded of the system boundaries. Waste collection is not included in the data set.	
Data sources used for this dataset	
This dataset is based on the expertise of LCIE Bureau Veritas in the industrial sector (including energy, transport, electrical, electronics, digital services). Additionnal source: [1] Best Available Techniques (BAT) Reference Document for Waste Incineration, JRC, 2019	

Completeness
Product model completeness -
Completeness All relevant flows quantified

Validation
General Review Not reviewed

Compliance
Compliance System name ISO 14040/44/67 Overall approval Fully compliant Nomenclature Fully compliant Methodological Fully compliant Review Fully compliant Documentation Fully compliant Quality Not defined
System name ILCD Data Network Entry Level
Overall approval Fully compliant
Review Fully compliant
Nomenclature Fully compliant
Methodological Fully compliant
Quality Not defined
System name PEP ecopassport® PCR ed3
Overall approval Fully compliant
Review Not defined
Nomenclature Not defined
Methodological Fully compliant
Quality Not defined
System name PEP ecopassport® PCR ed4
Overall approval Fully compliant
Review Not defined
Nomenclature Not defined
Methodological Fully compliant
Quality Not defined

Data Quality Ranking
Overall Data Quality 1.5
Completeness 1.0
Methodological appropriateness and consistency 1.0
Time representativeness 2.0
Technological representativeness 1.0
Geographical representativeness 1.0
Parameter uncertainty 3.0

Administrative information

Commissioner and objective	
Commissioner of dataset	
LCIE Bureau Veritas	
Project	
CODDE® database	Intended applications
Dataset intended for use in the EIME software for carrying out Life Cycle Assessment (ISO 14040/44), Product Carbon Footprint (ISO 14067), and environmental product declaration (ISO 14025).	

Creator / Modeler of the dataset	
Dataset generator modeler	
Damien PRUNEL	

Data entry by	
Data entry by	
Damien PRUNEL	
Converted original data set from	
Not applicable. Original data developped by LCIE Bureau Veritas.	Official approval of data set by producer operator
Damien PRUNEL	

Publication and ownership	
Workflow and Publication Status	
Data set finalised; entirely published	
Copyright	
Yes	
Date of last revision	
Thu, 27 Feb 2025	
Registration authority	
LCIE Bureau Veritas	
License type	
License fee	
Access & use restrictions	
Access & use restrictions according to General Conditions of Sale of EIME software	
Provider	
LCIE Bureau Veritas	
Entities or persons with exclusive access to this data set	
Users with a valid EIME license	