Process Data set: Wood products incineration in municipal solid waste plant; 1kg (en) *en* *de*

A superceding data set exists.

View superceding data set

Tags	

Process information

Key Data Set Information

Location	DE
Geographical representativeness description	The data set represents the country specific situation in Germany, focusing on the main technologies, the region specific characteristics and / or import statistics.
Reference year	2018
Name	Base name ; Quantitative product or process properties Wood products incineration in municipal solid waste plant; 1kg
Use advice for data set	The data set represents a cradle to gate inventory. It can be used to characterise the supply chain situation of the respective commodity in a representative manner. Combination with individual unit processes using this commodity enables the generation of user-specific (product) LCAs.
Technical purpose of product or process	This product can be used in construction.
Classification number	100.1.03
Classification	Class name : Hierarchy level oekobau.dat: 100.1.03 End of Life / Generic / Wood
General comment on data set	This data set has been modeled according to the European Standard EN 15804 for Sustainable Building. Results are depicted in modules that allow the structured expression of results over the entire life cycle.
Copyright	Yes
Owner of data set	thinkstep

Quantitative reference

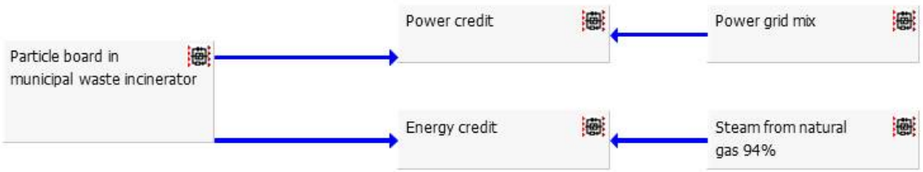
Reference flow(s)	Incineration good - 1.0 * 1.0 kg (Mass)

Time representativeness

Data set valid until	2022
Time representativeness description	Annual average

Technological representativeness

Technology description including background system	The dataset covers the co-incineration of derived timber products in an incinerator (MVA) with electricity and heat recovery. Background system: Electricity: Electricity is modelled according to the individual country-specific situations. The country-specific modelling is achieved on multiple levels. Firstly, individual energy carrier specific power plants and plants for renewable energy sources are modelled according to the current national electricity grid mix. Modelling the electricity consumption mix includes transmission / distribution losses and the own use by energy producers (own consumption of power plants and "other" own consumption e.g. due to pumped storage hydro power etc.), as well as imported electricity. Secondly, the national emission and efficiency standards of the power plants are modelled as well as the share of electricity plants and combined heat and power plants (CHP). Thirdly, the country-specific energy carrier supply (share of imports and / or domestic supply) including the country-specific energy carrier properties (e.g. element and energy content) are accounted for. Fourthly, the exploration, mining/production, processing and transport processes of the energy carrier supply chains are modelled according to the specific situation of each electricity producing country. The different production and processing techniques (emissions and efficiencies) in the different energy producing countries are considered, e.g. different crude oil production technologies or different flaring rates at the oil platforms. Thermal energy, process steam: The thermal energy and process steam supply is modelled according to the individual country-specific situation with regard to emission standards and considered energy carriers. The thermal energy and process steam are produced at heat plants. Efficiencies for thermal energy production are by definition 100% in relation to the corresponding energy carrier input. For process steam the efficiency ranges from 85%, 90% to 95%. The energy carriers used for the generation of thermal energy and process steam are modelled according to the specific import situation (see electricity above). Transports: All relevant and known transport processes are included. Ocean-going and inland ship transport as well as rail, truck and pipeline transport of bulk commodities are considered. Energy carriers: The energy carriers are modelled according to the specific supply situation (see electricity above). Refinery products: Diesel fuel, gasoline, technical gases, fuel oils, lubricants and residues such as bitumen are modelled with a parameterised country-specific refinery model. The refinery model represents the current national standard in refining techniques (e.g. emission level, internal energy consumption, etc.) as well as the individual country-specific product output spectrum, which can be quite different from country to country. The supply of crude oil is modelled, again, according to the country-specific situation with the respective properties of the resources.
Flow diagram(s) or picture(s)	



Modelling and validation

Administrative information

Environmental indicators

Indicators of life cycle

Indicator	Direction	Unit	Waste processing C3	Recycling Potential D
Use of renewable primary energy (PERE)	Input	MJ	0.09841	-2.165
Primary energy resources used as raw materials (PERM)	Input	MJ	0	0
Total use of renewable primary energy resources (PERT)	Input	MJ	0.09841	-2.165
Use of non-renewable primary energy (PENRE)	Input	MJ	0.5512	-7.668
Non-renewable primary energy resources used as raw materials (PENRM)	Input	MJ	0	0

Indicator	Direction	Unit	Waste processing C3	Recycling Potential D
Total use of non-renewable primary energy resources (PENRT)	Input	MJ	0.5512	-7.668
Input of secondary material (SM)	Input	kg	0	0
Use of renewable secondary fuels (RSF)	Input	MJ	0	0
Use of non renewable secondary fuels (NRSF)	Input	MJ	0	0
Use of net fresh water (FW)	Input	m3	0.004088	-0.00101
Hazardous waste disposed (HWD)	Output	kg	3.967E-10	-4.042E-9
Non-hazardous waste disposed (NHWD)	Output	kg	0.01214	-0.003559
Radioactive waste disposed (RWD)	Output	kg	0.00001426	-0.0002616
Components for re-use (CRU)	Output	kg	0	0
Materials for Recycling (MFR)	Output	kg	0	0
Material for Energy Recovery (MER)	Output	kg	0	0
Exported electrical energy (EEE)	Output	MJ	1.73	0
Exported thermal energy (EET)	Output	MJ	3.87	0

Environmental Impact Indicators

Indicator	Unit	Waste processing C3	Recycling Potential D
Global warming potential (GWP)	kg CO2 eq.	1.802	-0.5232
Ozone Depletion Potential (ODP)	kg R11 eq.	5.57E-16	-1.197E-14

Indicator	Unit	Waste processing C3	Recycling Potential D
Photochemical Ozone Creation Potential (POCP)	kg Ethene eq.	0.00003943	-0.00004492
Acidification potential (AP)	kg SO2 eq.	0.0006498	-0.0004398
Eutrophication potential (EP)	kg Phosphate eq.	0.000164	-0.00008327
Abiotic depletion potential for non fossil resources (ADPE)	kg Sb eq.	6.362E-9	-1.289E-7
Abiotic depletion potential for fossil resources (ADPF)	MJ	0.5152	-7.007