

General information	Column1
Number of turbines	30
Number of blades	90
Blade weight [kg]	6600
Total blade weight [tonne]	594
Distance transport	21

Blade material	material by %
E - glass	60
Epoxy	35
Matal	5

Blade Replacement	Ratio [%]
Coal	45
Sand	20
Limestone	20
Alumina	15

Shredding	Column1
Energy consumption [MJ/kg]	0,17
Mass [t]	594
Total energy consumption [MJ]	100980

Transportation

Transportation Energy	
Energy [MJ / tkm]	0,008858371
Total energy [MJ]	110

Transportation emission	
Emission [kg CO2 / tkm]	0,13997369
Total emission [kg CO2]	1746

Transportation cost	
Cost in EUR / tkm	0,35
Total cost	4366

Column1	Column2
Amount [tonne]	594
Distance [km]	21

Energy [MJ / tkm]	0,00886
Total energy [MJ]	110
Emission [kg CO2 /tkm]	0,14
Total emission [kg CO2]	1746
Cost	0,35
Total cost	4366



Cement Co - processing	
Material burned [%]	45
Material to cement additive [%]	55
Input: Total blade weight [tonne]	594
Output: BW cement additive [tonne]	327
BW / cement ratio [%]	10
Total cement produced [tonne]	3267

Cement production - Energy	
Energy [MJ / kg cement]	0,047072
Total energy	153784

Cement production - Emission	
Emission [kg CO2 / kg cement]	0,77481729
Emission from production [kg CO2]	2531328
16% savings [kg CO2]	405012
Total emission after savings [kg CO2]	2126316

Cement production - Cost	
Cost in EUR / tonne	360
Amount treated [tonne]	594
Total cost	213840

Column1	Column2
Emission [kg CO2 / kg cement]	0,77481729
Emission from production [kg CO2]	2531328
16% savings [kg CO2]	405012
Total emission after savings [kg CO2]	2126316
Energy [MJ / kg cement]	0,047072
Total energy	153784
Cost in EUR / tonne	360
Amount treated [tonne]	594
Total cost	213840

OVERVIEW SCENARIO

Transport total

	Unit	Energy [MJ]	ion [kg CO2]	Cost [€]
Transport distance	tkm	12474	12474	12474
Per tonne-kilometre	[]/tkm	0,009	0,14	0,35
Per tonne transported	[]/t	0,186	2,94	7,35
Total		110,5	1746	4366

Shredding total

Shredding	Column1
Energy usage [MJ / kg]	0,17
Amount [tonnes]	594
Total energy usage [MJ]	100980

Cement production total

Column1	Energy [MJ]	ion [kg CO2]	Cost [€]
Per kg cement produced	#REF!	#REF!	#REF!
Total without savings	#REF!	#REF!	#REF!
Savings [16%]	-	#REF!	-
Total	-	#REF!	-

Overview

Type	Energy [MJ]	ion [kg CO2]	Cost [€]
Shredding	100980	-	-
Transport	110,5	1746	4366
Cement production	153784	2126316	213840
Total	254874,5	2128062	218206

Cement co-processing	Unit	2
Material burned	%	45
Material to cement additive	%	55
Input: Total blade weight	t	594
Output: BW cement additive	t	327
BW / cement ratio	%	10
Total cement produced	t	3267

Outputs to technosphere: Products and co-products	Amount	Unit	Quantity	Allocation V
Cement, Portland [US] production Cut-off, 5	1	kg	Mass	100 %

Outputs to technosphere: Avoided products	Amount	Unit	Distribution	SD2 or 2SD	Min
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Inputs

Inputs from nature	Sub-compartment	Amount	Unit	Distribution
Potassium chloride	in ground	8,0579739E-6	kg	Undefined
Carbon dioxide, in air	in air	4,2527430E-3	kg	Undefined
Energy, gross calorific value, in biomass	biotic	4,7072336E-2	MJ	Undefined

Calcium	high. pop.	3,4067696E-7	kg	Undefined
Carbon dioxide, biogenic		1,3854169E-2	kg	Undefined
Carbon dioxide, biogenic	low. pop.	2,8607561E-4	kg	Undefined
Carbon dioxide, biogenic	high. pop.	4,2148717E-3	kg	Undefined
Carbon dioxide, fossil		7,7481729E-1	kg	Undefined
Carbon dioxide, fossil	low. pop.	7,1647316E-2	kg	Undefined
Carbon dioxide, fossil	low. pop., long-term	2,4642923E-6	kg	Undefined
Carbon dioxide, fossil	high. pop.	1,8858520E-2	kg	Undefined