3

1t

LCA

1)

4.3 .....-19.-
5 .....-20.-
5.1 .....-20.-
5.2 .....-20.-
5.3 .....-21.-

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LCA-

1 2024 1 1 -2024 12 31

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ISO 14040:2006ISO 14044:2006

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c.

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2020

7 1 2024 a

	terrestrial		
Ozone depletion		kg CFC11 eq	CFC HCFC…
Photochemical ozone formation		kg NMVOC eq	NMVOC…
Resource use	fossils	MJ	…
	minerals and metals	kg Sb eq	…
Water use		m^3	

eq equivalent CO_2

Ecoinvent

“ ” “ ”

2.1

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2-1

	1	31763.10	t
	2	38126.41	t
		3972.98	t
		10769.21	t
		979.31	t
		53.53	t

” “ ”

0%) {RoW}| | -Off, U	
m external etal wire Off, U	Ecoinvent3.9.1-allocation, cut-off
board box	

		Electricity, medium voltage {CN}| market group for electricity, medium voltage | Cut-off, U	
		Hazardous waste, for incineration {RoW}| treatment of hazardous waste, hazardous waste incineration | Cut-off, U	

3

3.1 LCA

SimaPro9.5.0.0 EF 3.1 normalization and weighting set 1t

3-1 1t LCA

Acidification		mol H^+ eq	1.24E+02
Climate change	Total	kg CO_2 eq	1.95E+04
	Biogenic		3.56E+00
	Fossil		1.95E+04
	Land use and LU change		2.86E+00
Particulate matter		disease inc.	1.80E-03
Eutrophication	marine	kg N eq	2.14E+01
	freshwater	kg P eq	4.12E+00
	terrestrial	mol N eq	2.28E+02

Photochemical ozone formation			
Resource use	fossils	MJ	1.66E+05
	minerals and metals	kg Sb eq	1.99E-02
Water use		m^3	1.73E+03

	Acidification	Climate change	Climate change - Biogenic	Climate change - Fossil	Climate change - Land use and LU change	Particulate matter	Eutrophication, marine	Eutrophication, freshwater	Eutrophication, terrestrial	Ozone depletion	Photochemical ozone formation	Resource use, fossils	Resource use, minerals and metals	Water use
1	5.58E+01	8.61E+03	1.47E+00	8.61E+03	1.18E+00	8.09E-04	9.61E+00	1.86E+00	1.02E+02	6.27E-05	3.01E+01	7.47E+04	8.92E-03	7.73E+02
2	6.69E+01	1.03E+04	1.77E+00	1.03E+04	1.42E+00	9.71E-04	1.15E+01	2.23E+00	1.23E+02	7.53E-05	3.61E+01	8.97E+04	1.07E-02	9.28E+02
	3.83E-02	4.96E+00	1.70E-02	4.85E+00	8.56E-02	2.12E-06	1.39E-02	2.35E-03	1.49E-01	5.10E-08	5.93E-02	6.12E+01	8.51E-06	7.12E-01
	0.00E+00	3.44E+02	0.00E+00	3.44E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	1.68E-02	3.13E+00	3.91E-03	3.10E+00	2.58E-02	2.46E-07	3.33E-03	1.39E-03	3.37E-02	4.36E-08	1.27E-02	3.09E+01	2.63E-06	4.35E-01
	3.80E-03	7.63E-01	6.48E-02	6.91E-01	6.98E-03	8.17E-08	1.61E-03	2.76E-04	1.03E-02	2.60E-08	3.25E-03	8.96E+00	2.40E-06	2.47E-01
	6.48E-03	1.23E+00	1.59E											

	5.02E-03	3.59E+00	1.64E-03	3.59E+00	9.00E-04	5.35E-08	1.21E-03	9.90E-04	1.17E-02	2.33E-07	4.19E-03	1.69E+01	4.65E-06	4.49E-01
	8.15E-01	1.54E+02	2.21E-02	1.54E+02	6.08E-02	1.14E-05	1.74E-01	2.79E-02	1.85E+00	2.78E-07	4.88E-01	1.50E+03	9.82E-05	1.70E+01
32t	3.13E-02	1.14E+01	3.25E-03	1.14E+01	5.86E-03	1.13E-06	8.23E-03	9.58E-04	8.52E-02	1.94E-07	4.51E-02	1.72E+02	3.20E-05	8.76E-01

	0.00%	1.77%	0.00%	1.77%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	0.01%	0.02%	0.11%	0.02%	0.90%	0.01%	0.02%	0.03%	0.01%	0.03%	0.02%	0.02%	0.01%	0.03%
	0.00%	0.00%	1.82%	0.00%	0.24%	0.00%	0.01%	0.01%	0.00%	0.02%	0.00%	0.01%	0.01%	0.01%
	0.01%	0.01%	0.04%	0.01%	0.04%	0.00%	0.01%	0.01%	0.01%	0.03%	0.03%	0.03%	0.05%	0.02%
PE	0.00%	0.00%	0.03%	0.00%	0.02%	0.00%	0.00%							

1) (d T q 9 . 4 5 . 2 0 - 4 0 1 2 f 2 0 - f T 1) (d T q 9 . 4 5

0.03%	0.06%	0.09%	0.06%	0.21%	0.06%	0.04%	0.02%	0.04%	0.14%	0.07%	0.10%	0.16%	0.05%
0.66%	0.81%	0.67%	0.81%	2.16%	0.64%	0.82%	0.70%	0.82%	0.37%	0.74%	0.91%	0.52%	1.01%

4

4.1

4.1.1

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Ecoinvent Ecoinvent

4.1.2

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4.2

SimaPro9.5.0.0

LCA-

4-1 LCA

				95%
Acidification		mol H^+ eq	1.23E+02	[1.07E+02,1.43E+02]
Climate change	Total	kg CO_2 eq	1.93E+04	[1.67E+04,2.30E+04]
	Biogenic	kg CO_2 eq	3.52E+00	[2.86E+00,4.40E+00]
	Fossil	kg CO_2 eq	1.93ó)vS"60 ÀŒeq+00	

Resource use	fossils					
	minerals and metals	kg Sb eq	1.90E-02	2.07E-02	1.88E-02	2.09E-02
Water use		m^3	1.65E+03	1.80E+03	1.63E+03	1.82E+03

5.3

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