


	1t	1	1t 1
☐	☒		
	11		
	ISO 14067: 2018 PAS 2050: 2011	—	—
	openLCA 2.2.0		Ecoinvent 3.10
		9.27	
		0.95	
		0.36	
		101.64	
		10.41	
		3.88	

	15.29	
	0.69	
	0.33	
	44.03	
	2.00	
	0.95	

2025

*

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1.1.		1
1.2.		2
1.3.		2
1.4.		4
1.5.		5
2.1		6
2.2.		6
2.3.		7
3.1.		11
3.2.		11
3.3.		13
3.4.		14
3.5.		15
4.1.		17
4.2.	2023	20
5.1.		22
5.2.		23



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L

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1%

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5%L

L

Global Warming Potential GWP

CO₂ ∞

CH₄

N₂O

L

L

L

L

L

-

L

∞

∞

L

L

L

Ecoinvent

L

Open LCA

LCA

∞

∞

LCA

L

ISO 14040

LCA

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LCA

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∞

L

L

➤

LCA

L



	9,510.00	569.98	196.19	29.26
	5,657.81	336.38	139.51	18.19

	9,609.00	495.40	0.00	0.90

∞ ∞

L

t	t	t	10^4Nm^3
2.671	3.542		117.190
7.580	9.470		128.615
5.120	9.585		120.780

	14,698.12	12,169.62	2,528.51	0.00
	28,430.44	26,467.32	982.52	980.60
	24,727.86	19,963.02	4,764.84	0.00
	16,329.80	12,567.04	3,762.76	0.00
	13,619.60	10,975.98	2,643.62	0.00
	16,326.42	12,408.84	3,917.58	0.00
	39,942.97	0.00	2,302.97	37,640.00
	11,731.60	9,311.60	0.00	2,420.00
	7,435.91	7,435.91	0.00	0.00
/				
	t			
	4.00	93.15	2,142.80	
	4.00	97.42	2,211.94	575.56
	12.60	385.74	2,091.08	
	4.00	555.88	3,286.48	
	105.00	286.38	2,446.96	
	4.78	214.62	2,301.00	
	302.00	241.53	2,098.82	
	4.00	372.94	1,716.00	
	11.00	551.90	4,453.01	411.38
	0.00	333.44	1,492.10	126.70
	100.00	33.79	844.72	185.38

	t	t	t	10^4Nm^3
	6.850	3.190		58.000
/				

	MW h			
	7,000.000	7,000.000		
/				
	t			
	0.00	10.75	1,036.13	9.34

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t

t

21,455.88

2,935.15

23,035.07

3,542.79

17,966.32

-

37,349.26

5,546.42

19,776.72

-

36,786.00

-

24,315.65

203.25

29,169.94

-

72,184.09

209.50

/		
	t	t
	11,279.95	0.00

				11	1
	115.93gCO ₂ e	1t			10.58 tCO ₂ e
	1			46.98 gCO ₂ e	,1t
16.31 tCO ₂ e	L				
	tCO ₂ e	9.27	0.95	0.36	10.58
	gCO ₂ e	101.64	10.41	3.88	115.93
	-	87.68%	8.98%	3.35%	100%
	tCO ₂ e	15.29	0.69	0.33	16.31
	gCO ₂ e	44.03	2.00	0.95	46.98
	-	93.72%	4.25%	2.04%	100%
1				1	
L					
			3-3	3-4	L

	1,284,656.10	85.02%
	16,532.98	1.09%
	8,408.98	0.56%
	1,952.55	0.13%
1	13,205.60	0.87%
	36,502.24	2.42%
	94,244.34	6.24%
	4,871.85	0.32%
	49,519.88	3.28%
	1,049.41	0.07%

			113.08	0.09%
			2,536.84	2.04%
			0.00	0.00%
1	∞	∞		

1

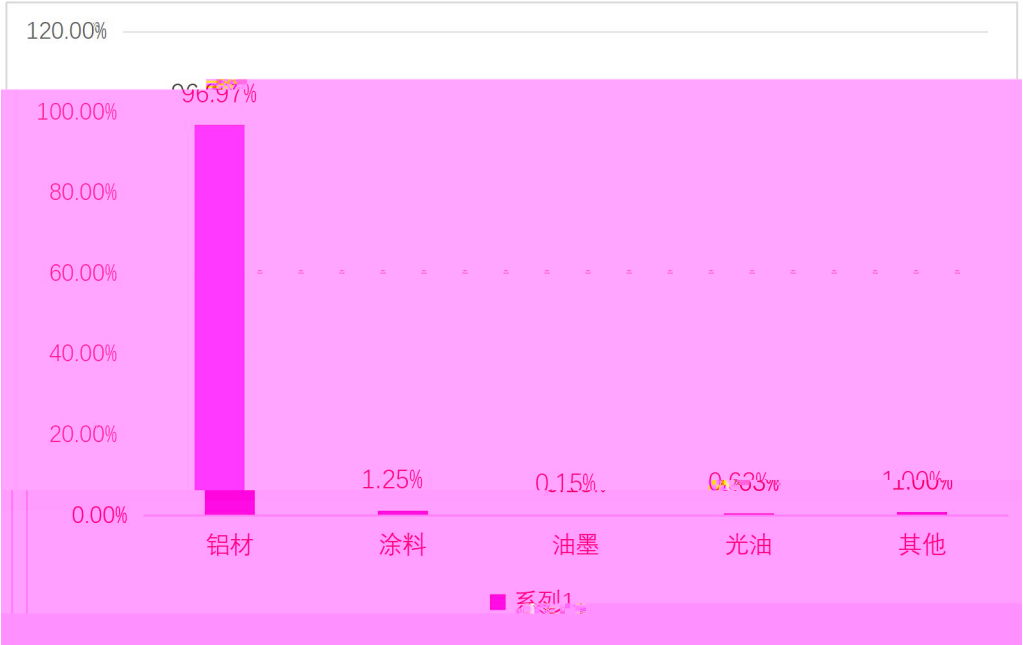
96.97%∞∞2.03%1.00%

L

L

5%L

L



3-1

96.97%

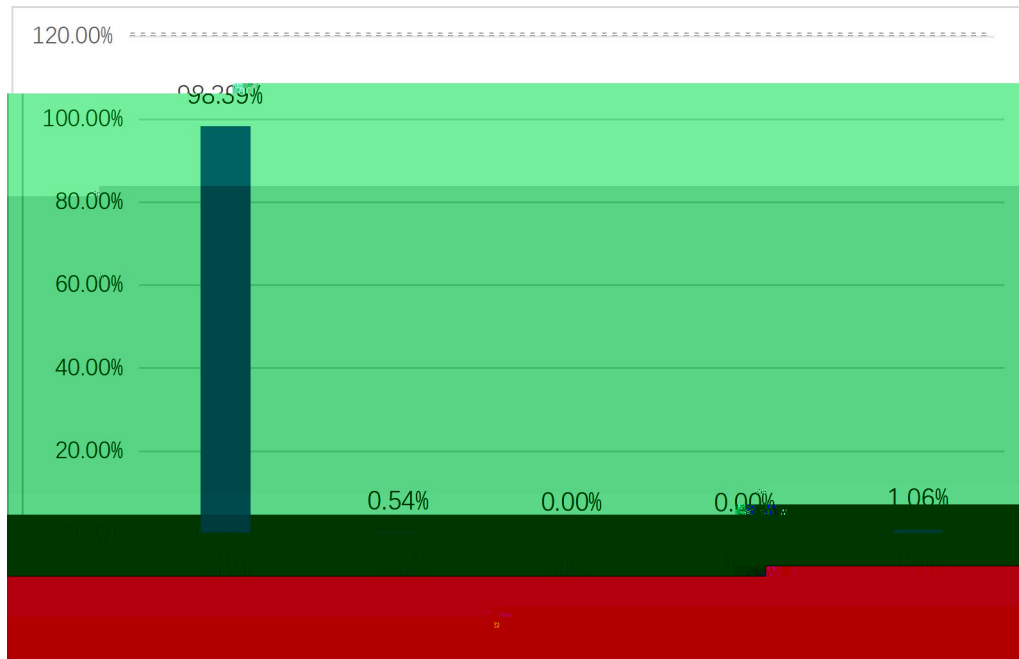
L

2

98.39%

∞ ∞ 0.54%

1.06% L



3-2

98.39%

L

1

L

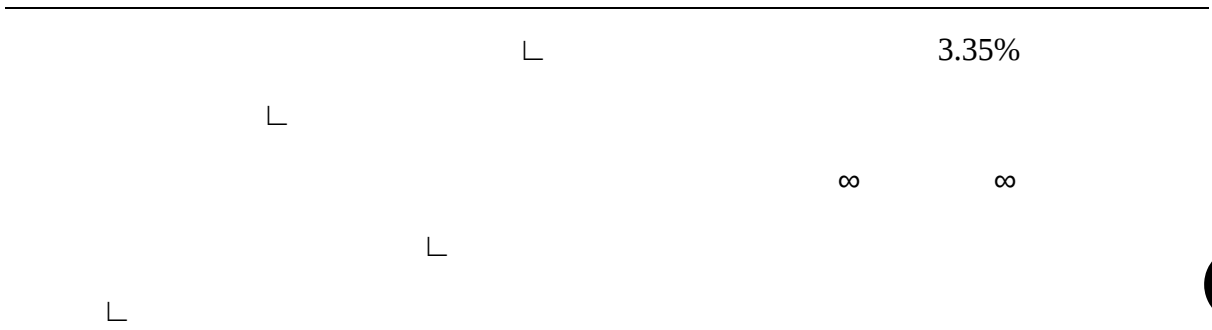
∞

8.98%

26.92%

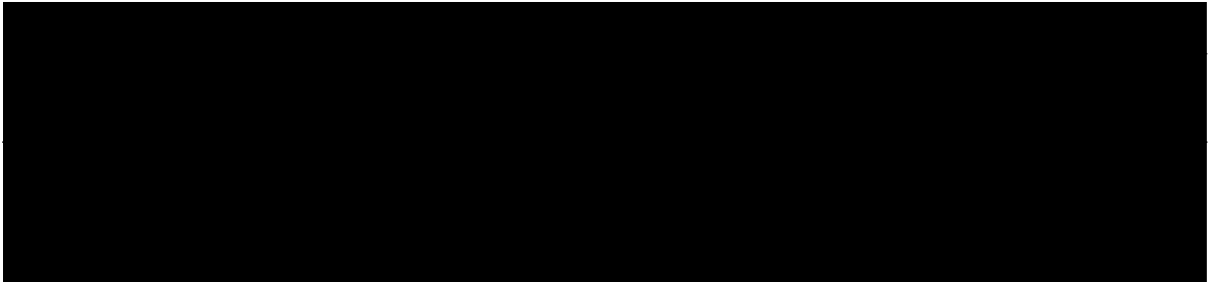
3.59% L

69.49%



	1t tCO ₂ e			1 gCO ₂ e		
	2025	2024		2025	2024	
	9.27	12.1		101.64	134.21	
	0.95	1.18		10.41	13.13	
	0.36	0.37		3.88	4.1	
	10.58	13.65		115.93	151.44	

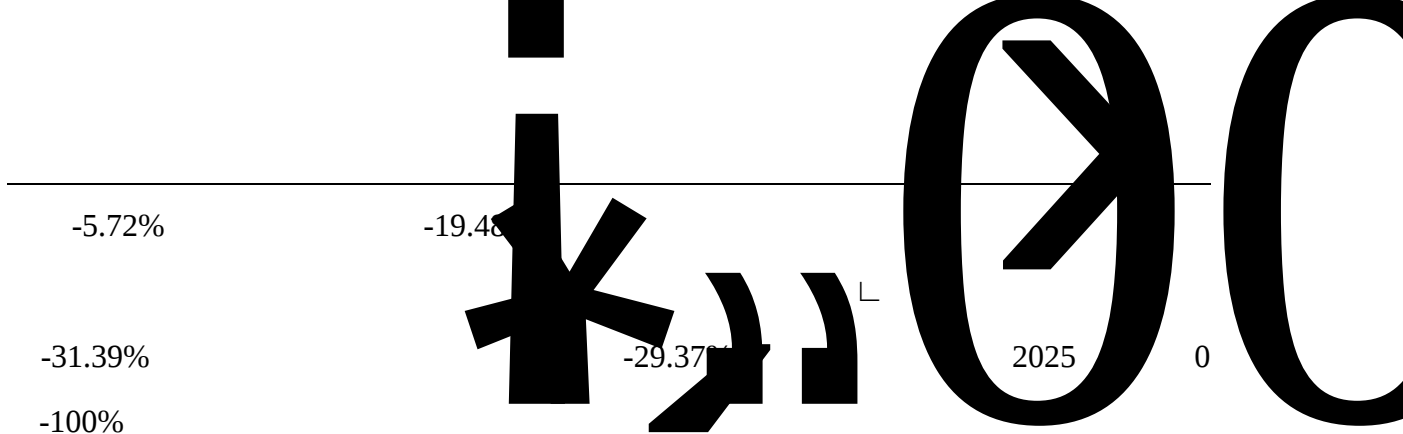
200



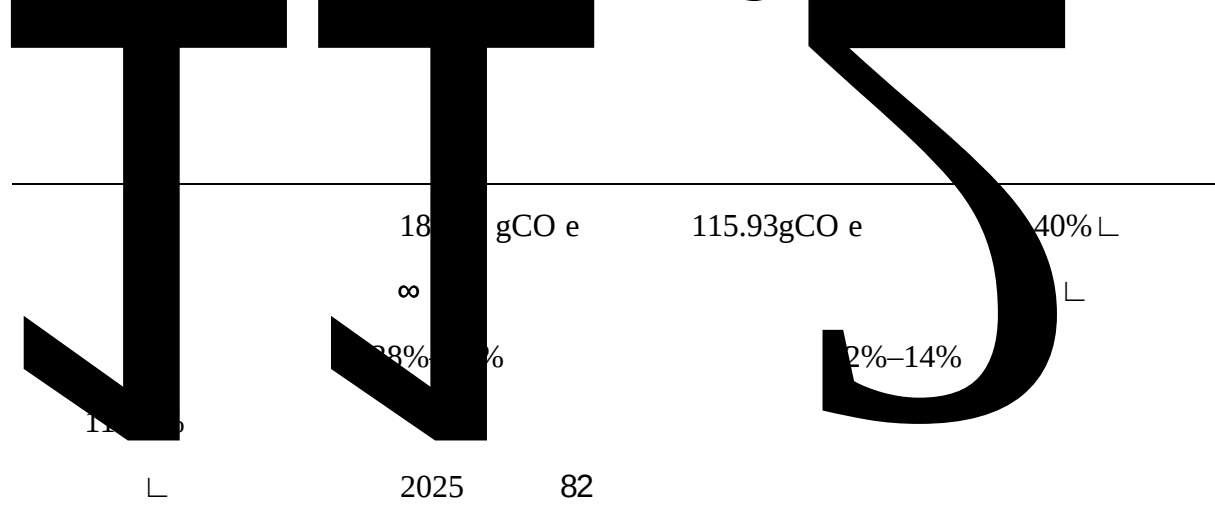
0%

[illegible]

	114,923.64	173,403.29	-33.72%
	632.5701	276.8	128.53%
	0	131.94	-100.00%
	3.9691	1.49	166.38%
1	1,243.51	2,488.09	-50.02%



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L

3.35%

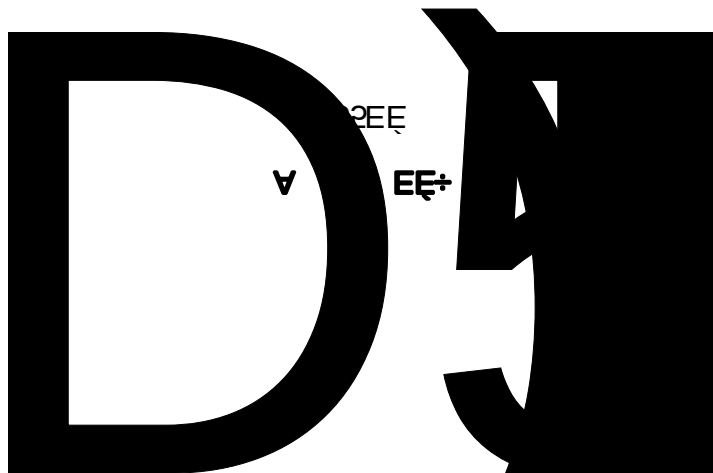
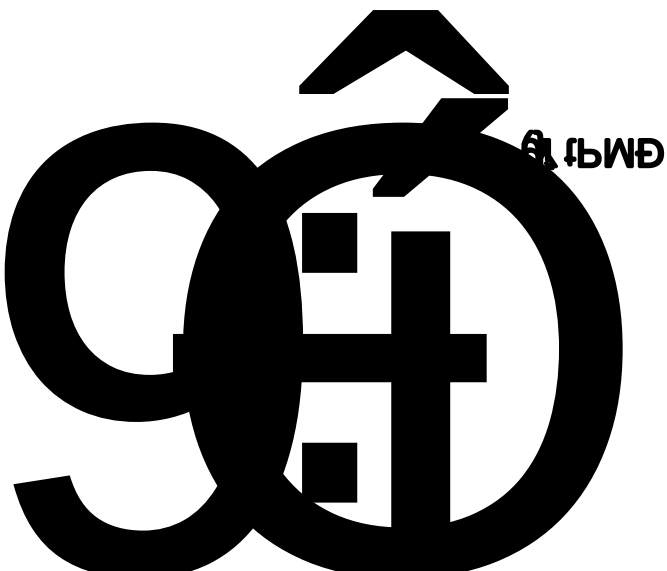
2.04%

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À. 00 1000

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- [1] ISO 14044: 2006 Environmental management — Life cycle assessment — Requirements and guidelines GB/T 24044-2008
- [2] ISO 14040: 2006 Environmental management — Life cycle assessment — Principles and framework. GB/T 24040-2008
- [3] , , , .
2022 [R], : 2022.