

# **Greenhouse Gas Inventory Report**

## **ISO14064-1:2018**

**ESG Green Carbon Intelligence**

**September 18th, 2025**

# Overview

## Basic information

<b>Auditor</b>	<b>Sophia Wang</b>		
<b>Onsite Calculation Date</b>	<b>Sept. 18<sup>th</sup>, 2025</b>		
<b>Facility Information</b>	<b>Beifa Group Co., Ltd</b>		
	Site	Name	Address
	Headquarter	Beifa Group Co., Ltd	No. 68, Weiliu Road, XiaoGang, Beilun District, Ningbo, Zhejiang
	Bohui	Ningbo Bohui Stationery Co., Ltd	2nd Floor, Production Building 1, Block 4, No. 68, Weiliu Road, XiaoGang, Beilun District, Ningbo, Zhejiang
	Xinbeifa	Anhui Xinbeifa Pen City Co., Ltd	No. 28, New Town Avenue, Economic Development Zone, Lai'an County, Chuzhou City, Anhui Province (Investment Promotion Bureau, 2nd Floor, Development Zone Management Committee)
	Beijing Office	Beifa Group Co., Ltd Beijing Sales Office	1101-08, 11/F, Building 18, No.88 Liuxiang Road, Fengtai District, Beijing, China
<b>Contact Name</b>	<b>Edison Xiang</b>		
<b>Email Address</b>	<b>edisonxiang@beifa.com</b>		
<b>Facility Product and Industry</b>	Consumer Durables, Household and Personal Products		

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# Conclusion

Base Year	2023	Criteria	ISO 14064-1:2018 Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals; Standards, guidelines, specifications, etc. used by the organization in accounting for greenhouse gas emissions; System related to greenhouse gas quantification and reporting developed by the organization;
Calculation Scope		All facilities or activities within the reporting boundary of Beifa Group Co., Ltd	
Reporting Boundary		Category 3: Other indirect greenhouse gas emissions not covered by Category 1 and Category 2	
Calculation Conclusion		After calculation, it is confirmed that the quantification, monitoring and reporting of greenhouse gas emissions of the facility partially comply with the relevant requirements of <i>GHG Protocol</i>	
Total greenhouse gas emissions within factory boundary		897,037.46 Tons	

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## Summary of Greenhouse Gas Emission Calculations

GHG emissions				
Scope 3: Other indirect greenhouse gas emissions	Emissions from purchased goods and services	854,321.02 Tons	Proportion	95.24%
	Capital Goods	6.88 Tons	Proportion	0.0008%
	Emissions from fuel and energy-related activities	941.49 Tons	Proportion	0.10%
	Upstream transportation and distribution	26,876.79 Tons	Proportion	3.00%
	Waste emissions generated during operation	98.76 Tons	Proportion	0.01%
	Business travel emissions	14.62 Tons	Proportion	0.002%
	Employee commuting emissions	12.65 Tons	Proportion	0.001%
	Upstream leased asset emissions	0.02 Tons	Proportion	0.000002%
	Downstream transportation and distribution	14,765.23 Tons	Proportion	1.65%
	Total	897,037.46 Tons		

Auditor	Sophia Wang	Date	Sept. 18 <sup>th</sup> , 2025
Audit Team Leader	Sophia Wang	Date	Sept. 18 <sup>th</sup> , 2025
Approver	Sophia Wang	Date	Sept. 18 <sup>th</sup> , 2025

# Calculation Process and Methodology

## Statistics and measurement of emission sources

Through reviewing of relevant evidence of energy consumption, the facility's energy management system, and on-site interviewing with administrative personnel, production management personnel and electricians, the audit team confirmed that the statistics and measurement of the types of emission sources are as follows:

List of Emission Source Identification

Scope	Category	Basic data of emission sources		Types of Greenhouse Gases Emitted					
		Classification of Emission Sources	Emission Source	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	HFCs & PFCs	NF3	SF <sub>6</sub>
Scope 3	Category 1: Purchased Goods and Services	Emissions from purchased electromechanical products and services	Embodied carbon emissions of purchased goods and services	Y	Y	Y			
	Category 2: Capital goods	Emissions from data center construction, building materials themselves, and transportation of building materials	Embodied carbon emissions of building materials and energy consumption emissions during construction and transportation	Y	Y	Y			
	Category 3: Fuel- and Energy-Related Activities	NA							
	Category 4: Upstream Transportation and Distribution	Emissions from transportation of purchased goods	Energy consumption emissions from transportation vehicles	Y	Y	Y			
	Category 5: Waste Generated in Operations	Emissions from waste transportation and disposal	Energy consumption emissions from disposal process and transportation vehicles	Y	Y	Y			
	Category 6: Business Travel	Energy consumption during business travel, etc.	Energy consumption emissions from business travel vehicles	Y	Y	Y			
	Category 7: Employee Commuting	Energy consumption emissions during commuting	Energy consumption emissions from commuting vehicles	Y	Y	Y			
	Category 8: Upstream Leased Assets	Emissions from product transportation	Emissions from product transportation	Y	Y	Y			
	Category 9: Downstream Transportation and Distribution	Emissions from product transportation	Energy consumption emissions from transportation vehicles	Y	Y	Y			

	Category 10: Processing of Sold Products	NA
	Category 11: Use of Sold Products	
	Category 12: End-of-Life Treatment of Sold Products	
	Category 13: Downstream Leased Assets	
	Category 14: Franchises	
	Category 15: Investments	

Activity Data and Its Sources

(1) Scope 3, Category 1: Emissions from Purchased Goods and Services

The extraction, production, and transportation of goods and services purchased or acquired in the reporting year are allocated based on specific site energy consumption or emissions data from suppliers, using physical or economic factors.

GHG Emission Calculation Table for Purchased Goods and Services

Site	Item	Cost Value (CNY Ten Thousand)	Emission Factor (kg CO <sub>2</sub> e/2022 USD, purchaser price)	GHG Emissions (tCO <sub>2</sub> e)	Source
Head quarte r	Semi- finished Products	22,447.23	0.296	9,878.50	Stationery Product Manufacturing
	Packaging Materials	22,518.47	0.544	18,212.70	Plastics Packaging Film and Sheet (including Laminated) Manufacturing
	Purchased Finished Products	431,141.26	0.544	348,702.58	Unlaminated Plastics Film and Sheet (except Packaging) Manufacturing
	External Processing	69,606.60	0.460	47,604.16	Laminated Plastics Plate, Sheet (except Packaging), and Shape Manufacturing
	Consumables	369.63	0.265	145.63	Office Supplies (except Paper) Manufacturing
	Raw Materials - Non-metal	116,428.13	1.045	180,888.48	Plastics Material and Resin Manufacturing
	Raw Materials - Metal	20,616.27	0.272	8,337.11	All Other Miscellaneous Fabricated Metal Product Manufacturing
	Total			613,769.17	

Site	Item	Weight/t	Emission Factor (kg CO <sub>2</sub> e/kg)	GHG Emissions (tCO <sub>2</sub> e)	Source
Bohui	PP Pellets	22,351.36	3.05	68,171.64	market for polypropylene, granulate {GLO}  market for polypropylene, granulate,   Cut-off, S.ecoinvent 3.11
	Metal Parts	2,214.38	2.40	5,314.52	metal working, average for metal product manufacturing {ROW}  metal working, average for metal product manufacturing,   Cut-off, S.ecoinvent 3.11

Site	Item	Weight/t	Emission Factor (kg CO <sub>2</sub> e/kg)	GHG Emissions (tCO <sub>2</sub> e)	Source
Bohui	Rough Parts	42,439.88	1.62	68,752.61	market for plastic profiles {GLO}  market for plastic profiles,   Cut-off, S.ecoinvent 3.11
	Lead Core	102.93	0.04	3.76	graphite production {ROW}  graphite production,   Cut-off, S.ecoinvent 3.11
	Plastic Parts	150.71	1.62	244.16	market for plastic profiles {GLO}  market for plastic profiles,   Cut-off, S.ecoinvent 3.11
	Eraser	529.33	3.23	1,709.75	synthetic rubber production {ROW}  synthetic rubber production,   Cut-off, S.ecoinvent 3.11
	Printed Paper	17.64	2.51	44.29	market for printed paper {GLO}  market for printed paper,   Cut-off, S.ecoinvent 3.11
	<b>Total</b>			<b>144,240.72</b>	

Site	Item	Weight/t	Emission Factor (kg CO <sub>2</sub> e/kg)	GHG Emissions (tCO <sub>2</sub> e)	Source
Xinbeifa	PP Pellets	15,806.52	3.05	48,209.87	market for polypropylene, granulate {GLO}  market for polypropylene, granulate,   Cut-off, S.ecoinvent 3.11
	Packaging Materials	7,540.57	3.60	27,146.04	market for packaging film, low density polyethylene {GLO}  market for packaging film, low density polyethylene,   Cut-off, S.ecoinvent 3.11
	Electroplated Parts	2,058.52	2.40	4,940.46	metal working, average for metal product manufacturing {ROW}  metal working, average for metal product manufacturing,   Cut-off, S.ecoinvent 3.11
	Aluminum Material	147.04	14.20	2,087.93	aluminum milling, small parts {ROW}  aluminum milling, small parts,   Cut-off, S.ecoinvent 3.11
	Paint	264.67	3.99	1,056.02	paint production, for electrostatic painting for aluminum {GLO}  paint production, for electrostatic painting for aluminum,   Cut-off, S.ecoinvent 3.11
	Raw Materials	6,560.32	1.62	10,627.71	market for plastic profiles {GLO}  market for plastic profiles,   Cut-off, S.ecoinvent 3.11
	<b>Total</b>			<b>94,068.03</b>	



Site	Item	Cost Value (CNY Ten Thousand)	Emission Factor (kg CO <sub>2</sub> e/2022 USD, purchaser price)	GHG Emissions (tCO <sub>2</sub> e)	Source
Beijing Office	Toys	482,820.47	0.146	10.48	Doll, Toy, and Game Manufacturing
	Stationery	50,732,495.75	0.296	2,232.62	Stationery Product Manufacturing
	Total			2,243.10	
Total					854,321.02

**(2) Scope 3, Category 2: Capital Goods**

The extraction, production, and transportation of capital goods purchased or acquired in the reporting year are calculated by corresponding to the capital goods using physical or economic factors.

GHG Emission Calculation Table for Capital Goods						
No	DC Name	Original Cost (CNY)	Original Cost (USD)	Emission Factor	Unit	Total (tCO <sub>2</sub> e)
1	Buildings	180,930.2447	26,899.72566	0.239	kg CO <sub>2</sub> e /USD	6.43
2	Machinery and Equipment	12,183.41146	1,811.363414	0.176	kg CO <sub>2</sub> e /USD	0.32
3	Molding	3,567.64786	530.4184981	0.236	kg CO <sub>2</sub> e /USD	0.13
3	Others	312.8723	46.51615349	0.184	kg CO <sub>2</sub> e /USD	0.01
Total						6.88

### (3) Scope 3, Category 3: Emissions from fuel and energy-related activities

This category calculates the indirect emissions generated by the purchased electricity, heat and fuel consumed by the enterprise during its upstream production, transportation and conversion processes, and is not included in the calculation of Scope One and Scope Two.

GHG Emission Calculation Table for Fuel and energy-related activities

Basic data of emission sources				ΣEmission Factors× GWP	Unit	Data Resources	GHG Emissions tCO <sub>2</sub> e	Proportion	Sum tCO <sub>2</sub> e
Equipment	Emission Sources	Activity Data	Unit						
Workshop Production Heating	LPG	8,160.00	kg	349.2928	kgCO <sub>2</sub> e/t	UK GOV GHG EF-V1.0-2025/06 — WTT- fuels	2.85	0.30%	9.92
Canteen	LPG	13,540.00	kg	349.2928	kgCO <sub>2</sub> e/t	UK GOV GHG EF-V1.0-2025/06 — WTT- fuels	4.73	0.50%	
Canteen	Coal-to-Oil	4,417.80	L	0.5308	kgCO <sub>2</sub> e/L	UK GOV GHG EF-V1.0-2025/06 — WTT- fuels	2.34	0.25%	
Diesel Vehicles	Diesel	6,251.25	L	0.6110	kgCO <sub>2</sub> e/L	UK GOV GHG EF-V1.0-2025/06 — WTT- fuels	3.81958	0.41%	17.74
Gasoline Vehicles	Gasoline	23,956.83	L	0.5809	kgCO <sub>2</sub> e/L	UK GOV GHG EF-V1.0-2025/06 — WTT- fuels	13.92	1.48%	
Headquarter	Purchased Electricity	8,167,714.00	kWh	0.0684	kgCO <sub>2</sub> e/kWh	UK GOV GHG EF-V1.0-2025/06—WTT-UK electricity, UK GOV GHG EF-V1.0-2025/06 — Transmission and distribution	558.67	59.34%	913.83
Bohui Stationery	Purchased Electricity	0.00	kWh	0.0684	kgCO <sub>2</sub> e/kWh		0.00	0.00%	
Anhui Xinbeifa	Purchased Electricity	5,177,409.20	kWh	0.0684	kgCO <sub>2</sub> e/kWh		354.13	37.61%	
Beijing Branch	Purchased Electricity	15,000.00	kWh	0.0684	kgCO <sub>2</sub> e/kWh		1.03	0.11%	
Total							941.49 tCO <sub>2</sub> e		

#### (4) Scope 3, Category 4: Upstream Transportation and Distribution

The upstream raw material transportation cargo weight and transport kilometer data collected in this inventory are calculated according to the emission factors for various transportation modes published by the UK Government Emission Factor Database and others.

$$Emission\ of\ CO_2e = \sum Distance\ (km) \times Tonnage\ (T) \times Emission\ Factor$$

### GHG Emission Calculation Table for Upstream Transportation and Distribution

No	Site	Transportation	Calculated ton-kilometer value	Unit	Emission Factor	Unit	GHG Emission tCO <sub>2</sub> e
1	Anhui Xinbeifa	Minivan (fully loaded cargo weight 1.8 tons)	24,345,565.95	tonne.km	0.6285	kg CO <sub>2</sub> e/(tonne.km)	15,300.94
2		>17 tonnes diesel rigid truck	9,258,223.12	tonne.km	0.1244	kg CO <sub>2</sub> e/(tonne.km)	1,151.35
3	Bohui	1.74-3.5 tonnes diesel rigid truck	883,729.97	tonne.km	0.6285	kg CO <sub>2</sub> e/(tonne.km)	555.42
4	Headquarter	3.5-7.5 tonnes diesel rigid truck	2,815,822.04	tonne.km	0.2478	kg CO <sub>2</sub> e/(tonne.km)	697.65
5		Minivan (fully loaded cargo weight 1.8 tons)	1,864.34	tonne.km	0.6285	kg CO <sub>2</sub> e/(tonne.km)	1.17
6		7.5-17 tonnes diesel rigid truck	156,870.16	tonne.km	0.1485	kg CO <sub>2</sub> e/(tonne.km)	23.29
7		Container ship	5,024,640.85	tonne.km	0.0161	kg CO <sub>2</sub> e/(tonne.km)	80.99
8	Beijing Office	Road Transport	6,825,731.36	USD	1.1150	kg CO <sub>2</sub> e/USD	7,610.69
9		Rail Transport	852,174.36	USD	0.5580	kg CO <sub>2</sub> e/USD	475.51
10		Water Transport	1,583,932.78	USD	0.6180	kg CO <sub>2</sub> e/USD	978.87
11		Air Transport	926.28	USD	0.9760	kg CO <sub>2</sub> e/USD	0.90
Total							26,876.79

**(5) Scope 3, Category 5: Emissions from Waste Generated in Operations**

The emissions resulting from the treatment of waste generated by the enterprise's operations during the reporting year are calculated by combining the treatment method, quantity, and corresponding emission factors for different types of waste.

GHG Emission Calculation Table for Waste Generated in Operations

Type	Treatment Method	Annual Treatment Volume (t)	Annual Treatment Amount (t)	Emission Factor (kgCO <sub>2</sub> e /t)	GHG Emissions from Treatment Process (tCO <sub>2</sub> e)
General Waste	Incineration	2,216.91	1,828.73	6.41061	11.72
	Landfill		165.16	520.5327	85.97
Hazardous Waste	Incineration	235.55	194.30	4.68568	0.91
	Landfill		17.55	8.98311	0.16
Industrial Wastewater Treatment	NA	400.00	400.00	0.17088	0.07
Total					98.76

**(6) Scope 3, Category 6: Business Travel Emissions**

The emissions generated by employees' travel related to business activities in the reporting year are calculated by obtaining activity data and emission factors for different modes of travel.

GHG Emission Calculation Table for Business Travel

Category of emission sources	Site	Activity data	Unit	Unit	GHG Emissions from Treatment Process tCO <sub>2</sub> e
Domestic and international flight routes	Headquarter	3353.09	kg CO <sub>2</sub> e	kg CO <sub>2</sub> e /passenger	3.35
	Bohui	66.28	kg CO <sub>2</sub> e	kg CO <sub>2</sub> e /passenger	0.07
	Anhui Xinbeifa	0.00	kg CO <sub>2</sub> e	kg CO <sub>2</sub> e /passenger	0.00
	Beijing Office	437.38	kg CO <sub>2</sub> e	kg CO <sub>2</sub> e /passenger	0.44
Total					3.86

Category of emission sources	Site	Activity data	Unit	Emission Factor	Unit	GHG Emissions from Treatment Process tCO <sub>2</sub> e
Railway transportation	Headquarter	2,4022.69	Pkm	0.03546	kg CO <sub>2</sub> e /Pkm	0.85
	Bohui	0.00	Pkm			0.00
	Anhui Xinbeifa	120.62	Pkm			0.00
	Beijing Office	2,778.08	Pkm			0.10
Total						0.95

Category of emission sources	Site	Activity data	Unit	Emission Factor	Unit	GHG Emissions from Treatment Process tCO <sub>2</sub> e
Taxi	Headquarter	8,302.64	km	0.20806	kg CO <sub>2</sub> e /km	1.73
	Bohui	0.00	km			0.00
	Anhui Xinbeifa	0.00	km			0.00
	Beijing Office	0.00	km			0.00
Total						1.73

Category of emission sources	Site	Activity data	Unit	Emission Factor	Unit	GHG Emissions from Treatment Process tCO <sub>2</sub> e
Hotel accommodation	Headquarter	40	Room. Night	53.5	kg CO <sub>2</sub> e/Room Per Night	2.14
	Bohui	0			kg CO <sub>2</sub> e/Room Per Night	0.00
	Anhui Xinbeifa	1			kg CO <sub>2</sub> e/Room Per Night	0.05
	Beijing Office	110			kg CO <sub>2</sub> e/Room Per Night	5.89
Total						8.08

Total						14.62 tCO <sub>2</sub> e
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**(7) Scope 3, Category 7: Employee Commuting Emissions**

The emissions generated by employee commuting during the reporting year are calculated by aggregating the commuting distance for different modes of transport and the corresponding emission factors.

GHG Emission Calculation Table for Employee Commuting

Transportation	Annual Commuting Mileage Summary	Unit	Emission Factor	Unit	GHG Emissions tCO <sub>2</sub> e (Sample)	GHG Emissions tCO <sub>2</sub> e (Group)
Bus	23393.74	Pkm	0.026	kg CO <sub>2</sub> e /PKm	0.61	1.54
Subway	10135.48	Pkm	0.007	kg CO <sub>2</sub> e /PKm	0.08	0.19
E-bike	111496.35	Pkm	0.005	kg CO <sub>2</sub> e /PKm	0.60	1.51
Oil-fueled automotive	78768.81	Pkm	0.046	kg CO <sub>2</sub> e /PKm	3.62	9.16
Electric vehicle	9809.35	Pkm	0.010	kg CO <sub>2</sub> e /PKm	0.10	0.25
Total					5.00	12.65

**(8) Scope 3, Category 8: Emissions from Upstream Leased Assets**

For emissions from upstream leased assets, this report specifically refers to the operating emissions from leased air compressors, which are accounted for based on energy consumption activity data and emission factors for the reporting period.

GHG Emission Calculation Table for Upstream Leased Assets

Emission Source	Category of emission sources	Activity Data	Unit	Emission Factor	Unit	GHG Emissions tCO <sub>2</sub> e
Beifa Headquarters Air Compressor Usage	Electricity	32,303.19	kWh	0.5153	tCO <sub>2</sub> e/MWh	0.0166
Anhui Xinbeifa Air Compressor Usage	Electricity	6,885.91	kWh	0.6782	tCO <sub>2</sub> e/MWh	0.0047
Total						0.0213

**(9) Scope 3, Category 9: Downstream Transportation and Distribution**

The downstream product transportation cargo weight and transport kilometer data collected in this inventory are calculated according to the emission factors for various transportation modes published by the UK Government Emission Factor Database and others.

### GHG Emission Calculation Table for Downstream Transportation and Distribution

No	Site	Transportation	Calculated ton-kilometer value	Unit	Emission Factor	Unit	GHG Emission tCO <sub>2</sub> e
1	Headquarter	Road	3,079,806.14	tonne.km	0.1316	kg CO <sub>2</sub> e/(tonne.km)	405.30
2		Sea Freight	737,743,458.40	tonne.km	0.0161	kg CO <sub>2</sub> e/(tonne.km)	11,877.67
3		Rail	5,549,993.41	tonne.km	0.0278	kg CO <sub>2</sub> e/(tonne.km)	154.29
4		Air	674,405.32	tonne.km	0.64335	kg CO <sub>2</sub> e/(tonne.km)	433.88
5		Express Delivery (calculated as road transport)	200,200.18	tonne.km	0.1316	kg CO <sub>2</sub> e/(tonne.km)	26.35
6	Bohui	Light Goods Vehicle (load 4.5t)	1,206.22	tonne.km	0.2478	kg CO <sub>2</sub> e/(tonne.km)	0.30
7		Minivan (load 1.8t)	2,051.52	tonne.km	0.6285	kg CO <sub>2</sub> e/(tonne.km)	1.29
8	Anhui Xinbeifa	Medium Goods Vehicle (fully loaded cargo weight 12 tons)	54,080.00	tonne.km	0.1485	kg CO <sub>2</sub> e/(tonne.km)	8.03
9	Beijing Office	Road Transport	154,295,643.06	CNY	1.115	kg CO <sub>2</sub> e/USD	1,369.25
10		Rail Transport			0.558	kg CO <sub>2</sub> e/USD	170.95
11		Water Transport			0.618	kg CO <sub>2</sub> e/USD	317.74
12		Air Transport			0.976	kg CO <sub>2</sub> e/USD	0.19
Total							14,765.23

## Greenhouse Gas Emission Structure and Calculation Results

GHG Emissions			
Scope 3: Other indirect greenhouse gas emissions	Emission source category	Unit	GHG emission tCO <sub>2</sub> e
	Emissions from purchased goods and services	CNY	854,321.02 Tons
	Capital Goods	CNY	6.88 Tons
	Emissions from Fuel and Energy-Related Activities	kg, L, kWh	941.49 Tons
	Upstream transportation and distribution	Ton-kilometer	26,876.79 Tons
	Waste emissions generated during operation	Tonnes	98.76 Tons
	Business travel emissions	km	14.62 Tons
	Employee commuting emissions	km	12.65 Tons
	Upstream leased asset emissions	kWh	0.02 Tons
	Downstream transportation and distribution	Ton-kilometer	14,765.23 Tons
	Total Activity Data	Total	897,037.46 Tons



## Emission Factor Sources

Activity data	Unit	Source
0.033	kg CO <sub>2</sub> e/USD	USEEIO-SupplyChainGHGEmissionFactors_v1.3.0 USD2022
0.205	kg CO <sub>2</sub> e/USD	USEEIO-SupplyChainGHGEmissionFactors_v1.3.0 USD2022
0.094	kg CO <sub>2</sub> e/USD	USEEIO-SupplyChainGHGEmissionFactors_v1.3.0 USD2022
0.214	kg CO <sub>2</sub> e/USD	USEEIO-SupplyChainGHGEmissionFactors_v1.3.0 USD2022
0.08	kg CO <sub>2</sub> e/USD	USEEIO-SupplyChainGHGEmissionFactors_v1.3.0 USD2022
0.103	kg CO <sub>2</sub> e/USD	USEEIO-SupplyChainGHGEmissionFactors_v1.3.0 USD2022
0.236	kg CO <sub>2</sub> e/USD	USEEIO-SupplyChainGHGEmissionFactors_v1.3.0 USD2022
0.265	kg CO <sub>2</sub> e/USD	USEEIO-SupplyChainGHGEmissionFactors_v1.3.0 USD2022
0.144	kg CO <sub>2</sub> e/USD	USEEIO-SupplyChainGHGEmissionFactors_v1.3.0 USD2022
0.108	kg CO <sub>2</sub> e/USD	USEEIO-SupplyChainGHGEmissionFactors_v1.3.0 USD2022
0.189	kg CO <sub>2</sub> e/USD	USEEIO-SupplyChainGHGEmissionFactors_v1.3.0 USD2022
0.296	kg CO <sub>2</sub> e/USD	USEEIO-SupplyChainGHGEmissionFactors_v1.3.0 USD2022
0.34	kg CO <sub>2</sub> e/USD	USEEIO-SupplyChainGHGEmissionFactors_v1.3.0 USD2022
0.364	kg CO <sub>2</sub> e/USD	USEEIO-SupplyChainGHGEmissionFactors_v1.3.0 USD2022
0.479	kg CO <sub>2</sub> e/USD	USEEIO-SupplyChainGHGEmissionFactors_v1.3.0 USD2022
0.265	kg CO <sub>2</sub> e/USD	USEEIO-SupplyChainGHGEmissionFactors_v1.3.0 USD2022

0.902	kg CO <sub>2</sub> e/USD	USEEIO-SupplyChainGHGEmissionFactors_v1.3.0 USD2022
0.239	kg CO <sub>2</sub> e/USD	SupplyChainGHGEmissionFactors_v1.3.0_NAICS_CO2e_USD2022
0.102	kg CO <sub>2</sub> e/USD	SupplyChainGHGEmissionFactors_v1.3.0_NAICS_CO2e_USD2022
0.184	kg CO <sub>2</sub> e/USD	SupplyChainGHGEmissionFactors_v1.3.0_NAICS_CO2e_USD2022
0.1316	kg CO <sub>2</sub> e/(tonne.km)	UK GOV GHG EF-V1.0-2025/06 —Freighting goods
0.0161	kg CO <sub>2</sub> e/(tonne.km)	UK GOV GHG EF-V1.0-2025/07 —Freighting goods
0.0278	kg CO <sub>2</sub> e/(tonne.km)	UK GOV GHG EF-V1.0-2025/08 —Freighting goods
0.64335	kg CO <sub>2</sub> e/(tonne.km)	UK GOV GHG EF-V1.0-2025/09 —Freighting goods
0.1316	kg CO <sub>2</sub> e/(tonne.km)	UK GOV GHG EF-V1.0-2025/10 —Freighting goods
0.2478	kg CO <sub>2</sub> e/(tonne.km)	UK GOV GHG EF-V1.0-2025/10 —Freighting goods
0.6285	kg CO <sub>2</sub> e/(tonne.km)	UK GOV GHG EF-V1.0-2025/11 —Freighting goods
0.1244	kg CO <sub>2</sub> e/(tonne.km)	UK GOV GHG EF-V1.0-2025/11 —Freighting goods
0.1485	kg CO <sub>2</sub> e/(tonne.km)	UK GOV GHG EF-V1.0-2025/11 —Freighting goods
6.41061	kg CO <sub>2</sub> e/t	UK GOV GHG EF-V1.0-2025/06 —Waste disposal
520.5327	kg CO <sub>2</sub> e/t	UK GOV GHG EF-V1.0-2025/06 —Waste disposal
4.68568	kg CO <sub>2</sub> e/t	UK GOV GHG EF-V1.0-2025/06 —Waste disposal
8.98311	kg CO <sub>2</sub> e/t	UK GOV GHG EF-V1.0-2025/06 —Waste disposal
0.17088	kg CO <sub>2</sub> e/t	UK GOV GHG EF-V1.0-2025/06 —Waste disposal
0.03546	kg CO <sub>2</sub> e/Pkm	UK GOV GHG EF-V1.0-2025/06 —Business travel- land

0.20806	kg CO <sub>2</sub> e/km	UK GOV GHG EF-V1.0-2025/06 —Business travel- land
53.500	kg CO <sub>2</sub> e/Room Per Night	UK GOV GHG EF-V1.0-2025/06 —Hotel stay—China
0.026	kg CO <sub>2</sub> e/Pkm	UK GOV GHG EF-V1.0-2025/06 —WTT- pass vehs & travel- land
0.007	kg CO <sub>2</sub> e/Pkm	UK GOV GHG EF-V1.0-2025/07 —WTT- pass vehs & travel- land
0.005	kg CO <sub>2</sub> e/Pkm	UK GOV GHG EF-V1.0-2025/08 —WTT- pass vehs & travel- land
0.046	kg CO <sub>2</sub> e/Pkm	UK GOV GHG EF-V1.0-2025/09 —WTT- pass vehs & travel- land
0.010	kg CO <sub>2</sub> e/Pkm	UK GOV GHG EF-V1.0-2025/10 —WTT- pass vehs & travel- land
0.5153	tCO <sub>2</sub> e/MWh	<Announcement on the Release of 2022 CO <sub>2</sub> Emission Factors for Electric Power> <a href="https://www.mee.gov.cn/xxgk2018/xxgk/xxgk01/202412/t20241226_1099413.html">https://www.mee.gov.cn/xxgk2018/xxgk/xxgk01/202412/t20241226_1099413.html</a>
0.6782	tCO <sub>2</sub> e/MWh	<Announcement on the Release of 2022 CO <sub>2</sub> Emission Factors for Electric Power> <a href="https://www.mee.gov.cn/xxgk2018/xxgk/xxgk01/202412/t20241226_1099414.html">https://www.mee.gov.cn/xxgk2018/xxgk/xxgk01/202412/t20241226_1099414.html</a>
0.5580	tCO <sub>2</sub> e/MWh	<Announcement on the Release of 2022 CO <sub>2</sub> Emission Factors for Electric Power> <a href="https://www.mee.gov.cn/xxgk2018/xxgk/xxgk01/202412/t20241226_1099415.html">https://www.mee.gov.cn/xxgk2018/xxgk/xxgk01/202412/t20241226_1099415.html</a>
0.265	kg CO <sub>2</sub> e/USD	SupplyChainGHGEmissionFactors_v1.3.0_NAICS_CO2e_USD2023

Zhejiang Province: 0.5153 tCO <sub>2</sub> e/ MWh Anhui Province: 0.6782 tCO <sub>2</sub> e/ MWh Beijing: 0.5580 tCO <sub>2</sub> e/ MWh		
GWP (Global warming potential)		
CO <sub>2</sub>	1	<IPCC Sixth Assessment Report 6 P1842 Table 7.SM.7>
CH <sub>4</sub>	27.9	
N <sub>2</sub> O	273	
HFC-23	14600	
HFC-32	771	
HFC-134a	1530	
HFC-410a	2255.5	
HFC-227ea	3600	

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## Data Quality Management

In accordance with relevant company procedures, emission sources and activity data shall be collected, and records related to GHG verification shall be retained for a period of three years. The quality of the GHG inventory shall be managed by respective functional departments, with specific responsibilities as follows:

1. Verification of Collected Data: Confirm the correctness of data sources and the accuracy of the data
2. Calculation of Inventory Data: Verify the appropriateness of selected emission factors, the correctness of calculation methodologies and formulas, and the accuracy of unit conversions.
3. Review of Inventory Reports: Ensure the Completeness of the report, the correctness of the format, and the accuracy of data and related information.

# Uncertainty Analysis

The uncertainty of various data points in the greenhouse gas inventory, including emission factors, has been assessed. It is recognized that activity data collection involves measurement errors, introducing a degree of uncertainty. Similarly, emission factors, primarily sourced from databases such as the IPCC, also carry inherent uncertainty.

To mitigate the uncertainty of the calculated results, this report prioritizes the use of primary data wherever feasible.

The uncertainty assessment in this report employs a qualitative analysis method. This involves rating and scoring the activity data, emission factors, and instrument calibration. These scores are then aggregated into an overall rating through a weighted calculation based on the contribution of each source to the total emissions.

## Evaluation Criteria for Uncertainty of Greenhouse Gas Quantification

Data Level		Data Quality Level					
Activity Data	Level	X=6		Y=3		Z=1	
	Type	1.Automated Continuous Measurement		2.Periodic Measurement(e.g., Meter Reading, Procurement Documents)		3.Self-Estimation	
Emission Factor	Level	A=6	B=5	C=4	D=3	E=2	F=1
	Type	1.Coefficient Derived from Measurement / Mass Balance	2.Empirical Factor for Identical Processes or Equipment	3.Manufacturer-Provided Factor	4.Regional Emission Factor	5.National Emission Factor	6.International Emission Factor
Correction	Level	L=6		M=3		S=1	
	Type	1.Calibration was performed in accordance with regulations, and the results are within the allowable error.		2.Calibration was performed as required, however, the results were out of tolerance; while in other cases, calibration was not possible, although the data source remains verifiable.		3.Calibration was not performed as required by procedures.	

Data Level	Average Score Range
Level 1	≥5.0
Level 2	<5.0, ≥4.0
Level 3	<4.0, ≥3.0
Level 4	<3.0, ≥2.0
Level 5	<2.0
Data quality is classified into a five-tiered system, where a lower tier number indicates higher data quality.	



# List of Supporting Documents

Serial Number	Documents
1	1-Beifa-Table 1-2024 Upstream Raw Material Usage and Transportation Data Collection List
2	2-Beifa-2024 Beifa Waste Treatment
3	3-Beifa-2024 Beifa Downstream Cargo Transportation and Distribution
4	4-Beifa-2024 (Domestic Trade) Downstream Cargo Transportation and Distribution
5	5-Beifa-2024 Software Development and Maintenance Fees
6	6-Beifa-2024 Air Compressor Data
7	7-Beifa-2024 Employee Commuting Methods
8	8-Beifa-2024 Zhile Logistics
9	9-Beifa-Beifa Fixed Asset List
10	10-Beifa-Beifa Cultural and Creative Park Cleaning Service Contract
11	11-Beifa-Air Compressor Energy Saving Technical Modification Project
12	12-Beifa-Business Travel Data List
13	13-Bohui-2024 Business Travel Data List
14	14-Bohui-2024 Upstream Raw Material Usage and Transportation Data Collection List
15	15-Bohui-2024 Downstream Finished Product Carbon Emission Data Statistics
16	16-Bohui-2024 Employee Commuting Data Collection
17	17-Bohui-Bohui 2024 Fixed Asset Details_080925
18	18-Bohui-Lease Contract for Group Factory Building (23.1.1-27.12.31)
19	19-Anhui Xinbeifa-2024 Anhui Xinbeifa Downstream Finished Product Carbon Emission Data Statistics
20	20-Anhui Xinbeifa-2024 Anhui Xinbeifa Upstream Raw Material Usage and Transportation Data Collection List
21	21-Anhui Xinbeifa-2024 Purchased Fixed Assets
22	22-Anhui Xinbeifa-Anhui Air Compressor Contract

23	23-Anhui Xinbeifa-Anhui Xinbeifa Pen City 2024 Fixed Asset Depreciation Details
24	24-Anhui Xinbeifa-Anhui Xinbeifa 2024 Business Travel Data List
25	25-Anhui Xinbeifa-Anhui Xinbeifa Air Compressor Data Collection
26	26-Anhui Xinbeifa-Anhui Xinbeifa Pen City 2024 Employee Commuting Data Collection
27	27-Anhui Xinbeifa-Air Compressor 2024.01-12
28	28-Anhui Xinbeifa-Hazardous Waste Spent Filter Cotton
29	29-Anhui Xinbeifa-Hazardous Waste Treatment Spent Activated Carbon
30	30-Beijing Branch-2024 Beifa Beijing Branch Commuting Table
31	31-Beijing Branch-2024 Beijing Branch Business Travel Data Collection
32	32-Beijing Branch-2024 Sales Outbound Details (Quantity, Amount Table)
33	33-Beijing Branch-Beijing Branch Procurement Inbound Details (Quantity, Amount Table)
34	34-Beijing Branch-Depreciation Details_2024
35	35-Beijing Branch-Beijing Branch Lease Contract

**\*\*\*End of Report\*\*\***