

Hengdian Group DMEGC Magnetics Co., Ltd

Action Plan for Carbon Dioxide Peaking and Carbon Neutrality



Base Period (2022) Carbon Emissions



Base Period (2022) Carbon Emissions

Category	Emissions(t CO ₂ e)	Ratio
Category 1: Direct GHG emissions and removals	63833	3.40%
Category 2: Indirect emissions from input energy	578579	30.84%
Category 3: Indirect emissions from transportation	62501	3.33%
Category 4: Indirect emissions from products usage by organizations	1170910	62.42%
Total	1875823	100.00%

Direct greenhouse gas emissions (From Jan to Dec, 2022)

63833 tCO₂e, accounting for 3.40%, In which:

- ❑ carbon dioxide emissions: **61988** t
- ❑ methane emissions: **55.205** t
- ❑ nitrous oxide emissions: **0.126** t
- ❑ HFCs emissions: **0.157** t

Indirect emissions from input energy

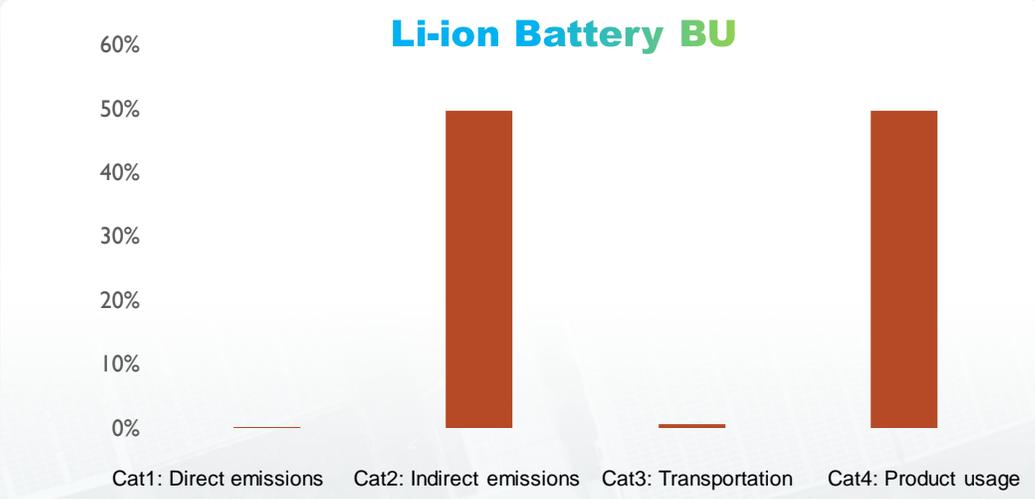
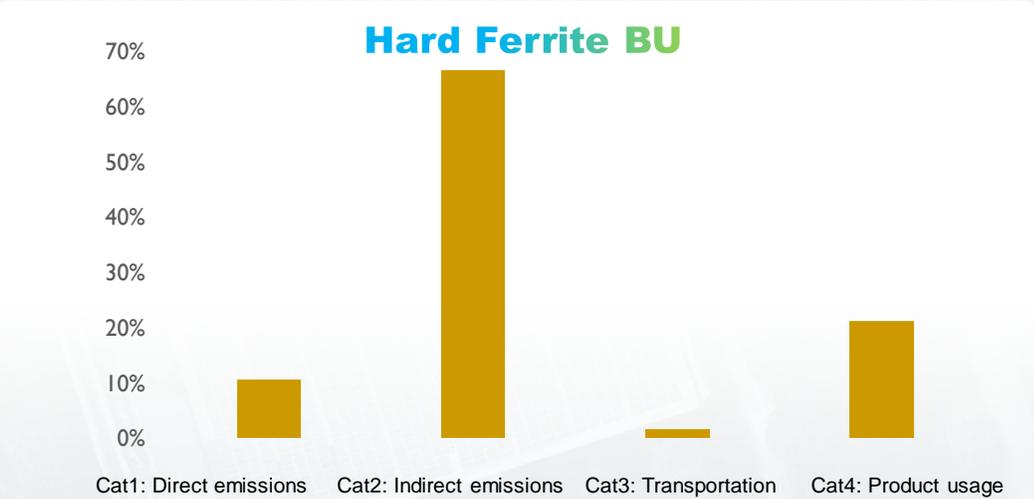
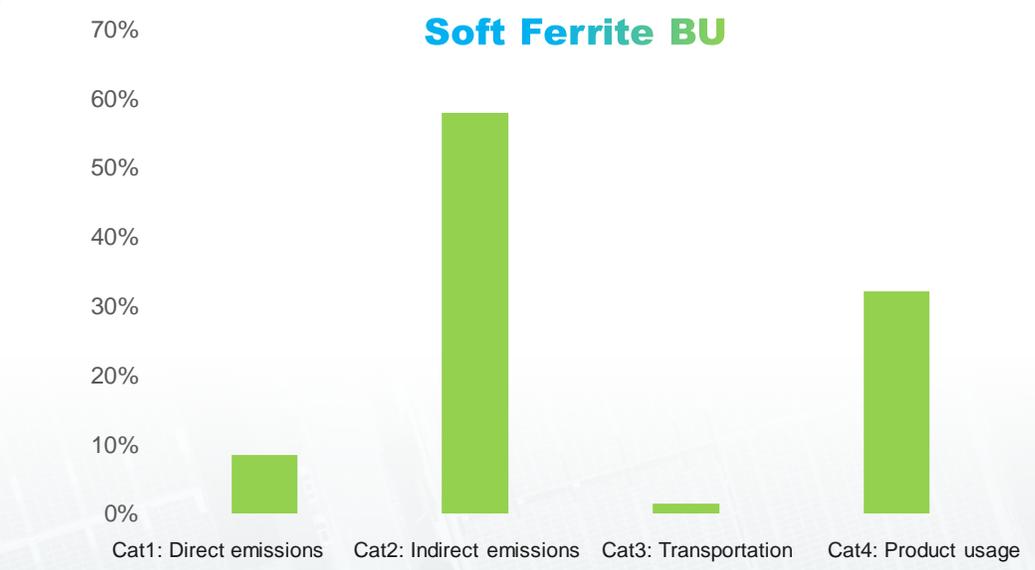
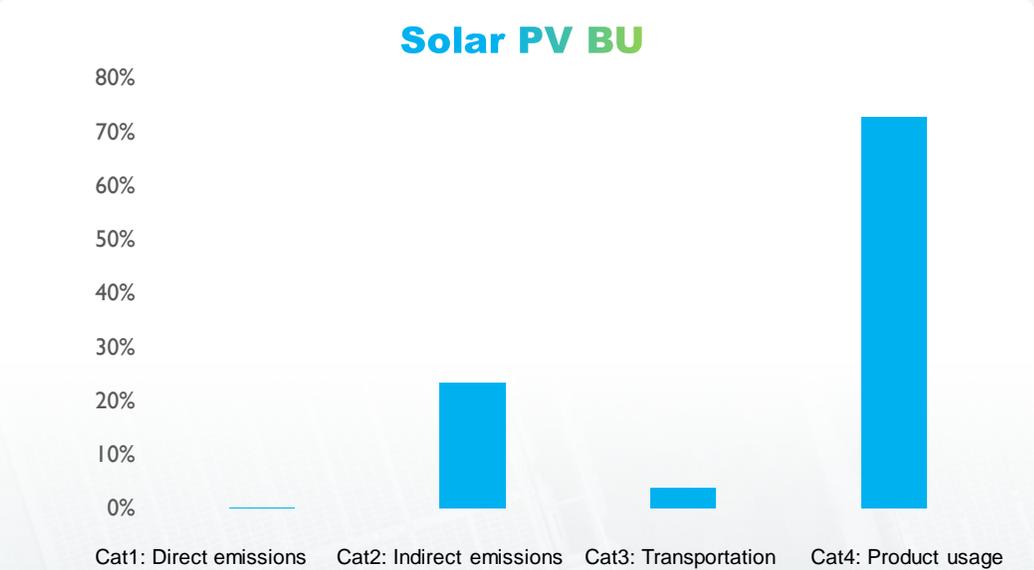
(From Jan to Dec, 2022)

578,579 tCO₂e, accounting for 30.84%

considered as emissions for electricity and heat consumption

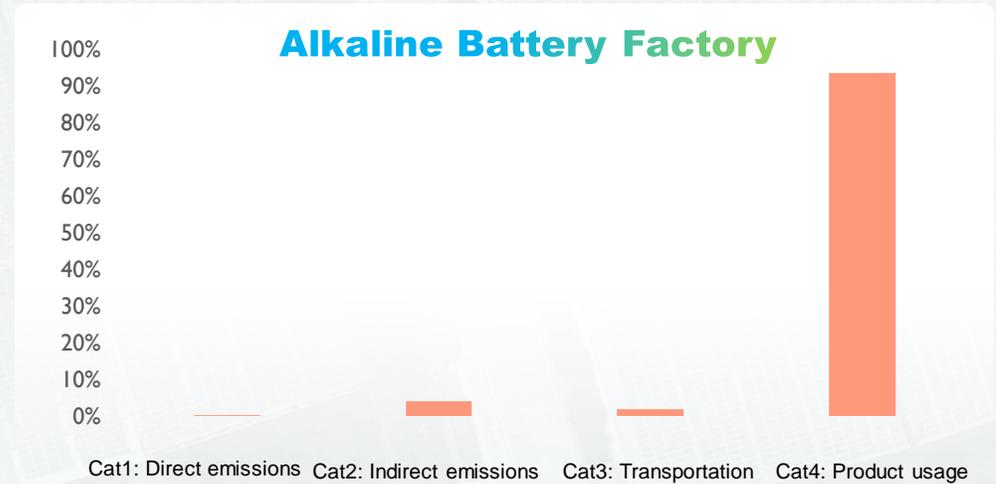
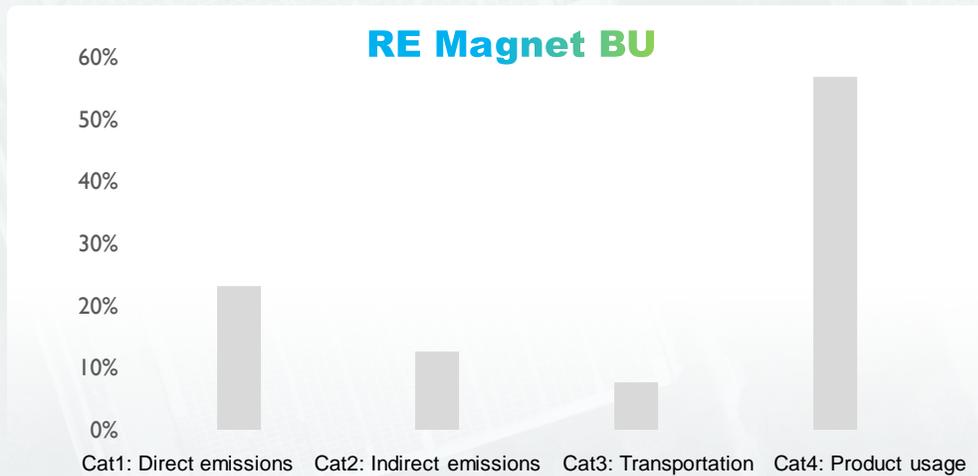
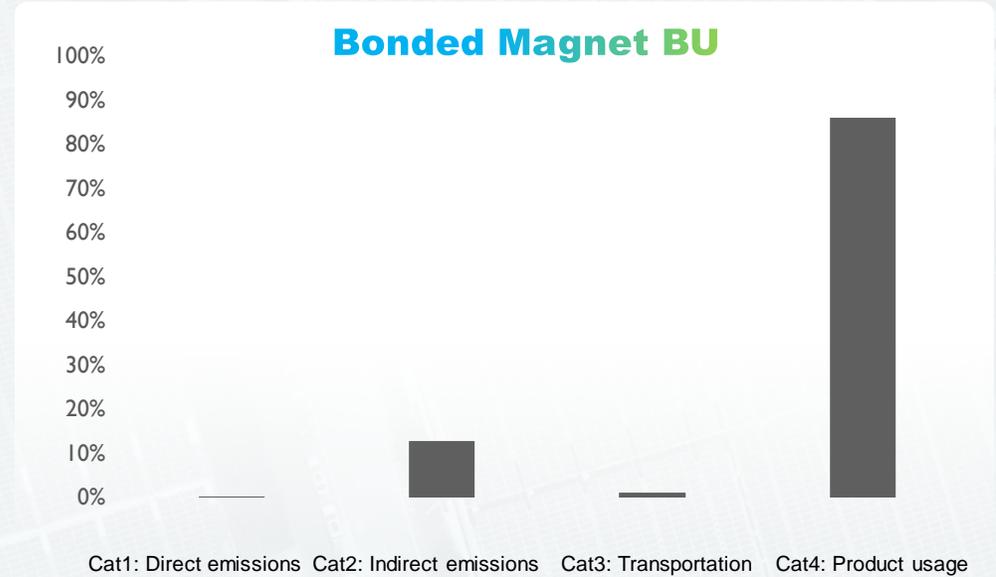
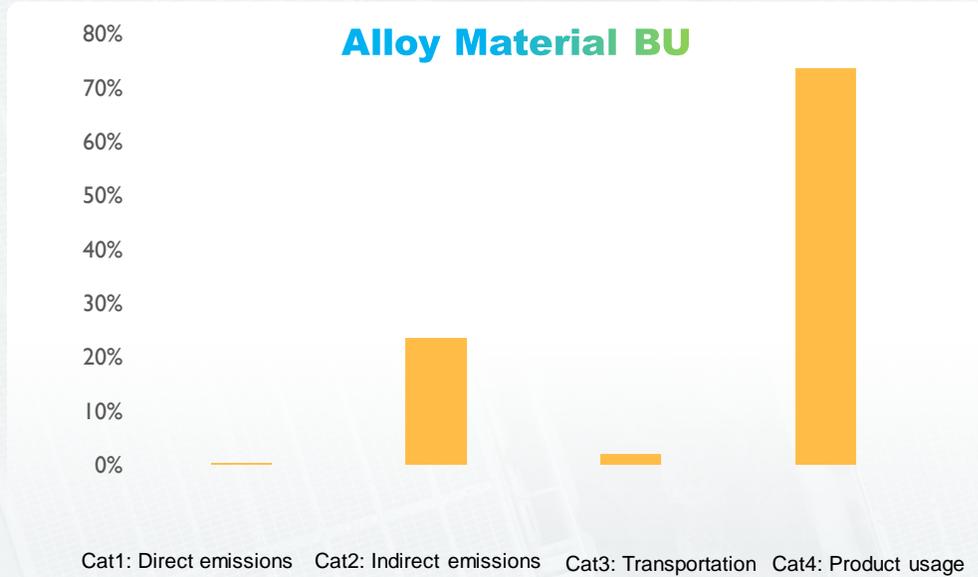
Base Period (2022) Carbon Emissions

DMEGC



Base Period (2022) Carbon Emissions

DMEGC



Base Period (2022) Carbon Emissions



No.	Department	Total emissions in 2022 (tons of carbon dioxide equivalent)	Carbon emissions per unit product
1	Solar PV BU	1,222,737	207.86 tCO ₂ e/MW
2	Soft Ferrite BU	175,156	7.78 tCO ₂ e /ton
3	Hard Ferrite BU	184,263	2.22 tCO ₂ e/ton
4	Li-ion Battery BU	88,694	4.26 tCO ₂ e/10K pcs
5	Alloy Material BU	12,772	16.55 tCO ₂ e/ton
6	Bonded Magnet BU	54,337	4.94 tCO ₂ e/ton
7	RE Magnet BU	118,884	1.10 tCO ₂ e/ton
8	Alkaline Battery Factory	18,980	0.75 tCO ₂ e/10K pcs
TOTAL		1,875,823	/



CEPREI



中国认可
国际认证
审定核查
VALIDATION VERIFICATION
CNAS C012-V

Greenhouse Gas Verification Statement

(Original)
This is to certify that

The Greenhouse Gas Inventory (2022.01.01 ~ 2022.12.31) of

HENGDIAN GROUP DMEGC MAGNETICS CO.,LTD.

has been verified in accordance with ISO 14064-1:2018 and ISO 14064-3:2019 as meeting the requirements of

ISO 14064-1:2018

Total GHG Emissions: 1,875,823 tCO₂e

Category 1: Direct CH₄ emissions and removals: 63,833 tCO₂e
 Category 2: Indirect GHG emissions from imported energy: 578,579 tCO₂e
 Category 3: Indirect GHG emissions from transportation: 62,501 tCO₂e
 Category 4: Indirect GHG emissions from products used by organization: 1,170,910 tCO₂e

Registration Address: Hengdian Industrial Zone, Dongyang, Zhejiang Province

Organizational Boundaries: Hengdian Industrial Zone, Dongyang, Zhejiang Province, Hengdian Group DMEGC Production Area

Activities: The development and production of Hard Ferrite Series Magnet and Soft Ferrite Series Magnet (including Alloy Powder Cores and Nanocrystalline and Inductor Products); Hard Magnet Ferrite Powder Products, Alkaline Zinc-manganese Batteries, Lithium-Ion Battery, Carbide Products and unspun Products, Bonded ferrite(including rubber magnets and overmolding magnets), Monocrystalline / Polycrystalline Cells and Battery Packs.

Level of Assurance: Reasonable assurance

Materiality: 5%



No. C14064-2023-GHG-0057
Issue date: 2023.10.09
Re-issue Date: 2023.1.27

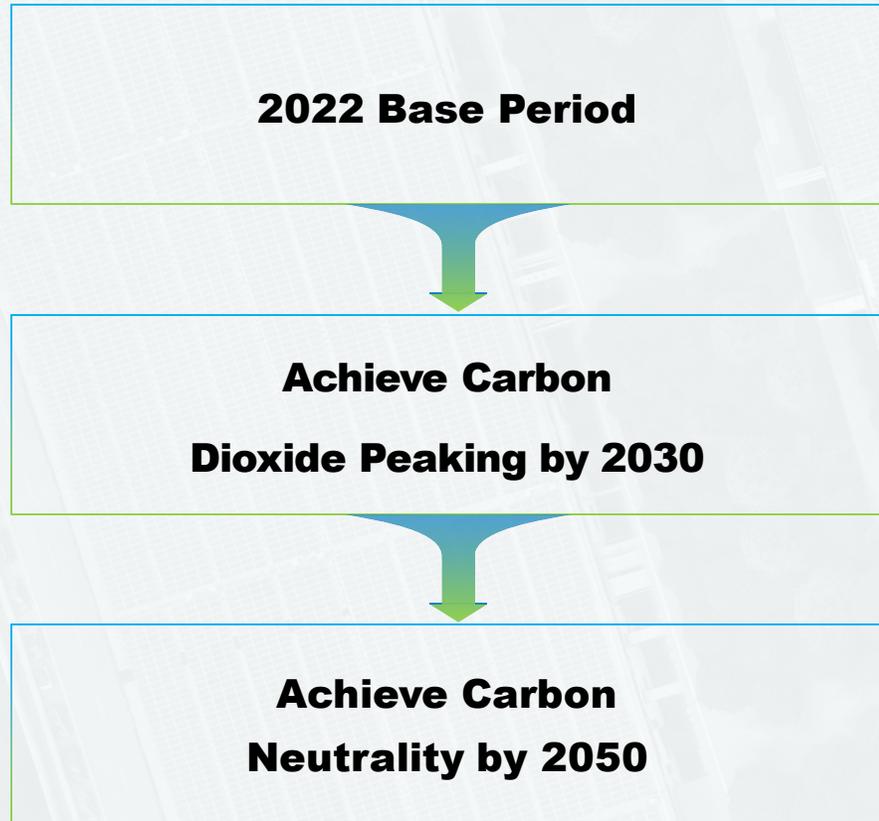


Zhaoguo
General Manager
CEPREI CERTIFICATION BODY

Target for Carbon Dioxide Peaking and Carbon Neutrality



Dual Carbon Goals



Activity level	Activity level value	Unit
Natural gas consumption	2797.48	10KNm3
Gasoline consumption	0	t
Acetylene consumption	321.642	Kg
Diesel consumption (emergency generator)	0.11	t
Diesel consumption (forklift)	134.376	t
R410a filling capacity	43	Kg
R134a filling capacity	108	Kg
R123 filling capacity	0	Kg
CO ₂ fire extinguisher usage	363	Kg
Product welding	600	Kg
Employee	12529	person
Steam	62388	t
Purchased electricity	795423.553	MWH

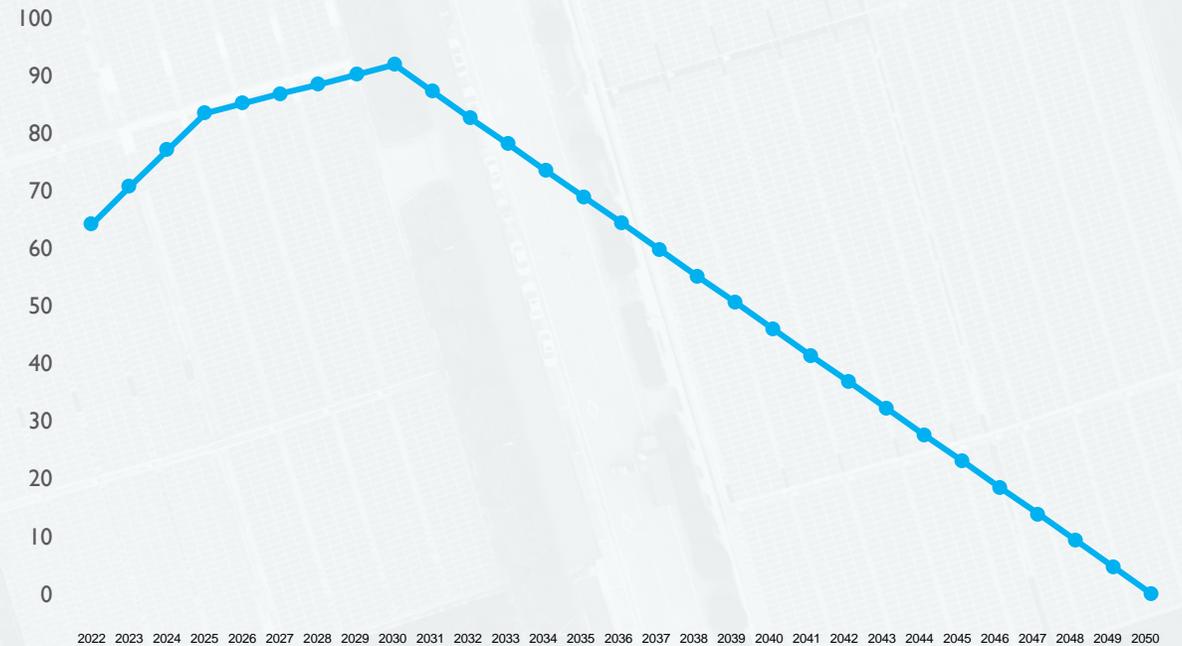
- ❑ The implementation of carbon neutrality mainly targets Cat 1 + Cat 2
- ❑ 2022 Base Period Emissions (Cat 1, Cat 2) 642,412 tCO₂

Dual Carbon Goals

Forecast based on the growth of production capacity:

- 30% increase in 2025 compared to the 2022 benchmark year, 10% increase compared to 2025 in 2030.
- By 2025, the emissions will reach **835.1 thousand tCO₂**, by 2030 the emissions will reach **918.6 thousand tCO₂**.
- Fixed annual carbon reduction rate from 2030 to 2050, the annual net reduction will be approximately **46,000 tons of CO₂**.

Year	Emission Target (10K tCO ₂)
2022	64.24
2025	83.51
2030	91.86
2035	68.9
2040	45.93
2045	22.97
2050	0



Dual Carbon Goals

Solar PV BU

Soft Ferrite BU

Year	Emissions(10KtCO ₂)
2022	28.66
2025	37.26
2030	40.99
2035	30.74
2040	20.49
2045	10.25
2050	0.00

Year	Emissions(10KtCO ₂)
2022	11.63
2025	15.11
2030	16.63
2035	12.47
2040	8.31
2045	4.16
2050	0.00

In 2025, the emissions reached **372,600 tCO₂**.

In 2030, the emissions reached **409,900 tCO₂**.

The annual net emission reduction from 2030 to 2050 is approximately **20,000 tCO₂**.

In 2025, the emissions reached **151,100 tCO₂**.

In 2030, the emissions reached **166,300 tCO₂**.

The annual net emission reduction from 2030 to 2050 is approximately **8,000 tCO₂**.

Dual Carbon Goals

Hard Ferrite BU

Year	Emissions(10KtCO ₂)
2022	14.26
2025	18.54
2030	20.39
2035	15.29
2040	10.20
2045	5.10
2050	0.00

In 2025, the emissions reached **185,400 tCO₂**.

In 2030, the emissions reached **203,900 tCO₂**.

The annual net emission reduction from 2030 to 2050 is approximately **10,000 tCO₂**.

Li-ion Battery BU

Year	Emissions(10KtCO ₂)
2022	4.36
2025	5.67
2030	6.24
2035	4.68
2040	3.12
2045	1.56
2050	0.00

In 2025, the emissions reached **56,700 tCO₂**.

In 2030, the emissions reached **62,400 tCO₂**.

The annual net emission reduction from 2030 to 2050 is approximately **3,000 tCO₂**.

Dual Carbon Goals

Alloy Material BU

Year	Emissions(tCO ₂)
2022	3080
2025	4004
2030	4405
2035	3304
2040	2202
2045	1101
2050	0.00

In 2025, the emissions reached **4,004 tCO₂**.

In 2030, the emissions reached **4,405 tCO₂**.

The annual net emission reduction from 2030 to 2050 is approximately **220 tCO₂**.

Bonded Magnet BU

Year	Emissions(tCO ₂)
2022	7000
2025	9100
2030	10010
2035	7507
2040	5005
2045	2502
2050	0.00

In 2025, the emissions reached **9,100 tCO₂**.

In 2030, the emissions reached **10,000 tCO₂**.

The annual net emission reduction from 2030 to 2050 is approximately **500 tCO₂**.

Dual Carbon Goals

RE Magnet BU

Year	Emissions(10KtCO ₂)
2022	4.24
2025	5.51
2030	6.06
2035	4.55
2040	3.03
2045	1.52
2050	0.00

In 2025, the emissions reached **55,100 tCO₂**.

In 2030, the emissions reached **60,600 tCO₂**.

The annual net emission reduction from 2030 to 2050 is approximately **3,000 tCO₂**.

Alkaline Battery Factory

Year	Emissions(tCO ₂)
2022	843.87
2025	1097.03
2030	1206.73
2035	905.05
2040	603.36
2045	301.68
2050	0.00

In 2025, the emissions reached **1,097 tCO₂**.

In 2030, the emissions reached **1,207 tCO₂**.

The annual net emission reduction from 2030 to 2050 is approximately **60 tCO₂**.

Carbon Neutrality Implementation Plan



Autonomous emission reduction plan

DMEGC

Emission reduction in 2023

17019.72 tCO₂

In which:

Solar PV BU	15825.83 tCO ₂
Li-ion Battery BU	912.48 tCO ₂
Alloy Material BU	36.79 tCO ₂
Bonded Magnet BU	237.79 tCO ₂
RE Magnet BU	6.84 tCO ₂

Emission reduction in 2024

8816.09 tCO₂

In which:

Soft Ferrite BU	3555.03 tCO ₂
Li-ion Battery BU	4319.03 tCO ₂
RE Magnet BU	932.41 tCO ₂
Alkaline Battery Factory	9.56 tCO ₂

Autonomous emission reduction plan

DMEGC

Emission reduction in 2025

2533.4 tCO₂

Emission reduction in 2026

2362.44 tCO₂

In which:

Solar PV BU

570.3 tCO₂

Li-ion Battery BU

1914.05 tCO₂

Alloy Material BU

49.05 tCO₂

In which:

Soft Ferrite BU

1710.9 tCO₂

RE Magnet BU

570.3 tCO₂

Alkaline Battery Factory

81.24 tCO₂

Autonomous emission reduction plan

DMEGC

Emission reduction in 2028

487.33 tCO₂

Emission reduction in 2030

6141.43 tCO₂

In which:

Hard Ferrite BU

487.33 tCO₂

In which:

Soft Ferrite BU

228.15 tCO₂

Hard Ferrite BU

5906.44 tCO₂

RE Magnet BU

6.84 tCO₂

Autonomous emission reduction plan

DMEGC

After 2030, the energy consumption level of DMEGC will remain at the 2030 level, and the company's output value will continue to grow.

However, due to the company's actions including energy-saving, carbon reduction, and efficiency enhancement, under the same energy and material consumption, more products can be produced, or products with higher added value can be produced. As the output value increases year after year, the carbon emissions decrease year after year, which means **that economic growth and carbon emissions are "decoupled"**.

Under the goal of carbon peak and carbon neutrality, due to the improvement of green and low-carbon transformation, electricity cleaning, and energy efficiency of the entire society, DMEGC carbon emissions will decrease while its consumption remains stable.

Specific measures and directions:

- ❑ Usage of Green Electricity
 - ❑ CCER Project Implementation
 - ❑ Promotion of Renewable Energy
 - ❑ Energy Storage Project Application
-

Company emission forecast

After considering autonomous emission reduction measures:
 the emissions in 2025 will reach **0.8068 million tCO₂**
 the emissions in 2030 will reach **0.8785 million tCO₂**



Year	Emissions(10KtCO ₂)
2022	64.24
2023	69.72
2024	75.20
2025	80.68
2026	82.11
2027	83.54
2028	84.98
2029	86.41
2030	87.85
2031	83.45
2032	79.06
2033	74.67
2034	70.28
2035	65.88
2036	61.49
2037	57.10
2038	52.71
2039	48.31
2040	43.92
2041	39.53
2042	35.14
2043	30.75
2044	26.35
2045	21.96
2046	17.57
2047	13.18
2048	8.78
2049	4.39
2050	0.00

Emission forecast for each department

Solar PV BU

Soft Ferrite BU

Year	After implementing emission reduction measures(10KtCO ₂)
2022	/
2025	35.62
2030	39.19
2035	29.39
2040	19.59
2045	9.80
2050	0.00

Year	After implementing emission reduction measures(10KtCO ₂)
2022	/
2025	14.76
2030	16.04
2035	12.03
2040	8.02
2045	4.01
2050	0.00

Emission forecast for each department

DMEGC

Hard Ferrite BU

Li-ion Battery BU

Year **After implementing emission
reduction measures(10KtCO₂)**

2022	/
2025	18.54
2030	19.75
2035	14.81
2040	9.88
2045	4.94
2050	0.00

Year **After implementing emission
reduction measures(10KtCO₂)**

2022	/
2025	4.95
2030	5.45
2035	4.09
2040	2.72
2045	1.36
2050	0.00

Emission forecast for each department

Alloy Material BU

Bonded Magnet BU

Year	After implementing emission reduction measures(10KtCO ₂)
2022	/
2025	0.39
2030	0.43
2035	0.32
2040	0.22
2045	0.11
2050	0.00

Year	After implementing emission reduction measures(10KtCO ₂)
2022	/
2025	0.89
2030	0.97
2035	0.73
2040	0.49
2045	0.24
2050	0.00

Emission forecast for each department

RE Magnet BU

Alkaline Battery Factory

Year	After implementing emission reduction measures(10KtCO ₂)
2022	/
2025	5.42
2030	5.90
2035	4.42
2040	2.95
2045	1.47
2050	0.00

Year	After implementing emission reduction measures(10KtCO ₂)
2022	/
2025	0.108
2030	0.111
2035	0.083
2040	0.055
2045	0.028
2050	0.00

Walking with Zero-Carbon



Walking with Zero-Carbon



In September 2023, the international authoritative testing and certification agency, TÜV SÜD, issued the "Green Energy Consumption Verification Statement" and "Greenhouse Gas Verification Statement" to DMEGC, and confirmed that DMEGC factory has **achieved "100% green electricity consumption"** in accordance with the implementation rules of green energy consumption verification.

ATTESTATION ◆ ATTESTATO ◆ ATESTACIÓN ◆ BESCHEINIGUNG ◆ ATTESTATION


China

Green Energy Consumption Verification Statement

No. V1SUS 122676 0002 Rev. 00

Client: Jiangsu DMEGC New Energy Co., Ltd
No.5, Wujiang East Road, Si Hong County, 223900 Suzhou City, Jiangsu Province, PEOPLES REPUBLIC OF CHINA

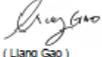
Responsible Party: Jiangsu DMEGC New Energy Co., Ltd
No.5, Wujiang East Road, Si Hong County, 223900 Suzhou City, Jiangsu Province, PEOPLES REPUBLIC OF CHINA
CCB20230801 REV. 00

Specified Requirement: Organizational Boundary
Operational Control: CCB_GHG_GR_D10CS
Operation Rule : CCB_GHG_GR_D10CS
Level of Assurance : Reasonable Assurance
Proportion of Green Energy Consumption : 100%

Verification Conclusion: The Green Energy Consumption statement verification is based on the operation rule CCB_GHG_GR_D10CS to verify the claim of the responsible party that "The total electricity consumption of Jiangsu DMEGC New Energy Co., Ltd at the organizational level from 2023/05/01 to 2023/08/31 are 37015.908 MWh, all of which are green electricity, achieving 100% green electricity consumption". It was verified with regard to compliance with the requirements of VVTP: CCB20230801 REV.00. The objective of verification is to confirm that the relevant calculation of the organization's proportion of green energy consumption conforms to the requirements of the relevant verification criteria. The scope of verification is based on all facilities and activities within the organizational boundary of the responsible party. The data and information supporting the claim was historical in nature.

The objective of green energy consumption verification is to confirm whether the information declared in the claim fulfills specified requirements. The green energy consumption verification statement is issued by TÜV SÜD, acting as the third-party validation and verification body, based upon the claim from the responsible party. The responsible party is responsible for the claim and its conformity with the applicable specified requirements. This statement does not relieve the responsible party from compliance with any bylaws, federal, national or regional acts and regulations or with any guidelines issued pursuant to such regulations. Stipulations to the contrary are not binding on TÜV SÜD and TÜV SÜD shall have no responsibility vis-à-vis parties other than responsible party.

Report No.: 707312374002-00
Issue Date: 2023-09-28


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ATTESTATION ◆ ATTESTATO ◆ ATESTACIÓN ◆ BESCHEINIGUNG ◆ ATTESTATION


China

Green Energy Consumption Verification Statement

No. V1SUS 076043 0129 Rev. 00

Client: Hengdian Group DMEGC Magnetics CO., LTD
Hengdian Industrial Zone
322118 Dongyang, Zhejiang, PEOPLES REPUBLIC OF CHINA

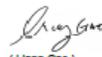
Responsible Party: Hengdian Group DMEGC Magnetics CO., LTD
Hengdian Industrial Zone, 322118 Dongyang, Zhejiang, PEOPLES REPUBLIC OF CHINA

Specified Requirement: Organizational Boundary
Operational Control: CCB_GHG_GR_D10CS
Operation Rule : CCB_GHG_GR_D10CS
Level of Assurance : Reasonable Assurance
Proportion of Green Energy Consumption : 100%

Verification Conclusion: The Green Energy Consumption statement verification is based on the operation rule CCB_GHG_GR_D10CS to verify the claim of the responsible party that "The total electricity consumption of Hengdian Group DMEGC Magnetics CO., LTD Hengdian Module Factory at the organizational level from 2023/05/01 to 2023/08/31 are 6489.406 MWh, all of which are green electricity, achieving 100% green electricity consumption". It was verified with regard to compliance with the requirements of VVTP: CCB20230801 REV.00. The objective of verification is to confirm that the relevant calculation of the organization's proportion of green energy consumption conforms to the requirements of the relevant verification criteria. The scope of verification is based on all facilities and activities within the organizational boundary of the responsible party. The data and information supporting the claim was historical in nature.

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Issue Date: 2023-09-22


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