

2025JNSD00058

2024

□



|                                                              |                   |                       |                                                                                      |
|--------------------------------------------------------------|-------------------|-----------------------|--------------------------------------------------------------------------------------|
|                                                              |                   |                       | 6999                                                                                 |
|                                                              |                   | email                 | 15265636006                                                                          |
| <input checked="" type="checkbox"/> <input type="checkbox"/> |                   |                       |                                                                                      |
|                                                              | /                 |                       | /                                                                                    |
|                                                              | /                 | email                 | /                                                                                    |
|                                                              |                   |                       |                                                                                      |
|                                                              |                   |                       |                                                                                      |
|                                                              |                   |                       |                                                                                      |
| ( ) /                                                        |                   | /                     |                                                                                      |
| ( ) /                                                        |                   | 2025.05.25            |                                                                                      |
|                                                              | CO <sub>2</sub> e | 2024                  |                                                                                      |
| tCO <sub>2</sub> e                                           |                   | /                     |                                                                                      |
|                                                              |                   | 1598                  |                                                                                      |
| tCO <sub>2</sub>                                             |                   | /                     |                                                                                      |
|                                                              |                   | 1598                  |                                                                                      |
|                                                              |                   | /                     |                                                                                      |
|                                                              |                   | 2024                  |                                                                                      |
| 2024                                                         |                   | 1598 tCO <sub>2</sub> |                                                                                      |
|                                                              |                   | 李春红                   |  |
|                                                              |                   |                       |                                                                                      |
|                                                              |                   |                       | 2025 05 28                                                                           |

|          |                       |           |
|----------|-----------------------|-----------|
|          | .....                 | II        |
| <b>1</b> | .....                 | <b>4</b>  |
| 1.1      | .....                 | 4         |
| 1.2      | .....                 | 4         |
| 1.3      | .....                 | 4         |
| <b>2</b> | .....                 | <b>6</b>  |
| 2.1      | .....                 | 6         |
| 2.1.1    | .....                 | 6         |
| 2.1.2    | .....                 | 6         |
| 2.2      | .....                 | 7         |
| 2.3      | .....                 | 8         |
| 2.4      | .....                 | 8         |
| <b>3</b> | .....                 | <b>10</b> |
| 3.1      | .....                 | 10        |
| 3.1.1    | .....                 | 10        |
| 3.1.2    | .....                 | 11        |
| 3.1.3    | .....                 | 14        |
| 3.2      | .....                 | 15        |
| 3.3      | .....                 | 16        |
| 3.3.1    | .....                 | 17        |
| 3.3.2    | CO <sub>2</sub> ..... | 18        |
| 3.3.3    | CH <sub>4</sub> ..... | 18        |
| 3.3.4    | .....                 | 19        |
| 3.4      | .....                 | 20        |
| 3.4.1    | .....                 | 20        |
| 3.4.2    | .....                 | 24        |
| 3.4.3    | .....                 | 26        |
| <b>4</b> | .....                 | <b>27</b> |
| <b>5</b> | .....                 | <b>28</b> |
| 1        | .....                 | 28        |
| 2        | .....                 | 28        |
| 3        | .....                 | 28        |

# 1

## 1.1

6999

2024

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## 1.2

## 1.3

CCSC

1

2

3

4

-

-

-

GB/T 4754-2017

-

-

GB 17167-2025

-

GB/T 2589-2020

-

DL/T 448-2016

-

JJG 596-2012

-

## 2

### 2.1

#### 2.1.1

2-1

2-1

|  |   |
|--|---|
|  | / |
|  |   |
|  |   |
|  |   |
|  |   |

#### 2.1.2

2-2

2-2

|           |  |
|-----------|--|
|           |  |
| 2025.5.24 |  |
| 2025.5.25 |  |
| 2025.5.27 |  |
| 2025.5.28 |  |
| 2025.5.28 |  |
| 2025.5.28 |  |

2.2

2025 5 22

- 1
- 2
- 3
- 4
- 5

2.3

2025 5 23

6

2-3

2-3

|           |  |  |   |
|-----------|--|--|---|
|           |  |  |   |
| 2025.5.23 |  |  | 1 |
| 2025.5.23 |  |  |   |
| 2025.5.23 |  |  | / |

2.4



### 3

#### 3.1

##### 3.1.1

□

□

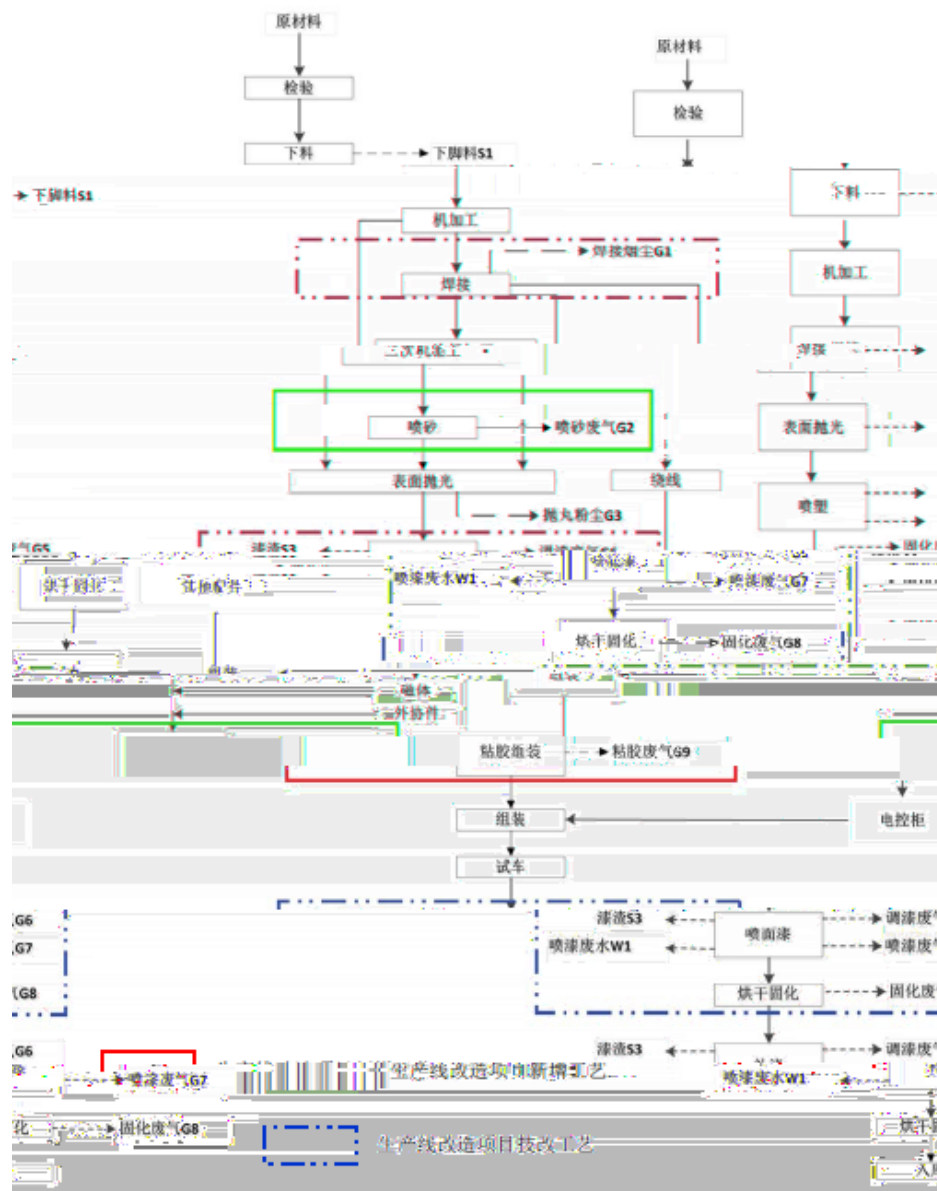
6999

□

1993

831387





3-2

### 3-1

|    |  |                |    |    |
|----|--|----------------|----|----|
|    |  |                |    |    |
| 1  |  | CG2-150        |    | 8  |
| 2  |  | CG1-30         |    | 5  |
| 3  |  | CG1-30         |    | 12 |
| 4  |  | YQ32-315T      |    | 1  |
| 5  |  | WB-12K-40*2000 |    | 2  |
| 6  |  | 150X1840       |    | 3  |
| 7  |  | Q11A-6X2500    |    | 3  |
| 8  |  | WB67Y-300/5000 |    | 2  |
| 9  |  | DK7780         |    | 2  |
| 10 |  | GB4032         |    | 3  |
| 11 |  | C630-IBMG*3000 |    | 12 |
| 12 |  | X52K           |    | 4  |
| 13 |  | Z3050×16/1     |    | 12 |
| 14 |  | BX2025*60      |    | 1  |
| 15 |  | BC6063         |    | 1  |
| 16 |  | SL-3           | —— | 3  |
| 17 |  | DW6-60         |    | 1  |
| 18 |  | BX1-315        | —— | 14 |
| 19 |  | HM-500         | —— | 17 |
| 20 |  | WSM-400        | —— | 12 |
| 21 |  | ZHZNHJ-500*3   | —— | 1  |
| 22 |  | JDZX-801       | —— | 1  |
| 23 |  | QH6925         |    | 1  |

|    |  |                     |   |    |
|----|--|---------------------|---|----|
| 24 |  | 3LW-11/7            |   | 6  |
| 25 |  | —                   | — | 1  |
|    |  |                     |   |    |
| 26 |  | 2G-CE12*6*6M        |   | 1  |
| 27 |  | 2G-CE12*6*6M        |   | 1  |
| 28 |  | 20*6*4              | — | 1  |
| 29 |  | 24×7×4.2            | — | 1  |
|    |  |                     |   |    |
| 30 |  | AF-816              |   | 1  |
| 31 |  | 5*5*3               | — | 1  |
| 32 |  | 4*2*3               | — | 1  |
|    |  |                     |   |    |
| 33 |  | W-300/2             |   | 7  |
| 34 |  | KPX-30-I            |   | 1  |
| 35 |  | GQ40                |   | 1  |
| 36 |  | EX-25500-30         |   | 2  |
| 37 |  | YFL-10              |   | 2  |
| 38 |  | HG1-30              |   | 3  |
| 39 |  | RX-5-2              |   | 7  |
| 40 |  | QD16/3.2-22.5A5     | □ | 15 |
| 41 |  | LD3-22.5A3          | □ | 8  |
| 42 |  | QD16/3.2-22.5<br>A5 | □ | 12 |

### 3.1.3

1

2

|   |  |             |      |  |   |
|---|--|-------------|------|--|---|
|   |  |             |      |  |   |
| 1 |  | DSSD2818-BR | 0.5S |  | 3 |
| 2 |  | DSSD2818-BR | 0.5S |  | 3 |
| 3 |  | DSSD2818-BR | 0.5S |  | 3 |
| 4 |  | DSSD2818-BR | 0.5S |  | 3 |

3.2

|      |  |      |      |   |
|------|--|------|------|---|
|      |  |      |      | 1 |
|      |  | 6999 |      |   |
| 2024 |  |      | 2024 |   |

3-2

|   |  |                 |   |   |
|---|--|-----------------|---|---|
|   |  |                 |   |   |
| 1 |  | CO <sub>2</sub> |   |   |
|   |  | CO <sub>2</sub> |   |   |
|   |  | CO <sub>2</sub> |   |   |
| 2 |  | CO <sub>2</sub> |   | / |
| 3 |  | CO <sub>2</sub> |   | / |
| 4 |  | CO <sub>2</sub> | / |   |
| 5 |  | CO <sub>2</sub> | / |   |
| 1 |  |                 |   |   |



3.3.1

$$E_{\text{燃烧}}=\sum_{i=1}^n(AD_i\times EF_i)$$

|                 |   |                      |
|-----------------|---|----------------------|
| E               |   | tCO <sub>2</sub>     |
| AD <sub>i</sub> | i | GJ                   |
| EF <sub>i</sub> | i | tCO <sub>2</sub> /GJ |
| i               |   |                      |

$$AD_i=NCV_i\times FC_i$$

|                  |      |                     |
|------------------|------|---------------------|
| AD <sub>i</sub>  | i    | GJ                  |
| NCV <sub>i</sub> | i    |                     |
|                  | GJ/t | GJ/ Nm <sup>3</sup> |
| FC <sub>i</sub>  | i    |                     |
| t                |      | Nm <sup>3</sup>     |
| i                |      |                     |

$$EF_i=CC_i\times OF_i\times \frac{44}{12}$$

|                 |   |                      |
|-----------------|---|----------------------|
| EF <sub>i</sub> | i | tCO <sub>2</sub> /GJ |
|-----------------|---|----------------------|

CC<sub>i</sub>

i

tC/GJ

OF<sub>i</sub>

i

%

i

3.3.2

CO<sub>2</sub>

CO<sub>2</sub>

CO<sub>2</sub>

$$E_{CO_2} = \sum (AD_i \times EF_i \times PUR_i)$$

E<sub>CO2</sub>

CO<sub>2</sub>

CO<sub>2</sub>

i

AD<sub>i</sub>

i

EF<sub>i</sub>

i

CO<sub>2</sub>

CO<sub>2</sub>/

i

PUR<sub>i</sub>

i

3.3.3

CH<sub>4</sub>

CH<sub>4</sub>

$$E_{CH_4} = \frac{(TOW - F) \times EF_{CH_4}}{CH_4} \times 10^{-3}$$

|             |        |     |
|-------------|--------|-----|
| $E_{CH_4}$  | $CH_4$ |     |
| TOW         |        |     |
| COD         | COD    |     |
| S           |        | COD |
|             | COD    |     |
| $EF_{CH_4}$ | $CH_4$ |     |
| $CH_4/$     | COD    |     |

### 3.3.4

$$E = AD \times EF$$

|    |        |            |
|----|--------|------------|
| E  | $CO_2$ | $tCO_2$    |
| AD | MWh    |            |
| EF |        | $CO_2/MWh$ |

$$E = AD \times EF$$

|           |        |         |
|-----------|--------|---------|
| E         | $CO_2$ | $tCO_2$ |
| AD        |        | GJ      |
| EF        |        |         |
| $CO_2/GJ$ |        |         |

3.4

/

3-3

/

|                 |  |   |
|-----------------|--|---|
|                 |  | / |
| CO <sub>2</sub> |  |   |
|                 |  |   |
|                 |  |   |
|                 |  |   |
|                 |  |   |
|                 |  |   |
| CO <sub>2</sub> |  |   |

3.4.1

3.4.1.1

1

3-4

|  |                |         |
|--|----------------|---------|
|  | 2024           | 0.70520 |
|  |                |         |
|  | m <sup>3</sup> |         |
|  | 2024           |         |
|  |                |         |
|  |                |         |
|  |                |         |
|  | /              |         |
|  |                |         |
|  | 2024           |         |
|  |                |         |

2

3-5

|  |                    |
|--|--------------------|
|  | 389.31             |
|  |                    |
|  | GJ/ m <sup>3</sup> |
|  |                    |
|  |                    |

3

3-6

|  |      |       |
|--|------|-------|
|  | 2024 | 15.47 |
|--|------|-------|

|  |      |
|--|------|
|  |      |
|  | t    |
|  | 2024 |
|  |      |
|  |      |
|  |      |
|  | /    |
|  |      |
|  | 2024 |
|  |      |

4

3-7

|  |       |
|--|-------|
|  | 43.33 |
|  |       |
|  | GJ/t  |
|  |       |
|  |       |

5

3-8

|  |      |       |
|--|------|-------|
|  | 2024 | 41.30 |
|  |      |       |
|  | t    |       |
|  | 2024 |       |
|  |      |       |
|  |      |       |
|  |      |       |
|  | /    |       |
|  |      |       |
|  |      | 2024  |
|  |      |       |

6

3-9

|  |      |
|--|------|
|  | 44.8 |
|  |      |
|  | GJ/t |
|  |      |
|  |      |

3.4.1.2

7

3-10

|  |       |            |
|--|-------|------------|
|  | 2024  | 2623.932   |
|  |       |            |
|  | MWh   |            |
|  | 2024  |            |
|  |       |            |
|  |       |            |
|  |       |            |
|  |       |            |
|  |       |            |
|  | 2024  | 2672.424MW |
|  | 1.85% |            |
|  |       |            |

3.4.2

3.4.2.1

1

3-11

|  |         |    |
|--|---------|----|
|  |         |    |
|  | tC/GJ   | %  |
|  | 0.01530 | 99 |
|  |         |    |

|  |      |
|--|------|
|  | 2024 |
|--|------|

2

3-12

|  |        |    |
|--|--------|----|
|  |        |    |
|  | tC/GJ  | %  |
|  | 0.0202 | 98 |
|  |        |    |
|  | 2024   |    |

3

3-13

|  |        |    |
|--|--------|----|
|  |        |    |
|  | tC/GJ  | %  |
|  | 0.0189 | 98 |
|  |        |    |
|  | 2024   |    |

3.4.2.2

CO<sub>2</sub>

1

3-14

|  |                       |
|--|-----------------------|
|  | 0.5366                |
|  |                       |
|  | tCO <sub>2</sub> /MWh |

|  |              |
|--|--------------|
|  | 2022         |
|  | 2024 33      |
|  | 2022 2024 33 |

### 3.4.3

2024

1

#### 3-15

|      |  | t<br>m3 | GJ/t/  | tC/GJ  | %  | tCO <sub>2</sub>    |
|------|--|---------|--------|--------|----|---------------------|
|      |  | A       | B      | C      | D  | E=A*B*C*D/100*44/12 |
| 2024 |  | 15.47   | 43.33  | 0.0202 | 98 | 48.66               |
|      |  | 41.30   | 44.8   | 0.0189 | 98 | 125.66              |
|      |  | 0.70520 | 389.31 | 0.0153 | 99 | 15.25               |
|      |  |         |        |        |    | <b>189.57</b>       |

2

#### 3-16

|      |          |                       | CO <sub>2</sub>  |
|------|----------|-----------------------|------------------|
|      | MWh      | tCO <sub>2</sub> /MWh | tCO <sub>2</sub> |
|      | A        | B                     | C=A*B            |
| 2024 | 2623.932 | 0.5366                | <b>1408.00</b>   |

3

3-17

tCO<sub>2</sub>

|                     | 2024    |
|---------------------|---------|
| (tCO <sub>2</sub> ) | 189.57  |
| (tCO <sub>2</sub> ) | 1408.00 |
| (tCO <sub>2</sub> ) | 0.00    |
| (tCO <sub>2</sub> ) | 0.00    |
| tCO <sub>2</sub>    | 1598    |

4

2024

2024

4-1 2024

|                     | 2024    |
|---------------------|---------|
| (tCO <sub>2</sub> ) | 189.57  |
| (tCO <sub>2</sub> ) | 1408.00 |
| (tCO <sub>2</sub> ) | 0.00    |
| (tCO <sub>2</sub> ) | 0.00    |
| tCO <sub>2</sub>    | 1598    |

5

1

|   |  |   |   |   |
|---|--|---|---|---|
|   |  |   |   |   |
| / |  | / | / | / |

2

1

2

3

|    |      |
|----|------|
|    |      |
| .1 | □    |
| .2 | □    |
| .3 | □    |
| .4 | □    |
| .5 |      |
| .6 | 2024 |