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## **TIANNENG POWER INTERNATIONAL LIMITED**

**天能動力國際有限公司**

*(Incorporated in the Cayman Islands with limited liability)*

**(Stock Code: 00819)**

### **INTERIM RESULTS ANNOUNCEMENT FOR THE SIX MONTHS ENDED 30 JUNE 2023**

#### **FINANCIAL HIGHLIGHTS**

- Revenue increased by approximately 33.66% to approximately RMB41,471 million.
- Gross Profit increased by approximately 27.49% to approximately RMB3,034 million.
- Profit attributable to the owners of the Company increased by approximately 20.86% to approximately RMB918 million.
- Basic earnings per share increased by approximately 20.85% to RMB81.54 cents.

#### **INTERIM RESULTS**

The board (the “**Board**”) of directors (the “**Directors**”) of Tianneng Power International Limited (the “**Company**” or “**Tianneng**”) announces the unaudited interim results of the Company and its subsidiaries (collectively, the “**Group**”) for the six months ended 30 June 2023, together with the comparative figures for the same period in 2022. These condensed consolidated interim financial statements have not been audited, but have been reviewed by the Company’s independent external auditors and the audit committee of the Company (the “**Audit Committee**”).

## CONDENSED CONSOLIDATED STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME

*For the six months ended 30 June 2023*

	<i>Notes</i>	<b>Six months ended 30 June</b>	
		<b>2023</b>	2022
		<b><i>RMB'000</i></b>	<i>RMB'000</i>
		<b>(unaudited)</b>	(unaudited)
Revenue	3	41,471,150	31,026,206
Cost of sales		<b>(38,437,580)</b>	(28,646,673)
		<hr/>	<hr/>
Gross profit		<b>3,033,570</b>	2,379,533
Other income	5	<b>791,903</b>	677,583
Other gains and losses	6	<b>(34,210)</b>	(11,488)
Impairment losses recognised under expected credit loss model, net of reversal		<b>(64,250)</b>	(31,575)
Distribution and selling expenses		<b>(673,958)</b>	(461,613)
Administrative expenses		<b>(695,966)</b>	(568,190)
Research and development costs		<b>(829,342)</b>	(708,943)
Other expenses		<b>(7,281)</b>	(7,989)
Share of results of associates		<b>(523)</b>	508
Finance costs		<b>(237,676)</b>	(153,358)
		<hr/>	<hr/>
<b>Profit before tax</b>		<b>1,282,267</b>	1,114,468
Income tax expense	7	<b>(274,293)</b>	(213,321)
		<hr/>	<hr/>
<b>Profit for the period</b>	8	<b>1,007,974</b>	901,147
		<hr/>	<hr/>

**CONDENSED CONSOLIDATED STATEMENT OF PROFIT OR LOSS AND OTHER  
COMPREHENSIVE INCOME** *(Continued)*

*For the six months ended 30 June 2023*

	<b>Six months ended 30 June</b>	
	<b>2023</b>	2022
	<i>RMB'000</i>	<i>RMB'000</i>
	<b>(unaudited)</b>	(unaudited)
Other comprehensive (expense) income:		
<i>Item that will not be reclassified to profit or loss:</i>		
Fair value loss on investments in equity instruments at fair value through other comprehensive income (“FVTOCI”)	<u>(2,665)</u>	<u>(5,241)</u>
<i>Item that may be reclassified subsequently to profit or loss:</i>		
Fair value gain on debt instruments measured at FVTOCI, net of income tax	<u>–</u>	<u>5,687</u>
Other comprehensive (expense) income for the period, net of income tax	<u>(2,665)</u>	<u>446</u>
<b>Total comprehensive income for the period</b>	<b><u><u>1,005,309</u></u></b>	<b><u><u>901,593</u></u></b>

**CONDENSED CONSOLIDATED STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME** *(Continued)*

*For the six months ended 30 June 2023*

		<b>Six months ended 30 June</b>	
		<b>2023</b>	2022
	<i>Note</i>	<b>RMB'000</b>	<b>RMB'000</b>
		<b>(unaudited)</b>	<b>(unaudited)</b>
<b>Profit for the period attributable to:</b>			
Owners of the Company		<b>918,209</b>	759,754
Non-controlling interests		<b>89,765</b>	141,393
		<hr/> <b>1,007,974</b> <hr/>	<hr/> 901,147 <hr/>
<b>Total comprehensive income for the period attributable to:</b>			
Owners of the Company		<b>915,544</b>	760,200
Non-controlling interests		<b>89,765</b>	141,393
		<hr/> <b>1,005,309</b> <hr/>	<hr/> 901,593 <hr/>
<b>Earnings per share</b>			
	<i>10</i>		
– Basic (RMB cents)		<b>81.54</b>	67.47
		<hr/> <b>81.54</b> <hr/>	<hr/> 67.47 <hr/>
– Diluted (RMB cents)		<b>79.86</b>	66.23
		<hr/> <b>79.86</b> <hr/>	<hr/> 66.23 <hr/>

## CONDENSED CONSOLIDATED STATEMENT OF FINANCIAL POSITION

At 30 June 2023

	<i>Note</i>	<b>30/06/2023</b>	31/12/2022
		<b>RMB'000</b>	RMB'000
		<b>(unaudited)</b>	(audited)
<b>Non-current Assets</b>			
Property, plant and equipment		<b>9,547,078</b>	8,486,582
Right-of-use assets		<b>1,384,530</b>	1,249,263
Goodwill		<b>499</b>	499
Interests in associates		<b>270,296</b>	228,227
Equity instruments at FVTOCI		<b>321,418</b>	324,083
Deferred tax assets		<b>967,517</b>	790,922
Deposits for acquisition of property, plant and equipment		<b>1,564,472</b>	973,742
Loan receivables		<b>377,057</b>	333,436
Pledged/restricted bank deposits		<b>1,160,000</b>	1,210,000
		<hr/> <b>15,592,867</b>	<hr/> 13,596,754
<b>Current Assets</b>			
Inventories		<b>7,129,126</b>	6,840,510
Properties under development for sale		<b>1,065,015</b>	860,626
Bills, trade and other receivables	<i>11</i>	<b>5,391,152</b>	5,041,205
Loan receivables		<b>1,010,870</b>	930,503
Amounts due from related parties		<b>485</b>	1,478
Debt instruments at FVTOCI		<b>436,954</b>	798,005
Financial assets at fair value through profit or loss (“FVTPL”)		<b>458,374</b>	350,439
Pledged/restricted bank deposits		<b>4,084,044</b>	3,720,595
Time deposits		<b>530,100</b>	450,000
Cash and cash equivalents		<b>11,558,273</b>	7,545,808
		<hr/> <b>31,664,393</b>	<hr/> 26,539,169

## CONDENSED CONSOLIDATED STATEMENT OF FINANCIAL POSITION

(Continued)

At 30 June 2023

	<i>Note</i>	<b>30/06/2023</b> <b>RMB'000</b> <b>(unaudited)</b>	31/12/2022 <b>RMB'000</b> <b>(audited)</b>
<b>Current liabilities</b>			
Bills, trade and other payables	12	12,558,562	11,958,681
Amounts due to related parties		232,895	316,228
Derivative financial instruments		1,406	–
Taxation liabilities		355,894	499,543
Borrowings – current portion		9,951,964	4,558,209
Lease liabilities		11,482	11,608
Provisions		728,838	697,428
Contract liabilities		3,372,069	2,331,915
		<b>27,213,110</b>	20,373,612
<b>Net Current Assets</b>		<b>4,451,283</b>	6,165,557
<b>Total Assets less Current Liabilities</b>		<b>20,044,150</b>	19,762,311
<b>Non-current liabilities</b>			
Deferred tax liabilities		80,954	94,424
Borrowings – non-current portion		1,368,956	1,624,218
Lease liabilities		17,102	13,437
Deferred government grants		937,268	864,058
		<b>2,404,280</b>	2,596,137
		<b>17,639,870</b>	17,166,174

## CONDENSED CONSOLIDATED STATEMENT OF FINANCIAL POSITION

(Continued)

At 30 June 2023

		<b>30/06/2023</b>	31/12/2022
	<i>Note</i>	<b>RMB'000</b>	<b>RMB'000</b>
		<b>(unaudited)</b>	<b>(audited)</b>
<b>Capital and reserves</b>			
Share capital	<i>13</i>	<b>109,850</b>	109,850
Share premium and reserves		<b>14,849,805</b>	14,334,266
		<hr/>	<hr/>
Equity attributable to owners of the Company		<b>14,959,655</b>	14,444,116
Non-controlling interests		<b>2,680,215</b>	2,722,058
		<hr/>	<hr/>
<b>Total Equity</b>		<b>17,639,870</b>	17,166,174
		<hr/> <hr/>	<hr/> <hr/>

## 1. BASIS OF PREPARATION

Tianneng Power International Limited (the “**Company**”) was incorporated and registered as an exempted company with limited liability in the Cayman Islands under the Companies Law of the Cayman Islands on 16 November 2004 and its shares are listed on The Stock Exchange of Hong Kong Limited (the “**Hong Kong Stock Exchange**”) with effect from 11 June 2007. The Company and its subsidiaries are collectively referred to as the “**Group**”.

The Group’s condensed consolidated financial statements are presented in Renminbi (“**RMB**”), which is also the functional currency of the Company.

The condensed consolidated financial statements have been prepared in accordance with Hong Kong Accounting Standard 34 “*Interim Financial Reporting*” issued by the Hong Kong Institute of Certified Public Accountants (“**HKICPA**”) as well as the applicable disclosure requirements of Appendix 16 to the Rules Governing the Listing of Securities on the Hong Kong Stock Exchange.

## 2. PRINCIPAL ACCOUNTING POLICIES

The condensed consolidated financial statements have been prepared on the historical cost basis, except for certain financial instruments, which are measured at fair values.

Other than additional/change in accounting policies resulting from application of new and amendments to Hong Kong Financial Reporting Standards (“**HKFRSs**”), the accounting policies and methods of computation used in the condensed consolidated financial statements for the six months ended 30 June 2023 are the same as those presented in the Group’s annual financial statements for the year ended 31 December 2022.

### **Application of new and amendments to HKFRSs**

In the current interim period, the Group has applied the following new and amendments to HKFRSs issued by the HKICPA, for the first time, which are mandatorily effective for the Group’s annual period beginning on 1 January 2023 for the preparation of the Group’s condensed consolidated financial statements:

HKFRS 17 (including the October 2020 and February 2022 Amendments to HKFRS 17)	Insurance Contracts
Amendments to HKAS 8	Definition of Accounting Estimates
Amendments to HKAS 12	Deferred Tax related to Assets and Liabilities arising from a Single Transaction

Except as described below, the application of the new and amendments to HKFRSs in the current interim period has had no material impact on the Group’s financial positions and performance for the current and prior periods and/or on the disclosures set out in these condensed consolidated financial statements.



## **2. PRINCIPAL ACCOUNTING POLICIES** *(Continued)*

### **2.1 Impacts on application of HKFRS 17 (including the October 2020 and February 2022 Amendments) Insurance Contracts**

HKFRS 17 establishes the principles for the recognition, measurement, presentation and disclosure of insurance contracts and supersedes HKFRS 4 *Insurance Contracts*.

HKFRS 17 defines an insurance contract as a contract under which the Group accept significant insurance risk from another party (the policyholder) by agreeing to compensate the policyholder if a specified uncertain future event (the insured event) adversely affects the policyholder.

Certain contracts entered into by the Group, e.g. assurance type warranty to customers, meet the definition of insurance contracts under HKFRS 17. However, these contracts are specifically scoped out from HKFRS 17 and the Group continues to account for these contracts under relevant accounting standards. Therefore, the application of HKFRS 17 in the current period had no material impact on the condensed consolidated financial statements.

### **2.2 Impacts on application of Amendments to HKAS 1 and HKFRS Practice Statement 2 Disclosure of Accounting Policies**

In addition, the Group will apply Amendments to HKAS 1 and HKFRS Practice Statement 2 *Disclosure of Accounting Policies* which are mandatorily effective for the Group's annual period beginning on 1 January 2023 for the preparation of the Group's consolidated financial statements for the year ending 31 December 2023.

HKAS 1 is amended to replace all instances of the term "significant accounting policies" with "material accounting policy information". Accounting policy information is material if, when considered together with other information included in an entity's financial statements, it can reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements.

The amendments also clarify that accounting policy information may be material because of the nature of the related transactions, other events or conditions, even if the amounts are immaterial. However, not all accounting policy information relating to material transactions, other events or conditions is itself material. If an entity chooses to disclose immaterial accounting policy information, such information must not obscure material accounting policy information.

## 2. PRINCIPAL ACCOUNTING POLICIES *(Continued)*

### 2.2 Impacts on application of Amendments to HKAS 1 and HKFRS Practice Statement 2 Disclosure of Accounting Policies *(Continued)*

HKFRS Practice Statement 2 *Making Materiality Judgements* (the “**Practice Statement**”) is also amended to illustrate how an entity applies the “four-step materiality process” to accounting policy disclosures and to judge whether information about an accounting policy is material to its financial statements. Guidance and examples are added to the Practice Statement.

The application of the amendments in the current period had no material impact on the condensed consolidated financial statements but is expected to affect the disclosures of the Group’s accounting policies in the Group’s annual consolidated financial statements for the year ending 31 December 2023.

### 3. REVENUE FROM CONTRACTS WITH CUSTOMERS

#### Disaggregation of revenue from contracts with customers

	Six months ended 30 June	
	2023	2022
	<i>RMB'000</i>	<i>RMB'000</i>
	(unaudited)	(unaudited)
An analysis of revenue is as follows:		
Manufacturing business		
Lead-acid battery products	19,305,930	14,212,873
Renewable resources product	1,722,795	1,917,867
Lithium battery products	368,962	762,997
Others	243,736	515,808
Trading	19,829,727	13,616,661
	<u>41,471,150</u>	<u>31,026,206</u>
<b>Geographical markets</b>		
Mainland China	41,367,805	30,815,846
Others	103,345	210,360
	<u>41,471,150</u>	<u>31,026,206</u>
<b>Timing of revenue recognition</b>		
A point in time	41,447,608	30,643,322
Over time	23,542	382,884
	<u>41,471,150</u>	<u>31,026,206</u>

#### 4. SEGMENT INFORMATION

The following is an analysis of the Group's revenue and results by operating and reportable segments for the period:

	<b>Six months ended 30 June</b>	
	<b>2023</b>	2022
	<b>RMB'000</b>	RMB'000
	<b>(unaudited)</b>	(unaudited)
<b>Segment revenue</b>		
Manufacturing business		
– external sales	21,641,423	17,409,545
– inter-segment sales	96	1,632
Trading		
– external sales	19,829,727	13,616,661
– inter-segment sales	471,584	265,176
	<hr/>	<hr/>
Segment revenue	41,942,830	31,293,014
Eliminations	(471,680)	(266,808)
	<hr/>	<hr/>
Group revenue	<b>41,471,150</b>	<b>31,026,206</b>
	<hr/>	<hr/>
<b>Segment result</b>		
Manufacturing business	1,034,376	904,848
Trading	(28,862)	(3,850)
	<hr/>	<hr/>
	<b>1,005,514</b>	900,998
	<hr/>	<hr/>
<b>Unallocated</b>		
Other gains and losses	6,087	4,021
Share of results of associates	(523)	508
Corporate administrative expenses	(3,020)	(4,370)
Financial costs	(84)	(10)
	<hr/>	<hr/>
Profit for the period	<b>1,007,974</b>	<b>901,147</b>
	<hr/>	<hr/>

## 5. OTHER INCOME

	Six months ended 30 June	
	2023	2022
	<i>RMB'000</i>	<i>RMB'000</i>
	(unaudited)	(unaudited)
Government grants		
– grants related to income ( <i>note i</i> )	426,127	437,102
– grants related to assets ( <i>note ii</i> )	45,730	19,896
Interest income	275,402	121,949
Income from sales of scrap materials	44,644	93,299
Others	–	5,337
	<hr/>	<hr/>
	<b>791,903</b>	<b>677,583</b>
	<hr/> <hr/>	<hr/> <hr/>

### Notes:

- i. The government grants related to income mainly represent unconditional government subsidies received from relevant government bodies to encourage the operations of certain subsidiaries. The government grants are accounted for as immediate financial support with no future related costs expected to be incurred and are not related to any assets.
- ii. The government grants related to assets mainly represent government subsidies obtained in relation to the acquisition of land use right or equipment of certain subsidiaries of the Group, which were included in the condensed consolidated statement of financial position as deferred government grants and credited to profit or loss on a straight-line basis over the lease term of the land use right or the useful life of the equipment.

## 6. OTHER GAINS AND LOSSES

	Six months ended 30 June	
	2023	2022
	<i>RMB'000</i>	<i>RMB'000</i>
	(unaudited)	(unaudited)
Gains (losses) from changes in fair value of financial assets at FVTPL		
– structured bank deposits	11,207	37,166
– investments in listed equity securities	(12,895)	(5,576)
– foreign currency forward contracts	4,215	9,974
– commodity derivative contracts	20,217	13,372
Loss on disposals/write off of property, plant and equipment	(5,169)	(23,579)
Net foreign exchange losses	(50,065)	(49,495)
Others	(1,720)	6,650
	<u>(34,210)</u>	<u>(11,488)</u>

## 7. INCOME TAX EXPENSE

	Six months ended 30 June	
	2023	2022
	<i>RMB'000</i>	<i>RMB'000</i>
	(unaudited)	(unaudited)
People's Republic of China (the "PRC")		
Enterprise Income Tax ("EIT")		
– Current tax	433,358	296,256
Deferred tax		
Current period	(159,065)	(82,935)
	<u>274,293</u>	<u>213,321</u>

## 7. INCOME TAX EXPENSE *(Continued)*

The Company was incorporated in the Cayman Islands and Tianneng International Investment Holdings Limited was incorporated in the British Virgin Islands (the “BVI”) and as such are tax exempted as no business carried out in the Cayman Islands and the BVI under the tax laws of the Cayman Islands and the BVI, respectively.

The subsidiaries of the Company operating in Hong Kong did not have tax assessable profit during both periods.

The income tax expense of the Group is recognised based on the PRC EIT rate of 25% during both periods. Certain subsidiaries of the Group were accredited as High-tech companies and enjoyed a tax rate of 15%.

## 8. PROFIT FOR THE PERIOD

### Six months ended 30 June

2023	2022
<i>RMB'000</i>	<i>RMB'000</i>
(unaudited)	(unaudited)

Profit for the period has been arrived at after charging:

Depreciation of property, plant and equipment	409,189	331,261
Depreciation of right-of-use assets	20,796	17,989
Write-down of inventories (included in cost of sales)	137,409	13,518
	<u>137,409</u>	<u>13,518</u>

## 9. DIVIDENDS

### Six months ended 30 June

2023	2022
<i>RMB'000</i>	<i>RMB'000</i>
(unaudited)	(unaudited)

Dividends declared during the period:

Six months ended 30 June 2023: 2022 final dividend of Hong Kong dollar (“**HK\$**”) 40.00 cents (equivalent to RMB35.52 cents) (six months ended 30 June 2022: 2021 final dividend of HK\$40.00 cents (equivalent to RMB34.15 cents)) per ordinary share

<b>400,005</b>	<b>384,594</b>
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The directors do not recommend the payment of an interim dividend for the six months ended 30 June 2023 and 30 June 2022.

## 10. EARNINGS PER SHARE

### Six months ended 30 June

2023	2022
<i>RMB'000</i>	<i>RMB'000</i>
(unaudited)	(unaudited)

Earnings:

Earnings for the purposes of calculating basic and diluted earnings per share  
– attributable to owners of the Company

<b>918,209</b>	<b>759,754</b>
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### Six months ended 30 June

2023	2022
(unaudited)	(unaudited)

Number of shares:

Weighted average number of ordinary shares for the purpose of calculating basic earnings per share  
Effect of dilutive potential ordinary shares – share options

<b>1,126,124,500</b>	1,126,124,500
<b>23,580,356</b>	21,087,042

Weighted average number of ordinary shares for the purpose of calculating diluted earnings per share

<b>1,149,704,856</b>	<b>1,147,211,542</b>
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## 11. BILLS, TRADE AND OTHER RECEIVABLES

	<b>30/06/2023</b>	31/12/2022
	<b><i>RMB'000</i></b>	<i>RMB'000</i>
	<b>(unaudited)</b>	(audited)
Bills receivables*	<b>1,518,927</b>	2,206,207
Trade receivables	<b>2,419,009</b>	1,738,719
Less: Allowance for credit losses	<b>(331,118)</b>	(351,350)
	<b>2,087,891</b>	1,387,369
Other receivables	<b>208,509</b>	132,741
Prepayments for materials	<b>833,873</b>	605,966
PRC value added tax and EIT recoverable	<b>741,952</b>	708,922
	<b><u>5,391,152</u></b>	<u>5,041,205</u>

\* The balance represents bills receivables held by the Group which is measured at amortised cost since the bills are held within a business model whose objective is to collect contractual cash flows and the contractual cash flows are solely payments of principal and interest on the principal amount outstanding. Bills receivables held by the Group as at 30 June 2023 will mature within 1 year.

For manufacturing business, the normal credit term is 45 to 90 days upon delivery. For trading business, customers are normally required to make full prepayment before goods delivery.

The following is an aged analysis of trade receivables net of allowance for credit losses presented based on the invoice date.

**11. BILLS, TRADE AND OTHER RECEIVABLES (Continued)**

	<b>30/06/2023</b>	31/12/2022
	<i><b>RMB'000</b></i>	<i>RMB'000</i>
	<b>(unaudited)</b>	(audited)
0 to 45 days	<b>1,720,734</b>	920,192
46 to 90 days	<b>107,581</b>	359,021
91 to 180 days	<b>141,461</b>	49,972
181 to 365 days	<b>97,737</b>	23,895
1 year to 2 years	<b>17,731</b>	11,876
Over 2 years	<b>2,647</b>	22,413
	<hr/> <b>2,087,891</b> <hr/>	<hr/> 1,387,369 <hr/>

**12. BILLS, TRADE AND OTHER PAYABLES**

	<b>30/06/2023</b>	31/12/2022
	<i><b>RMB'000</b></i>	<i>RMB'000</i>
	<b>(unaudited)</b>	(audited)
Trade payables	<b>2,631,435</b>	2,456,894
Bills payables	<b>6,380,641</b>	6,198,145
Dividend payables	<b>415,732</b>	110,498
Value added tax payables and other tax payables	<b>698,748</b>	729,460
Staff salaries and welfare payables	<b>634,269</b>	657,223
Payables for purchase of property, plant and equipment	<b>741,609</b>	620,554
Deposits payables	<b>335,513</b>	440,744
Other payables and accrued charges	<b>720,615</b>	745,163
	<hr/> <b>12,558,562</b> <hr/>	<hr/> 11,958,681 <hr/>

## 12. BILLS, TRADE AND OTHER PAYABLES (Continued)

The following is an aged analysis of trade payables, presented based on invoice date at the end of the reporting period:

	<b>30/06/2023</b>	31/12/2022
	<b><i>RMB'000</i></b>	<i>RMB'000</i>
	<b>(unaudited)</b>	(audited)
0 – 90 days	<b>2,257,018</b>	2,181,136
91 – 180 days	<b>146,626</b>	150,787
181 – 365 days	<b>114,582</b>	61,633
1 – 2 years	<b>57,997</b>	34,473
Over 2 years	<b>55,212</b>	28,865
	<hr/> <b>2,631,435</b> <hr/>	<hr/> 2,456,894 <hr/>

The following is an aged analysis of bills payables from issue date at the end of the reporting period:

	<b>30/06/2023</b>	31/12/2022
	<b><i>RMB'000</i></b>	<i>RMB'000</i>
	<b>(unaudited)</b>	(audited)
0 – 180 days	<b>6,266,026</b>	6,148,145
181 – 365 days	<b>114,615</b>	50,000
	<hr/> <b>6,380,641</b> <hr/>	<hr/> 6,198,145 <hr/>

### 13. SHARE CAPITAL

	Number of shares	Amount <i>RMB'000</i>
Ordinary shares of the Company with nominal value of HK\$0.10 each		
Authorised:		
At 1 January 2022, 30 June 2022, 1 January 2023 and 30 June 2023	<u>2,000,000,000</u>	<u>212,780</u>
Issued and fully paid:		
At 1 January 2022, 30 June 2022, 1 January 2023 and 30 June 2023	<u>1,126,124,500</u>	<u>109,850</u>

### 14. SHARE-BASED PAYMENTS

#### Share options scheme

The Company has a share options scheme (the “**Scheme**”) for eligible directors of the Company, eligible employees of the Group and other selected participants. According to the terms of the Scheme, option granted must be taken up within 28 days from the date of grant, upon payment of HK\$1.00. The options may be exercised in accordance with the terms of the Scheme at any time during the exercise period determined by the board of directors which shall in any event not be more than ten years from the date of grant. Share options are vested over a period up to a maximum of four years after the date of grant.

The total number of shares issued and which may fall to be issued upon exercise of the options granted pursuant to the Scheme to an eligible participant in any 12-month period shall not exceed 1% of the number of shares in issue unless approved by shareholders in a general meeting. The maximum number of shares in respect of which options may be granted under the Scheme shall not in aggregate exceed 10% of the shares in issue on the date on which dealings in the shares first commence on the Hong Kong Stock Exchange, i.e. a total of 100,000,000 shares (the “**Option Limit**”). Pursuant to an annual general meeting held on 16 May 2014, the Option Limit has been refreshed to 10% of the shares in issue on the date of the annual general meeting, i.e. a total of 111,190,800 shares.

## 14. SHARE-BASED PAYMENTS (Continued)

### Share options scheme (Continued)

All holders of options granted under the Scheme may only exercise their options in the following manner:

#### Maximum percentage of options exercisable

10% of the options  
 Additional 20% of the options  
 Additional 30% of the options  
 Additional 40% of the options

#### Vesting period

Upon the first anniversary of the date of grant  
 Upon the second anniversary of the date of grant  
 Upon the third anniversary of the date of grant  
 Upon the fourth anniversary of the date of grant

The following tables disclosed movements of the Company's options under the Scheme during the six months ended 30 June 2023 and 30 June 2022.

Category	Name of grantee	Grant date	Exercisable period	Exercise price	Outstanding at 01/01/2023	Forfeited during the period	Outstanding at 30/06/2023
Option C	Huang Dongliang (Independent non-executive Director)	16.6.2014	16.6.2015-15.6.2024	HK\$2.90	90,000	–	90,000
Option C	Employees associated with Zhang Tianren	16.6.2014	16.6.2015-15.6.2024	HK\$2.90	1,686,000	–	1,686,000
	Employees associated with Zhang Aogen	16.6.2014	16.6.2015-15.6.2024	HK\$2.90	180,000	–	180,000
	Employees associated with SHI Borong	16.6.2014	16.6.2015-15.6.2024	HK\$2.90	90,000	–	90,000
	Employees	16.6.2014	16.6.2015-15.6.2024	HK\$2.90	31,668,000	(324,000)	31,344,000
					33,714,000	(324,000)	33,390,000
					33,714,000	(324,000)	33,390,000
Exercisable at the end of the period							33,390,000

## 14. SHARE-BASED PAYMENTS (Continued)

### Share options scheme (Continued)

Category	Name of grantee	Grant date	Exercisable period	Exercise price	Outstanding at 01/01/2022	Forfeited during the period	Outstanding at 30/06/2022
Option C	Huang Dongliang (Independent non-executive Director)	6.6.2014	16.6.2015-15.6.2024	HK\$2.90	90,000	–	90,000
Option C	Employees associated with Zhang Tianren	16.6.2014	16.6.2015-15.6.2024	HK\$2.90	1,686,000	–	1,686,000
	Employees associated with Zhang Aogen	16.6.2014	16.6.2015-15.6.2024	HK\$2.90	180,000	–	180,000
	Employees associated with SHI Borong	16.6.2014	16.6.2015-15.6.2024	HK\$2.90	90,000	–	90,000
	Employees	16.6.2014	16.6.2015-15.6.2024	HK\$2.90	32,748,000	(324,000)	32,298,000
					34,794,000	(450,000)	34,344,000
					34,794,000	(450,000)	34,344,000
Exercisable at the end of the period							34,344,000

No options were exercised during the six months ended 30 June 2023 and 2022.

During the six months ended 30 June 2023 and 2022, no expense were recognised in relation to share options granted by the Company under the Scheme.

## 14. SHARE-BASED PAYMENTS *(Continued)*

### Share award scheme of a subsidiary of the Company

Pursuant to the shareholders' resolution approved on 23 May 2019, Tianneng Battery Group Co., Ltd. ("**Tianneng Share**") adopted a share award scheme for eligible senior management and eligible employees of Tianneng Share and its subsidiaries (the "**Selected Employees**") (the "**Share Award Scheme**"). The objective of the Share Award Scheme is to recognise the contribution by the Selected Employees and to provide them with incentives in order to retain them for the continuing operation and development of Tianneng Share and its subsidiaries.

According to the Share Award Scheme, 41,200,000 shares of Tianneng Share were granted to certain limited partnerships (the "**Limited Partnership**"), which were legally owned by Zhejiang Tianneng Commercial Management Co., Ltd. ("**Tianneng Commercial**"), a wholly owned subsidiary of the Group, and the Selected Employees and for the purpose of facilitating the purchasing, holding and selling of shares of Tianneng Share for the benefit of the Selected Employees. 13,959,000 shares have been subscribed at a price of RMB7.69 per share.

These shares are restricted for sale until the fourth anniversary date after the initial public offering of Tianneng Share in A-share market (the "**Qualified IPO**") which was completed in January 2021. Upon the expiry of restriction of the awarded shares, the Limited Partnership shall dispose the awarded shares at the prevailing market price and transfer the proceeds in relation to the awarded shares to the respective Selected Employees.

If the Selected Employees resigned before the expiry of restriction of the awarded shares, they are required to sell back the awarded shares at a share price of RMB7.69 plus interest at 115% of the benchmark lending rate of peer loan issued by the People's Bank of China.

The fair value of restricted shares granted on 23 May 2019 amounted to approximately RMB71,367,000. During the current interim period, an expense of approximately RMB4,638,000 (six months ended 30 June 2022: RMB1,916,000) was recognised by the Group in relation to restricted shares granted by Tianneng Share under the Share Award Scheme.

## MANAGEMENT DISCUSSION AND ANALYSIS

### COMPANY PROFILE

The Company, founded in 1986, is a leading company in the new energy battery industry and light electric vehicles battery industry in the People’s Republic of China (“**China**” or the “**PRC**”). In 2007, Tianneng was listed on the Main Board of The Stock Exchange of Hong Kong Limited (the “**Stock Exchange**”) (Stock Code: 00819.HK). After more than 35 years of development, it has become a new energy group focusing on the motive batteries for light electric vehicles, energy storage systems (“**ESS**”), the recycling industry and integrating the research and development (“**R&D**”), production and sale of various types of batteries (including motive batteries for new energy automobiles, starter and start-stop batteries for automobiles, motive batteries for special industrial vehicles), green and intelligent manufacturing, and smart logistics platforms.

### OPERATION REVIEW

During the reporting period ended 30 June 2023 (the “**Reporting Period**”), the Group took up green manufacturing as its main business and formed a new energy industry cluster that “focuses on the main business with moderation and diversity”, adhered to the green, innovative and open approach, as well as promoted industry upgrade and digital transformation, thereby facilitating high-quality sustainable development of the Group.

The green Tianneng has taken a new step forward in high-quality development. The Group is engaged in green new energy industry and strives to foster two industrial ecologies of 100 billion level for motive batteries and ESS. Its new lead-acid battery industry ranks first in China and the batteries recycling industry has reached a leading position in China. In the arena of its main business of motive batteries, the Group has mastered the management system of the whole-life cycle of batteries, the cores of which are the technologies of extremely stable battery cells processing, intelligent assembly and charging as well as green resources regeneration. These constructed a technological foundation for an in-depth empowering product and service system. In addition, the Group actively expanded new arena, deployed multi-technology course of “lead-lithium-hydrogen-sodium”, and engaged in the R&D and manufacturing of high-end application products for aviation, ships and ESS. It has also committed to the development and application of cutting-edge battery technologies like fuel cells, sodium-ion batteries and solid-state batteries, which comprehensively optimized the industry service ecology.



The innovative Tianneng has inspired new momentum for high-quality development. Focusing on technological innovation, the Group vigorously promoted the digital intelligence project and built the whole industry chain smart factory and the first “industry brain” of the battery industry, continued to promote R&D, innovation and transformation of technological achievements. Through commencement of the “National Talent Introduction” (「全國引才」) and “Global Intelligence Introduction” (「全球引智」) programs, a scientific innovation platform and R&D system with national enterprise technology centre, national post-doctoral scientific research workstations and national model academician expert workstations as cores will be established. As at the end of June 2023, the Group has led and participated in the revision of more than 170 domestic and international standards, and owned more than 4,800 patents of various types. It has undertaken more than 20 national and provincial key projects such as major R&D projects for intelligent manufacturing. Our technological innovation capabilities and core competitiveness will continue to improve.

The open Tianneng has constructed a new layout for high-quality development. The Group’s industrial bases are located in seven provinces across the country, with more than 130 subsidiaries and an overseas sales coverage of nearly 50 countries and regions. Since 2023, the Group has been making progress in globalization and achieved a series of major breakthroughs in the R&D, products and market areas: the establishment of a global R&D centre and a global resources integration centre, which actively explore technology directions and deploy cutting-edge products; and the establishment of our offices in various countries like Vietnam and Thailand, which accelerates the implementation of localized operations and fully enhances the Group’s local products, services and channels.

## INDUSTRY DEVELOPMENT AND OPERATION

During the Reporting Period, the Group's manufacturing business contributed revenue of approximately RMB21,641 million, representing an increase of approximately 24.31% as compared to the same period of last year. The industry development and operating conditions for each main business are as follows:

### (1) High-end eco-friendly batteries

High-end eco-friendly batteries are a series of sealed maintenance-free lead-acid battery products created by the Group relying on its R&D and technology innovations, which include motive batteries, ESS batteries as well as starter and start-stop batteries for automobiles. During the Reporting Period, the high-end eco-friendly batteries business recorded an operating income of RMB19,306 million, representing an increase of 35.83% as compared to the same period of last year.

#### *Motive lead-acid batteries*

Being a mature and economical product, lead-acid batteries have been used for more than 160 years. Its stability and reliability have been verified in each application field. As the power source of vehicles, motive lead-acid batteries are mainly used in light electric vehicles, special electric vehicles, etc.

Compared to other types of batteries, lead-acid batteries are advantageous for their cost effectiveness, simple charging and maintenance, reliability and durability as well as eco-friendliness in the light electric vehicle market, which makes motive lead-acid batteries the mainstream battery in the light electric vehicle market and widely used in various car models and different scenarios. During the Reporting Period, the Group's motive lead-acid batteries business recorded an operating income of approximately RMB18,867 million, representing an increase of approximately 35.73% as compared to the same period of last year.

According to the statistics set out in the White Paper for the Development of the Chinese Two-wheeled Electric Vehicles Industry (2023) (《中國電動二輪車行業發展白皮書(2023年)》) jointly published by EVTank, a research institute and China YiWei Institute of Economics, China produced a total of 59.04 million two-wheeled electric vehicles in 2022, recording a year-on-year rise of approximately 8.5%. Driven by various factors like favorable industry policy, continuous urbanization, and development of online shopping, catering and logistics, the instant distribution market and shared travelling market are expanding with soaring demand for express last-mile delivery. Owing to the advantages of being emission-free, low cost and flexible, two-wheeled electric vehicles are flourishing in China in terms of overall market scale and market opportunity.

In the first half of 2023, the Group fully coordinated and improved the motive lead-acid battery business in terms of manufacturing, sales and market. For manufacturing, the Group actively promoted technological innovation and applied the production process of continue casting and direct rolling for lead-acid batteries in a large scale, promoted the construction of smart factories and intelligent management upgrade, and further demonstrated the effect of economies of scale. For sales, the Group attached great importance to the establishment of a downstream sales system as a leading enterprise for the industry channel layout. Currently, it has more than 3,000 offline distributors covering more than 400,000 terminal stores, consolidating the long-term and stable cooperative relationship with the top-tier manufacturers on a continuing basis, profoundly stimulating the dynamic between distributors. For market, the Group fully shaped the “brand customization” and “market quality improvement” strategies that enrich the battery product matrix. A new brand has been officially introduced to the market, and has constructed a highly competitive brand system that competes in different market segments with graded products.

The Group has always been bold in innovations and seeks to proactively improve the internal management process and business model on a continuing basis. In the first half of 2023, the Group launched the Tianneng Battery Manufacturing Operation Management project to help speed up the digital transformation of new energy batteries, tapped into the market growth of different regions with digital marketing tools, and increased service efficiency for each region with professional service operation capabilities. The Group aimed to achieve the goal of maximum optimization in comprehensive cost, production efficiency and operating benefits, as well as further expand its market share and strengthen its position in the industry.

While doing a good job in the main business and consolidating the domestic market, the Group is also proactively exploring the development opportunities for international markets and construction of an industrial ecology that has international competitive advantages with a global perspective. Over the past five years, due to the promotion of emission reduction policies and the on-going advancement of battery and electric machinery technology, the sales volume of light electric vehicles in global major economies is thriving. In the future, it is expected that global major economies will adopt stricter emission reduction policies and propel the popularization of green travelling and the replacement rate of traditional motorcycles will increase.

During the Reporting Period, the Group proactively responded to the PRC's "Belt and Road Initiative". Focusing on various battery products, the regionally differentiated layout of overseas markets has provided new power for the Group's internationalization strategy. In February 2023, the Group delivered the first batch of products to a well-known car manufacturer in Cambodia and entered into a long-term strategic cooperation agreement with such manufacturer. In March 2023, Tianneng's battery store has been established in Ho Chi Minh City for the first time and ushered the official beginning of the brand layout terminal strategy, which is conducive for the Group to focus on the Southeast Asia market. In the first half of 2023, the Group invested in the construction of a Vietnamese factory, aiming to place Vietnam as the frontier of pressing forward the internationalization strategy. In June 2023, Phạm Minh Chính, Prime Minister of Vietnam, met with Dr. Zhang Tianren, Chairman of the Board of Directors of Tianneng. In the meeting, both parties agreed to speed up cooperation in green energy fields and actively implement the consensus between Chinese and Vietnamese leaders for high-quality development.

With the Southeast Asia market as an entry point, the Group has entered into cooperation with dozens of overseas distributors and has made progress in promoting the establishment of overseas service systems, and gradually improved the process of overseas after-sale services and established a global call centre. At the same time, the Group also actively participated in various overseas exhibitions and has established offices in more than 10 major countries, such as Thailand, the Netherlands, Columbia and Argentina. In the first half of 2023, the Group established the first oversea independent R&D centre in response to the personalized and systematic demands of global customers and fully met the requirements of international market access certification. Moreover, the Group successfully initiated and organized the second Tianneng Global Alliance Partner Conference (TGA 2023), and strategic partnerships with enterprises from 13 countries and regions were established.

### *Lead-carbon batteries for ESS*

With the development of lead-carbon battery technology, lead-carbon ESS is gradually becoming one of the mainstream options for energy storage, being listed on the catalogue of key technology and equipment for new energy storage in the 14th Five-Year Plan for New Energy Storage Development Implementation Plan of the PRC. During the Reporting Period, the Group's lead-carbon batteries for ESS business recorded an operating income of approximately RMB226 million, representing an increase of approximately 208.50% as compared with the same period of last year.

High-performance lead-carbon batteries inherited the mature technology of lead-acid batteries and have significantly improved cycle counts and energy density by adding active carbon to the original cathode. Lead-carbon battery technology, featured with the outstanding advantages of low cost and high safety, has been widely applied in new ESS, power supply ESS, power modulation and load tracking systems, as well as power peak load shifting systems. The Group has advantages in the field of lead-carbon batteries in terms of scale, greenness and intelligentization, at the same time possesses the ability of ESS integration and general project Engineering Procurement Construction (“EPC”) contracting, which created a powerful brand effect.

In March 2023, the first phrase of “Peaceful Co-storage” (「和平共儲」), the world's largest lead-carbon intelligent power factory jointly constructed by the Group and the State Power Investment Corporation Limited (“SPIC”), has officially commenced operation. The installed capacity of this project is 100MW/1.06GWh containing around 3 million lead-carbon batteries, and it is capable of storing around 1 million KWh of electricity in a single full charge. It is currently the world's largest lead-carbon ESS power station, the first user-sided 110KV ESS battery system and the first GWh-level shared ESS power station. Since the commencement of the project, the digitized intelligent control system has aggregated various elements such as distributed energy, user-sided energy storage and adjustable loads, fully embodying the advantages of high safety index, long equipment lifespan and good economical attributes for lead-carbon batteries.

At the current stage, the lead-carbon energy storage market has not yet formed an influential system integration brand. As a leading enterprise of the industrial and commercial energy storage industry chain, the Group innovates its business model utilizing its brand and political and business resources from different regions and actively promotes the commercialization of new ESS with related enterprises in the industry chain, builds up strategic partnerships with the SPIC and the State Grid Corporation of China, as well as establishes demonstration projects through government-enterprise cooperation and international cooperation, and works on being the global example of the “new energy + energy storage” new development model in full steam. The Group is one of the few enterprises that upholds the multi-technology development route of “Lead and Lithium going together” (「鉛鋰同行」), with an aim to build a lead-carbon battery cells and lithium battery cells based, multi-energy complementary ESS ecosystem that is centered on six major scenarios: ESS on the grid side, ESS on the power supply side, ESS on industry and commerce, ESS on base stations, ESS on households and portable ESS, and supported by system integration, general contract construction and maintenance management.

#### ***Other high-end eco-friendly batteries***

As a leading enterprise of lead-acid batteries, other high-end eco-friendly batteries of the Group include starter and start-stop batteries for automobiles. Starting batteries for automobiles are designed for the instant starting, ignition, lighting power of vehicles, ships, diesel locomotives, etc. The start-stop batteries are used in automobile start-stop systems to save energy and reduce consumption. During the Reporting Period, other high-end eco-friendly battery business recorded an operating income of approximately RMB213 million.

In terms of China’s automobile starter and start-stop market, lead-acid batteries remain at a leading position. The Group continued the expansion of the automobile battery field. During the first half of 2023, the Group has completed the mass production of various automobile battery models, in which their performance was able to meet the national standards. The Xingtu (星途) product series of automobile batteries were successfully launched and has taken the lead in the industry with their improved battery performance and cycle counts, and therefore market competitiveness was gradually enhanced. In addition, the development of AGM high-end start-stop batteries have also made progressions and has entered small batch trial production phase.

At the current stage, the operation of the Group’s starter and start-stop battery business is mainly in the after-factory market and supported by the pre-factory market. In the future, the Group will also endeavour to the pre-factory market, connect with a number of supporting enterprises and promote customer conversion into the goods supply system. The Group has established long-term good cooperation with Jiangling Motors Co., Ltd., China National Heavy Duty Truck Group Co., Ltd. and Chery Automobile Co., Ltd., whilst keep enriching the product matrix in order to gain access to more top-tier markets.

## **(2) New energy batteries**

The Group’s new energy batteries business are mainly production of lithium-ion (“**Li-ion**”) batteries, and the production, R&D and sales of next-generation battery products such as hydrogen fuel cells and sodium-ion batteries. During the Reporting Period, the Group’s new energy batteries business recorded an operating income of approximately RMB373 million.

### ***Li-ion batteries***

The Group’s Li-ion batteries are mainly applied in the fields of ESS and motive batteries. The application of ESS widely covers the power generation side, grid side and the industrial and commercial user side. The motive batteries are applied to light electric vehicles, industrial vehicles, logistic vehicles, sanitation vehicles and mini-electric vehicles. During the Reporting Period, the Group’s Li-ion battery business recorded an operating income of approximately RMB369 million.

Since 2023, the Group has been constantly expanding its strategic layout in the ESS field. Currently, the Group has successfully launched a range of ESS battery cells with capacities of 100Ah, 180Ah and 280Ah, as well as introduced various ESS plug-in units including air-cooled and liquid-cooled types, which have been successfully delivered and commercialized. Additionally, the Group is facilitating the industrial projects supported by upstream and downstream in the industry chain, such as the production line of materials and accessories, battery cells and PACK.

In the first half of 2023, the Group is accelerating its market development focusing on customer needs, while engaging ESS on the power generation side and grid side, industrial and commercial energy storage, as well as reserving high-quality customers for household storage. As the ESS market is rapidly developing, the Group committed to driving projects with technology, promoting ESS solutions in a variety of situations, maximizing the utilization of resources, and contributing to sustainable social development.

Regarding the field of motive Li-ion batteries, the Group is proactively responding to the calls of policy, and is improving in the fields of warehousing and logistics. With its leading industrial motive Li-ion battery products and solutions, the Group is accelerating the structural reform of green logistics, so as to facilitate low-carbon and sustainable development in the logistics industry in China. At the current stage, the Group's construction machinery motive batteries segment has successfully secured over a hundred new clients, further solidifying the development foundation of the Tianneng brand in the national markets.

The Group's customers in the motive batteries of the construction machinery market are leading forklift companies in the PRC, which include Hangcha Group Co., Ltd., Xuzhou Construction Special Machinery Group Co., Ltd., Anhui Heli Co., Ltd., etc. In March 2023, the Group engaged in an in-depth and comprehensive cooperation with Folangsi Co., Ltd. (廣州佛朗斯股份有限公司) in the fields of industrial motive battery R&D, application and promotion for multi-technology route products. It committed to providing one-stop services for industrial and logistics enterprises in on-site logistics equipment leasing, maintenance, and completing machine and accessories sales through the IoT innovation and digitalization.

In terms of the Li-ion batteries production, the Group has always prioritized product quality and promotes quality management in awe with a focus on product upgrades. The quality certification work has progressed smoothly, and the completion of ISO9001 certification and IATF16949 system certification have solidified the foundation of quality management. In the first half of 2023, the Group officially launched the new manganese iron lithium battery. The product utilizes manganese iron lithium material, which possesses the dual advantages of lithium iron safety and NCM energy, while also achieving higher energy density and cycle counts based on the original foundation. In April 2023, the Group entered into a strategic cooperation agreement with Sieger Technologies, the leading producer of lithium PACK in India. Both parties will cooperate in battery product applications and the expansion of new energy business.

In addition, by leveraging the benefits of technology, production and market in the Li-ion battery business, the Group aims to address key core technical problems, promote transformation of research breakthroughs in next-generation lithium battery technology (such as solid-state batteries), and deliver green and intelligent energy system solutions for global customers.



## *Hydrogen fuel cells*

With the increasing global attention to environmental protection and sustainable development, hydrogen fuel cells, as a clean and renewable energy technology, are becoming increasingly important in replacing traditional fuels. During the Reporting Period, the Group's hydrogen fuel cells business recorded an operating income of approximately RMB4.5459 million.

Compared with conventional electric vehicles, hydrogen fuel cell vehicles offer a shorter hydrogen refueling time and longer driving range, which has the potential for sustainable development. Various countries and regions have already introduced policies and regulations to support the development of the hydrogen fuel cell industry, promoting the rapid development of hydrogen fuel cells industry.

The Group's hydrogen fuel cells business focuses on promoting the R&D and production of fuel cell stacks, systems and core materials. In the first half of 2023, several demonstration operational projects were launched by the Group in the fields of hydrogen fuel cell buses, heavy trucks and loaders, accelerating the exploration of transforming technological innovation achievements. As for systems, the Group has launched the "Tian-ji(天機)" series of fuel cells systems, which can be applied to areas such as heavy trucks, city buses, cogeneration and ships. The Group will further expand the high-power fuel cells systems based on industry development and market demands in the future. In terms of stacks, the Group upholds the parallel development for dual technology route of the graphite plate stacks and metal plate stacks, and has released a 100-kW class high-power metal plate stacks, graphite plate reactor and other products. In April 2023, the Group's cooperative construction machinery demonstration project with Shanxi Gerun Times Construction Machinery Co., Ltd. was awarded the "2022 Best Innovation Project for Implementing the Dual Carbon Target" by the 8th China Energy Development and Innovation Forum. The first sample vehicle of hydrogen energy loader from the project has launched in April 2023.

In recent years, the Group's hydrogen fuel cells business, guided by technology, has continuously made significant breakthroughs in the fields of system and reactor. The Group has received awards including the Quality Contribution Award of China Hydrogen and Electricity Industry Chain Localization, the Annual Fuel Cell Stacks Technology Contribution Award, the Golden Globe Award of High Industrial Hydrogen Power, and the Top50 Honors of Hydrogen Fuel Cell Industry. In February 2023, the Group was honored with the 2022 Influential Fuel Cell Enterprise Award by the China Hydrogen Equipment and Fuel Cell Industry Conference.

Tianneng’s hydrogen fuel cells segment will continue to prioritize technological innovation and product R&D as its new driving force, continuously combine industry information and resources to improve hydrogen solutions, so as to fully leverage the comprehensive strengths of Tianneng’s hydrogen fuel cells segment in areas such as passenger vehicles, commercial vehicles, rail transportation and construction machinery, aiming to contribute to the realization of a zero-carbon society.

### ***Sodium-ion batteries***

China has included sodium-ion batteries in the “14th Five-Year Plan for Scientific and Technological Innovation in Energy Sector (《「十四五」能源領域科技創新規劃》)” to support the research for cutting-edge technology and core equipment technology of sodium-ion batteries. In 2023, six ministries and commissions including the Ministry of Industry and Information Technology (MIIT) of China issued the “Guiding Opinions on Promoting the Development of the Energy Electronics Industry (《關於推動能源電子產業發展的指導意見》)”, putting the promotion of new energy development in a more prominent position, clearly pointing out that “accelerates the breakthrough of sodium-ion batteries technology and its application on a large scale”.

Sodium-ion batteries, which have a low theoretical cost, are gradually narrowing the gap of energy density and cycle life compared to Li-ion batteries, and are expected to be an effective supplement to Li-ion batteries in the future. They possessed the comparative advantages in specific areas of energy storage, low-speed vehicles, industrial vehicles and outdoor power sources. Leveraging the Group’s more than 30 years of experience in battery R&D, manufacturing, sales and service, sodium-ion battery segment has assembled a team of professionals in the fields of material science and electrochemistry to establish a comprehensive production and operation management team. Meanwhile, the Group has constructed a pilot production line for sodium-ion batteries, accelerating the technological upgrade and industrialization of its sodium-ion battery products.

In the first half of 2023, the Group released a new generation of sodium-ion battery, “Tianna(天鈉) T1” which is designed for light electric vehicles. The product’s anode is made of layered oxide material, and the cathode is made of hard carbon material. The batteries are matched with special electrolyte for sodium-ion battery, including three model series of 48V, 60V and 72V, and 26700 cylindrical cells, soft packed cells and square cells, etc. The energy density of the battery cells surpass that of conventional lithium manganese-acid batteries used in light electric vehicles, with the number of charging cycles reaches more than 3,000 times. The batteries demonstrate excellent adaptability to temperature that effectively increases the range in winter to a certain extent.

In addition, the Group also has corresponding reserves for the polyanion technology route as the structure of such technology route is similar to that of the lithium-iron phosphate batteries and possesses the advantages of safety, stability and cycle performance. Therefore, it is recognized as the most suitable technology for energy storage with a large room for development. Sodium-ion battery products have been displayed in various domestic and overseas exhibitions, including those in Thailand and Vietnam, that garnered attention from the international market for the Group. In May 2023, the Group was selected as “China Sodium Power Quality Enterprise” by the 8th China International New Energy Conference and Industry Expo hosted by Shanghai Metals Market, to further solidify the influence and popularity of the Group.

In downstream applications, based on the natural advantages in the light electric vehicle market of the Group, the sodium-ion battery module has entered the evaluation stage with downstream customers of two-wheeled vehicles and construction machinery vehicles, and has received positive feedbacks. To further consolidate the advantages of the industrial chain, establish a new platform for cooperation, and effectively support the technology innovation and industrial application of sodium-ion battery, the Group jointly established the Sodium-ion Battery Industry Ecological Alliance with leading enterprises in the light electric vehicle industry, well-known e-commerce logistics enterprises and relevant investment institutions. It aims to actively construct a new platform for cooperation to promote the rapid, orderly and high-quality development of China’s sodium-ion battery industry.

### **(3) Recycling industry**

As a battery manufacturer, the Group has proactively implemented the extended producer responsibility system. It focuses on building two circular economic ecosystems of lead batteries and Li-ion batteries, exploring green technology innovation models, and forming a closed-loop green industrial chain for batteries. During the Reporting Period, the Group’s recycling industry recorded an operating income of approximately RMB1,723 million.

#### ***Recycling lead-acid batteries***

The recycling sources of used lead-acid batteries include used motive batteries, ESS batteries, starter and start-stop batteries, 3C consumer batteries, etc. The products produced were mainly recycled lead, sulfuric acid, plastic shells, etc., which have a high recycling rate. During the Reporting Period, the Group’s recycling lead-acid batteries business recorded an operating income of approximately RMB1,414 million.

According to the statistics from Shanghai Metals Market, the annual scrap volume of lead-acid batteries in China exceeded over 6 million tons in 2022. The Group's lead-acid battery recycling business has been planned since 2009. As a lead-acid batteries manufacturer, the Group has integrated the concept of green development into the entire process of product design, manufacturing, recycling and disposal through green and intelligent manufacturing and recycling, creating a closed-loop green industrial chain. Currently, the Group has established four major lead-acid battery recycling economy industrial parks in China, with an annual disposal capacity of approximately 1 million tons for used lead-acid batteries. In 2023, the Group's lead-acid battery disposal capacity will be further enhanced, positioning itself as a benchmark enterprise for green growth.

Province-based franchises have been launched for used lead-acid batteries in processes such as recycling, transportation and disposal. The Group has obtained the qualification for launching pilot recycling projects in 15 provinces with competitive advantage in such field. Furthermore, the Group has taken the lead in the field of lead-acid batteries recycling, and the recycling rate of lead, plastic shells and sulfuric acid exceeds 99%. The Group, as a leading lead-acid battery manufacturer, believes the recycling business has opened up the entire industry chain, with significant synergies between upstream and downstream businesses. Taking advantage of the distribution outlets of various distributors and terminal stores, the Group sets up more than 600 battery recycling outlets in over ten provinces nationwide.

In May 2023, the Group was awarded with the certificate of "National Circular Economy Technology Center" by China Association of Circular Economy ("CACE"). In June 2023, the Group has signed a strategic cooperation agreement with BASF (China) Company Limited and Central South University, aiming to foster extensive collaboration in the innovation and application of green electrolysis technology for crude lead in methylsulfonic acid system, and to jointly promote the establishment of the Institute of Cyclic Economy Technology, so as to draw a new chapter for the green industry with a new form of industry-academia collaboration.

In the first half of 2023, facing challenges of the rising price of used lead-acid batteries in the market and pressure on the profitability of the recycling business, the Group remained optimistic about the lead-acid battery recycling industry. In the future, relying on the mature operation of the recycling system, excellent disposal capacity and scaled production capacity, the Group will further promote advanced technologies and techniques, enhance industrial automation and intelligence, realize the treatment of waste water, waste gas and waste residue, reduce energy consumption, and assist in the high-quality and sustainable development of the battery recycling industry.

### ***Recycling Li-ion batteries***

Li-ion battery recycling mainly consists of motive batteries, consumer batteries and ESS batteries. The main outputs are cobalt sulfate, nickel sulfate, manganese sulfate and lithium carbonate. During the Reporting Period, the Group's Li-ion battery recycling business recorded an operating income of approximately RMB309 million.

According to information released by the research institute EVTank, the actual recycling amount of used Li-ion batteries in China was 415,000 tons in 2022, representing an increase of 75.8% compared to the corresponding period last year. Gaogong Industry Institute predicts that by 2025, China's decommissioned motive batteries will accumulate to a total of 137.4GWh, resulting in a demand for the recycling of approximately 960,000 tons of used batteries. The Group possesses an annual disposal capacity of 10,000 tons for used Li-ion batteries, with a planned disposal capacity of approximately 100,000 tons under construction at the base located in Binhai County, Jiangsu Province, thus to cater for the disposal needs of the substantial volume of used batteries.

In terms of Li-ion battery recycling channels, the Group focuses on the development layout of "3+5+N" urban mines, that is, 3 comprehensive dry and wet disposal bases, 5 regional recycling bases, and N recycling disposal units, to achieve the largest coverage of the recycling network. With the strengths of extensive sales network and online recycling channels, coupled with various business models such as partnerships with ride-hailing companies and battery swapping platforms, the Group aims to create a nationwide network for efficient recycling of Li-ion batteries, jointly promoting the establishment of diversified channels.

Regarding the technical aspect, Tianneng has built an industry-leading production line dedicated to the recycling and disposal of used Li-ion batteries, with the recycling rate for lithium increasing to over 88%, and the comprehensive technological indicators reaching the international advanced level. The Group has formed close partnerships with various scientific research institutes and universities such as Institute of Process Engineering of the Chinese Academy of Sciences, Central South University and Zhejiang University of Technology, to carry out technological research. The existing disposal process covers automatic charged battery disassembling and crushing, and rapid intelligent sorting of materials. On this basis, the Group continuously upgrades existing recycling technologies, reduce the disposal costs of wasted batteries, and improve product quality.

In May 2023, the Group’s project of clean recycling and green cycle process of waste power Li-ion batteries was awarded with the second prize of Science and Technology Improvement Award (Technology Development category) by the CACE. The outstanding performance of the Group’s new material Li-ion battery recycling business and the future development potential of its businesses have also been recognized by the market. During the first half of 2023, the Group entered into an investment agreement with 18 investors to potentially increase our capital by RMB1,000 million, providing support for the Li-ion batteries recycling business’s upstream channel layout, capacity construction and technological innovation.

## **OUTLOOK**

Looking ahead, the Group will continue to uphold the development principles of greenness, innovation and openness. We adhere to the guidance of technological innovation, persist in openness and sharing, and greatly promote the planning and development of new energy. The Group is enhancing the energy usage efficiency by accelerating the industry structure adjustment through digitalization and intelligence strategies. Thus, we aim to guide and propel the entire industry chain, both upstream and downstream, towards sustainable development.

The Group persistently pursues the concept of “green and intelligent manufacturing” as the mainline with new energy battery innovation technology as the cornerstone, to comprehensively explore a new model of green growth, and by leveraging the dual-core power of “motive batteries + ESS” to strengthen the construction of a battery whole-life cycle management system. Based on years of deep cultivation of its own channels that have been obtained, Tianneng will tap into the resources of recycling networks nationwide and expand Internet channels to enhance recycling efficiency, so as to increase the economic value of recycling of used motive batteries, and maximize the recycling of resources.

The Group committed to efficiently conducting R&D on cutting-edge technologies, key technologies and new products, thereby enhancing the contribution of scientific and technological innovation to the enterprise’s high-quality development. We aim to consistently deliver efficient, safe and environmentally friendly products that cater to the users’ needs. Tianneng will continue to promote the greening, high-end and intelligence of new energy batteries, and will deepen the technological innovation and scene exploration for new energy batteries, gradually form the brand competitiveness based on “Safe Core Technology + Whole Scenario Coverage + System Solutions”.

Meanwhile, the Group will carry out broader, more precise and more sustainable energy cooperation around the world. Leveraging on the service and empowering system of the Tianneng Globalization Alliance (TGA), we are collaborating with partners to build a “community with a shared future” in the new energy industry while actively exploring the path of green development. From ASEAN to the European Union, and from Central and Western Asia to Europe, the Group will comprehensively deepen the cooperation across the industrial chain, innovation chain and supply chain. We actively respond to global risks and challenges, so as to pave the way for the triumph of green energy.

## **FINANCIAL REVIEW**

### **Turnover**

The Group’s turnover for the Reporting Period was approximately RMB41,471 million, representing an increase of approximately 33.66% as compared with the same period last year. Of which, turnover from the manufacturing industry was RMB21,641 million, representing an increase of approximately 24.31% as compared with the same period last year, turnover from trading was RMB19,830 million, representing an increase of approximately 45.63% as compared with the same period last year.

### **Gross profit**

The gross profit for the Reporting Period was approximately RMB3,034 million, representing an increase of approximately 27.49% as compared with the same period last year. Of which, the gross profit margin of the manufacturing industry was approximately 14.13%, representing an increase of approximately 0.58 percentage points as compared with the same period last year. It was mainly attributable to the decrease in costs of products as compared with the same period last year.

### **Other income**

The Group’s other income for the Reporting Period was approximately RMB792 million (for the six months ended 30 June 2022: approximately RMB678 million), representing an increase of approximately 16.87% as compared with the same period last year. It was mainly attributable to the increase in interest income.

### **Distribution and selling costs**

Distribution and selling costs increased to approximately RMB674 million for the Reporting Period from approximately RMB462 million in the same period last year, which was mainly attributable to the increase in salaries, advertising fees and transportation fees.

### **Administrative expenses**

Administrative expenses increased to approximately RMB696 million for the Reporting Period from approximately RMB568 million in the same period last year, which was mainly attributable to the increase in salaries of our employees.

### **Research and development costs**

R&D costs increased to approximately RMB829 million for the Reporting Period from approximately RMB709 million in the same period last year, which was mainly attributable to the increase in the number of R&D projects and optimisation of the R&D team.

### **Finance costs**

Finance costs increased to approximately RMB238 million for the Reporting Period from approximately RMB153 million in the same period last year, which was mainly due to the increase in loan size.

### **Operating activities cash flow**

The net cash flow generated from operating activities of the Group changed to net cash inflow of approximately RMB1,531 million for the Reporting Period from net cash outflow of RMB468 million in the same period last year. It was mainly attributable to the increase in the operating income and sales return as well as the settlement scale of bills with suppliers.

As at 30 June 2023, the equity attributable to the owners of the Company amounted to approximately RMB14,960 million (31 December 2022: approximately RMB14,444 million). The Group's capital structure is equity attributable to owners of the Company, comprising issued share capital, reserves and accumulated profits.



As at 30 June 2023, the Group had total assets of approximately RMB47,257 million, which increased by approximately 17.74% as compared with approximately RMB40,136 million as at 31 December 2022, including total current assets of approximately RMB31,664 million and total non-current assets of approximately RMB15,593 million, which increased by approximately 19.31% and 14.68% as compared with the amount as at 31 December 2022, respectively. The increase in the current assets was mainly due to the increase in inventory, account receivable and bank deposits. The increase in the non-current assets was mainly due to the increase in deposits for the acquisition of property, plant and equipment.

As at 30 June 2023, the total liabilities of the Group were approximately RMB29,617 million, which increased by approximately 28.94% as compared with approximately RMB22,970 million as at 31 December 2022, including total current liabilities of approximately RMB27,213 million and total non-current liabilities of approximately RMB2,404 million, which increased by approximately 33.57% and decreased by approximately 7.39% as compared with the amount as at 31 December 2022, respectively. The increase in the current liabilities was mainly due to the increase in contract liabilities and short-term loans held by the Group. The increase in the non-current liabilities was mainly due to the increase in deferred revenue.

As at 30 June 2023, the cash and bank balances of the Group (including pledged bank deposits and bank deposits) were approximately RMB17,332 million (31 December 2022: approximately RMB12,926 million), of which approximately RMB72 million and approximately RMB318 million are denominated in US dollars and Hong Kong dollars, respectively. As at 30 June 2023, the interest bearing borrowings and loan notes (together, “**interest bearing loans**”) of the Group with maturity of within one year amounted to approximately RMB9,963 million (31 December 2022: approximately RMB4,570 million). The interest bearing loans with maturity of more than one year amounted to approximately RMB1,386 million (31 December 2022: approximately RMB1,637 million). The interest bearing loans of approximately RMB10,243 million were denominated in RMB. The loans denominated in RMB had fixed interest rates ranging from approximately 2.58% to 5.85% (2022: approximately 2.23% to 6.5%) per annum. In conclusion, the borrowings of the Group as at 30 June 2023 remained at a healthy and controllable level. With unutilised credit facilities of approximately RMB13,083 million, the Group will take a cautious stance and maximise the interests of the shareholders and the Company will strike a balance between borrowings and funding utilisation. Moreover, with continuously improving the fund structure as its financial objective in the long run, the Group will optimise its loan structure with further use of long term loans.

### **Pledge of assets**

As at 30 June 2023, the bank facilities and bank borrowings of the Group were secured by its bank deposits, bills receivables, property, plant and equipment, and land use rights. The aggregate net book value of the assets pledged amounted to approximately RMB7,042 million (31 December 2022: approximately RMB7,851 million).

### **Gearing ratio**

As at 30 June 2023, the Group's gearing ratio, defined as the percentage of the sum of current and non-current portions of interest bearing loans against the total assets, was approximately 23.98% (31 December 2022: approximately 15.47%).

### **Exposure to exchange rate fluctuations**

As the Group's operations were mainly conducted in China and the majority of its businesses were transacted in RMB, the Board is of the view that the Company's operating cash flow and liquidity are not subject to significant foreign exchange rate risk.

### **Contingent liabilities**

The Group did not have any significant contingent liabilities as at 30 June 2023 (31 December 2022: Nil).

### **Capital commitments**

The amount contracted for but not stated in the condensed consolidated financial statements in respect of the acquisition of property, plant and equipment as at 30 June 2023 was approximately RMB3,856 million (31 December 2022: approximately RMB2,933 million).

## **EMPLOYEES AND REMUNERATION POLICIES**

As at 30 June 2023, the Group employed a total of 27,253 employees (30 June 2022: 26,921). Staff cost of the Group for the Reporting Period was approximately RMB1,692 million (for the six months ended 30 June 2022: approximately RMB1,503 million). The cost included basic salaries and staff benefits such as discretionary bonus, medical and insurance plans, pension scheme, unemployment insurance plan, etc. Competitive remuneration packages were offered to employees by the Group. The Company has adopted incentive programs to encourage employees' performance and a range of training programs for the development of its staff.

## **INTERIM DIVIDEND**

The Board does not recommend the payment of any interim dividend for the Reporting Period (for the six months ended 30 June 2022: Nil).

## **SIGNIFICANT INVESTMENTS HELD**

There were no significant investments held by the Group as at 30 June 2023.

## Financial assets at fair value through profit or loss

As at 30 June 2023, the Group's financial assets at fair value through profit or loss mainly included unlisted financial products purchased from commercial banks. The following table summarises the Group's financial assets at fair value through profit or loss as at 30 June 2023:

Issuer	Product category	Principal activities	Investment	Fair value	Interest/	Percentage
			cost/nominal	as at	dividend	of total
			value	30 June 2023	received	assets of the
			(RMB'000)	(RMB'000)	(RMB'000)	Company
						as at
						30 June 2023
Industrial and Commercial Bank of China Limited	Structured deposit	Banking services	15,000.00	15,000.00	–	0.03%
Industrial and Commercial Bank of China Limited	Wealth management product	Banking services	50,000.00	50,000.00	–	0.11%
Bank of Communications Co., Ltd.	Structured deposit	Banking services	100,000.00	100,000.00	–	0.21%
Hangzhou City Commercial Bank Co., Ltd.	Wealth management product	Banking services	50,000.00	50,000.00	–	0.11%
Industrial Bank Co., Ltd.	Wealth management product	Banking services	85,699.98	85,699.98	–	0.18%
China Construction Bank Corporation	Wealth management product	Banking services	34,000.00	34,000.00	–	0.07%
Shanghai Pudong Development Bank Co., Ltd.	Wealth management product	Banking services	59,685.94	59,685.94	–	0.13%
Standard Chartered Bank (Hong Kong) Limited	Forward foreign exchange	Banking services		3,750.00		0.01%
Listed company	Equity securities listed in China		41,179.33	37,713.85	737.99	0.08%
Listed company	Equity securities listed in Hong Kong		17,887.95	19,524.24	–	0.04%
Changxing Meishan Fumei Equity Investment Partnership (Limited Partnership)	Equity investments	Equity investments	3,000.00	3,000.00	–	0.01%

\* For identification purpose only

## **MATERIAL ACQUISITION AND DISPOSAL**

The Group has no material acquisition and disposal of subsidiaries, associates and joint ventures during the Reporting Period.

## **DIRECTORS' RIGHTS TO ACQUIRE SHARES OR DEBENTURES**

For details, please refer to note 20 to the condensed consolidated financial statements.

## **IMPORTANT EVENT SINCE THE END OF THE FINANCIAL PERIOD**

### **Deemed disposal of interests in a connected subsidiary and grant of put option**

A capital increase agreement dated 5 May 2023 was entered into among Zhejiang Tianneng New Materials Co., Ltd.\* (浙江天能新材料有限公司) (a connected subsidiary of the Company, “**Party A**”), Parties B (comprising (i) 15 outside investors who are independent third parties, and (ii) three investors who are controlled by the Company), and Parties C (comprising (i) Tianneng Holding Group Co., Ltd.\* (天能控股集團有限公司) (“**Party C1**”), (ii) an indirect wholly-owned subsidiary of the Company, and (iii) a connected person of the Company) whereby Parties B agreed to pay a total subscription price of RMB1,000,000,000 to subscribe to the new registered capital of Party A in the amount of RMB39,216,000 (representing approximately 28.57% of the registered capital of Party A as enlarged by the capital increase) (the “**Capital Increase**”).

In connection with the Capital Increase, Party A, Parties B and Parties C entered into a shareholders agreement on 5 May 2023, which sets out, among other things, the put option granted to Parties B to request Party A and/or Party C1 to repurchase the equity interests in Party A owned by it under specified circumstances (the “**Put Option**”).

The Capital Increase and the grant of the Put Option was approved by the independent shareholders at an extraordinary general meeting of the Company held on 14 July 2023. As at the date of this announcement, the Capital Increase has not completed. Upon completion of the Capital Increase, the Company’s indirect shareholding in Party A will decrease from 65% to approximately 49.27%. Notwithstanding the decrease in the Company’s indirect shareholding interest in Party A, Party A will continue to be a non-wholly-owned subsidiary of the Company since Party A will continue to be controlled by the Company.

For details, please refer to the circular of the Company dated 28 June 2023.

## CORPORATE GOVERNANCE

The Company is committed to ensuring high standards of corporate governance. The Board believes that good corporate governance practices are increasingly important for maintaining and promoting investors' confidence. The Company has adopted and complied with the provisions of the Corporate Governance Code (the "**CG Code**") as contained in Part 2 of Appendix 14 to the Rules Governing the Listing of Securities on the Stock Exchange (the "**Listing Rules**") during the Reporting Period, except for the code provision C.2.1 of the CG Code. Dr. Zhang Tianren is both the chairman ("**Chairman**") and Chief Executive Officer ("**CEO**") of the Company who is responsible for managing the Group's business. The Board considers that vesting the roles of Chairman and CEO in the same person facilitates the execution of the Company's business strategies and maximizes the effectiveness of its operation. With the present Board structure and scope of business, the Board considers that there is no imminent need to separate the roles into two individuals. However, the Board will continue to review the effectiveness of the Group's corporate governance structure to assess whether the separation of the position of the Chairman and CEO is necessary.

The primary duties of the Company's audit committee (inter alia) are to review the financial reporting system, the risk management and internal control systems of the Group, and to make proposals to the Board as to appointment, renewal and resignation of the Company's independent external auditors and the related remuneration and appointment terms. The Company's audit committee has reviewed this interim results with the management of the Company and the Company's independent external auditors and recommended its adoption by the Board.

The interim financial information of the Company in this announcement has not been audited. However, it has been prepared in accordance with Hong Kong Accounting Standard 34 "Interim Financial Reporting" and has been reviewed by the Company's independent external auditors, Deloitte Touche Tohmatsu, in accordance with the Hong Kong Standard on Review Engagement 2410, "Review of Interim Financial Information Performed by the Independent Auditor of the Entity".

The Company has adopted the Model Code for Securities Transactions by Directors of Listed Issuers (the "**Model Code**") contained in Appendix 10 to the Listing Rules. Having made specific enquiry of all Directors, all Directors confirmed that they have complied with the required standard for securities transactions set out in the Model Code throughout the Reporting Period.

Other than the above disclosures, the Company has also complied with Rules 3.10(1), 3.10(2) and 3.10A of the Listing Rules and appointed three independent non-executive Directors including one with financial management expertise.

## **PURCHASE, SALE OR REDEMPTION OF THE COMPANY'S LISTED SECURITIES**

Neither the Company nor any of its subsidiaries purchased, sold or redeemed any of the Company's listed securities during the Reporting Period.

## **GENERAL INFORMATION**

As at the date of this announcement, the executive Directors of the Company are Dr. ZHANG Tianren, Mr. ZHANG Aogen, Mr. ZHANG Kaihong, Mr. SHI Borong and Mr. ZHOU Jianzhong; the independent non-executive Directors of the Company are Mr. HUANG Dongliang, Mr. ZHANG Yong and Mr. XIAO Gang.

This announcement will be published on the website of the Stock Exchange at [www.hkex.com.hk](http://www.hkex.com.hk) and on the Company's website at [www.tianneng.com.hk](http://www.tianneng.com.hk).

By order of the Board  
**Zhang Tianren**  
*Chairman*

Hong Kong, 28 August 2023

*\* For ease of reference, the names of the PRC established companies or entities (if any), the PRC laws and regulations (if any) and the PRC publications (if any) have generally been included in this announcement in both Chinese and English languages and in the event of inconsistency, the Chinese language shall prevail.*