



Banpu Power 2Q24 results

Opportunity Day

23rd August 2024



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01

Highlights 2Q24

2Q24 highlights

Financial highlight

THB 7.0 bn

Revenue

Significant contribution from thermal assets especially from Temple I and II in the US

THB 0.98 bn

NPAT

Strong performance supported by resilient operational results

THB 2.5 bn

Consol. EBITDA ⁽¹⁾

Strong contributions from thermal assets

0.51 x

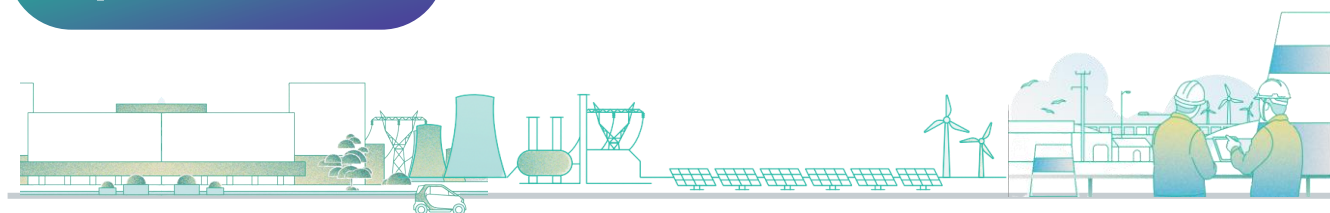
Net D/E

Maintained net D/E at a low level

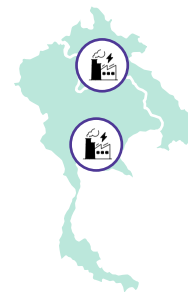
Portfolio highlight

3,656 MW

TOTAL CAPACITY ⁽²⁾



OPERATIONAL UPDATES & KEY DEVELOPMENTS



Smooth Operations at HPC and BLCP

Consistent achieving high equivalent available factor (EAF), supported by favorable operations, leading to an increased financial contribution to Banpu Power's thermal portfolio.



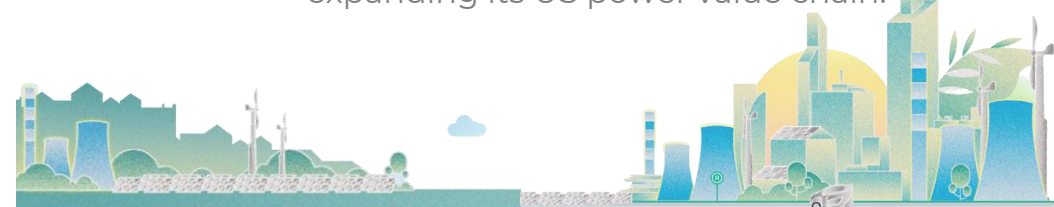
MoU signing with Gemeng International Energy on Renewable Energy Development

In July 2024, Banpu Investment (China), a subsidiary of Banpu Power signed an MoU with Gemeng International Energy, to explore and scale renewable energy growth opportunities in China.



Development of the 1st Solar Farm in the US

In August 2024, Banpu Power installed the Ponder Solar Farm, a 2.5 MW solar farm, marking a significant step towards expanding its US power value chain.

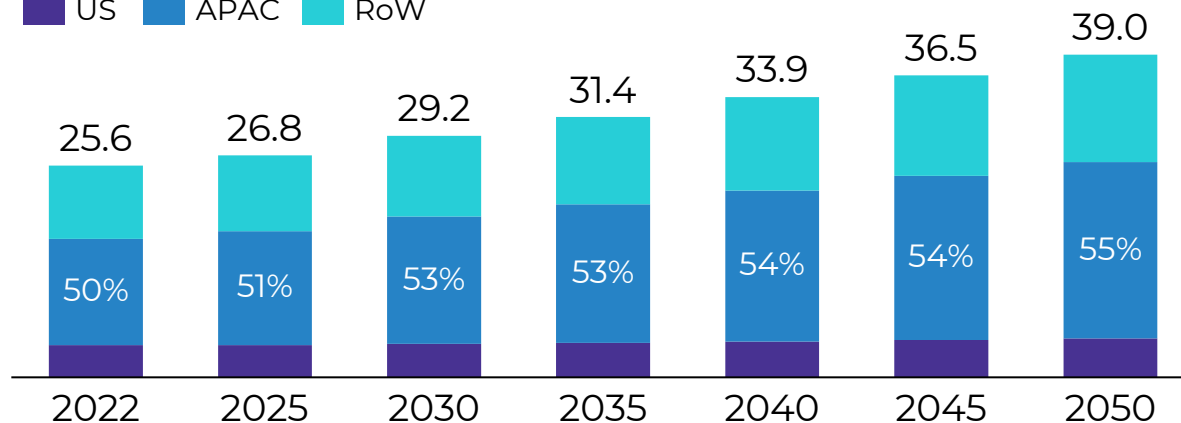


Overview of global power demand

TOTAL GLOBAL ELECTRICITY CONSUMPTION BY REGION

Unit: '000 TWh

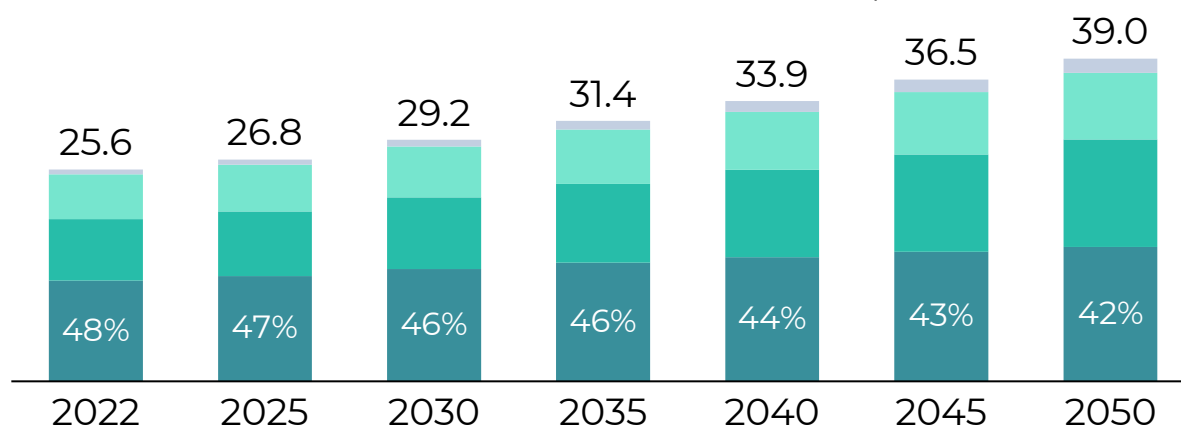
■ US ■ APAC ■ RoW



TOTAL GLOBAL ELECTRICITY CONSUMPTION BY SEGMENT

Unit: '000 TWh

■ Residential ■ Commercial ■ Industrial ■ Transport



Key takeaways

Continued urbanization in emerging markets and the electrification of transportation are anticipated to be stable drivers of demand

9%
CAGR

Global electricity increase in 2050 through emerging market needs and electrification

11%
CAGR

APAC to lead global electricity demand growth through to 2050, driven by rapid digitalization

Data centers and the evolution of AI will be one of the key drivers of future energy demand growth

US\$100
billion

Expected data center investments in Asia

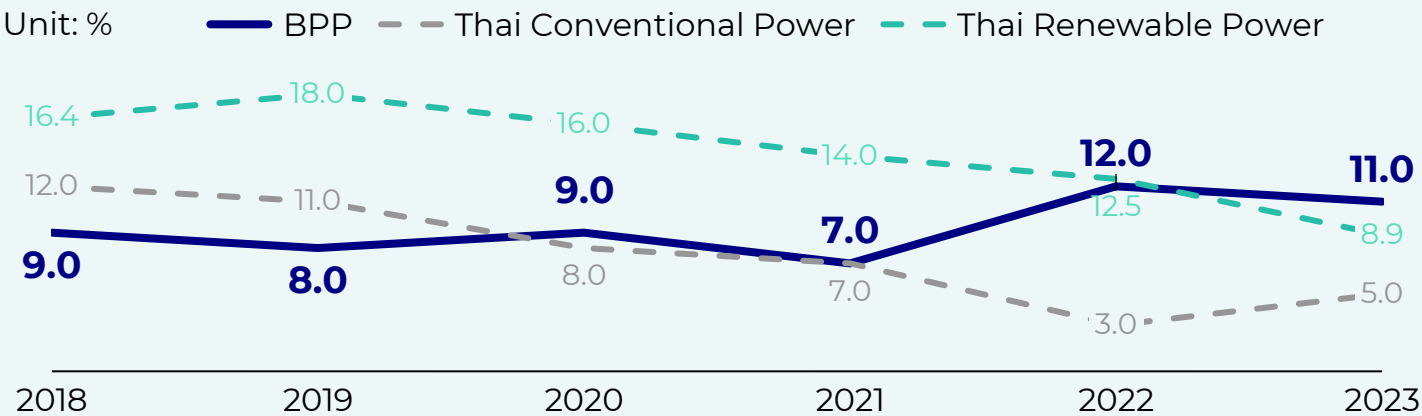
1,000
TWh

Growth in global data center electricity demand by 2030

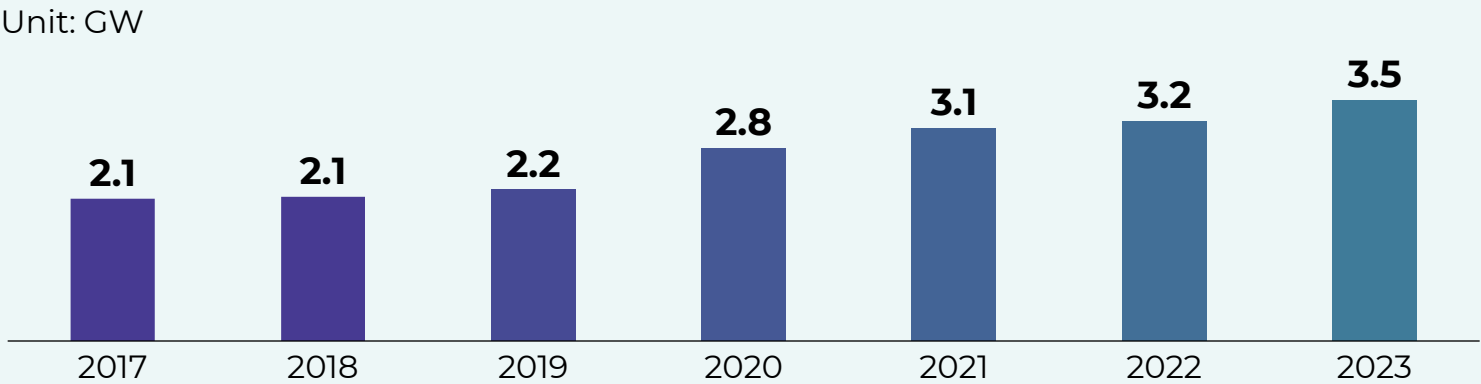
Delivering superior value: quality megawatts

Experienced utility provider well-positioned to capture growth of electricity demand through **acquisition strategy** and **operational initiatives**

BPP HISTORICAL RETURN ON EQUITY (ROE)



BPP HISTORICAL OPERATING MW GROWTH



Strategic and operational initiatives

- Expanding generation capacity of high-efficiency CCGT for consistent cashflow generation
- Prioritizing development of clean energy technology including CCUS, energy infra, and BESS to enhance BPP's position as a reliable partner in the energy transition
- Optimizing portfolio balance between PPA and merchant market revenue streams to maximize returns while managing portfolio risk

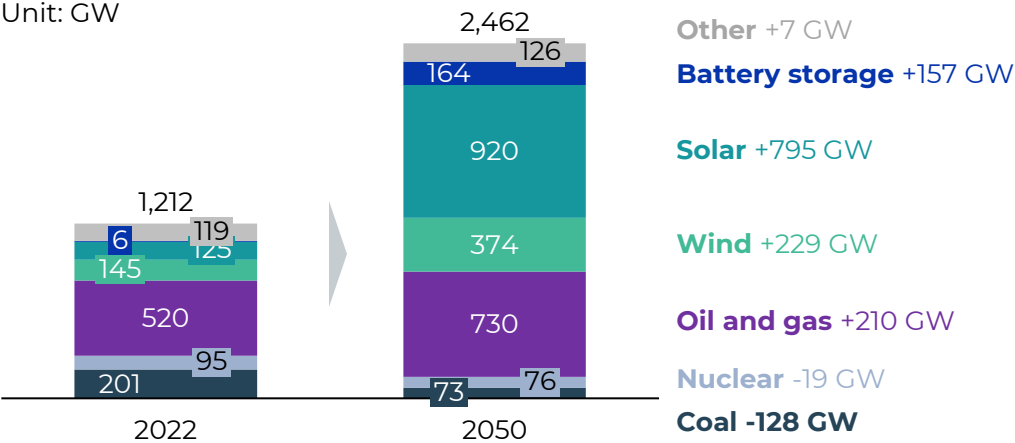
BPP's expert knowledge, extensive experience, and resilient teamwork significantly contribute to enhance our success



US power outlook: growth opportunities

US GENERATING CAPACITY OUTLOOK

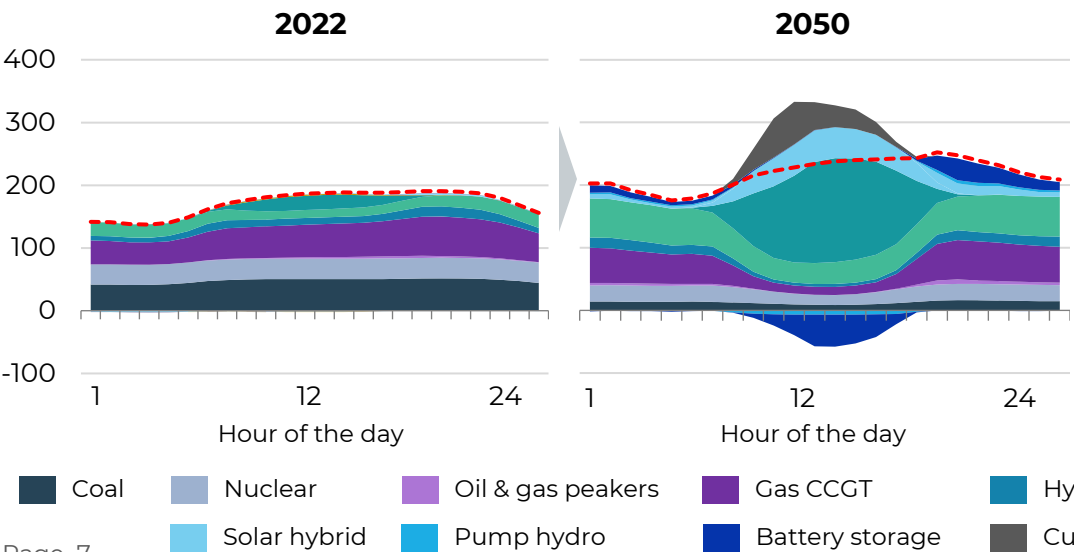
Unit: GW



- Renewable capacity rises significantly due to declining costs, subsidies, and increased battery installations.
- Gas-fired power capacity also grows to support the higher share of renewables by providing reserve capacity.

US HOURLY ELECTRICITY GENERATION AND DEMAND LOAD

Unit: TWh

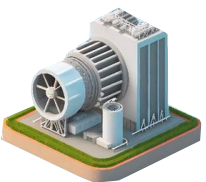


- Significant midday curtailment occurs when solar generation exceeds demand; BESS can store and dispatch this unused energy later.
- Gas CCGT is essential for supporting demand after sunlight hours when solar generation ceases.



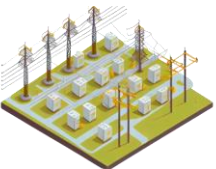
GROWTH OPPORTUNITIES

GAS FIRED POWER



- Capture rising power demand
- Provide baseload power for renewables

TRANSMISSION INFRASTRUCTURE



- Support renewable energy integration
- Enhanced grid reliability and stability

RENEWABLES + BESS



- Grid balancing
- Revenue stacking
- Net zero demand growth

US power value chain expansion: launch of US solar farm

PONDER SOLAR FARM

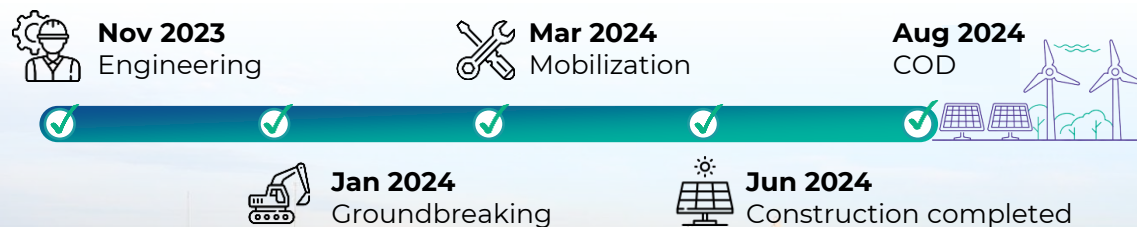
PROJECT HIGHLIGHTS

2.5 MW
Capacity (AC)

6.4 GWh
Generation

The BKV—BPP Solar Farm is a leading renewable energy project located in the heart of Denton County, Texas. The project utilizes 16 acres of land owned by BKV Barnett

PROJECT TIMELINE



BUILDING AN INTEGRATED US POWER VALUE CHAIN

UPSTREAM

MIDSTREAM

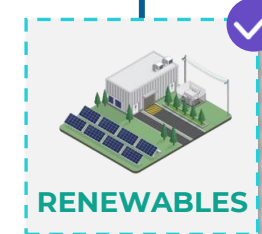
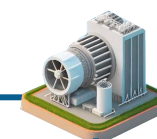
DOWNSTREAM

SHALE GAS PRODUCTION

GAS-FIRED POWER

TRANSMISSION & DISTRIBUTION

END CONSUMERS



ENERGY TRADING

? BESS

? Energy Infra.

? Data centers

FIRST STEPS IN US CLEAN ENERGY

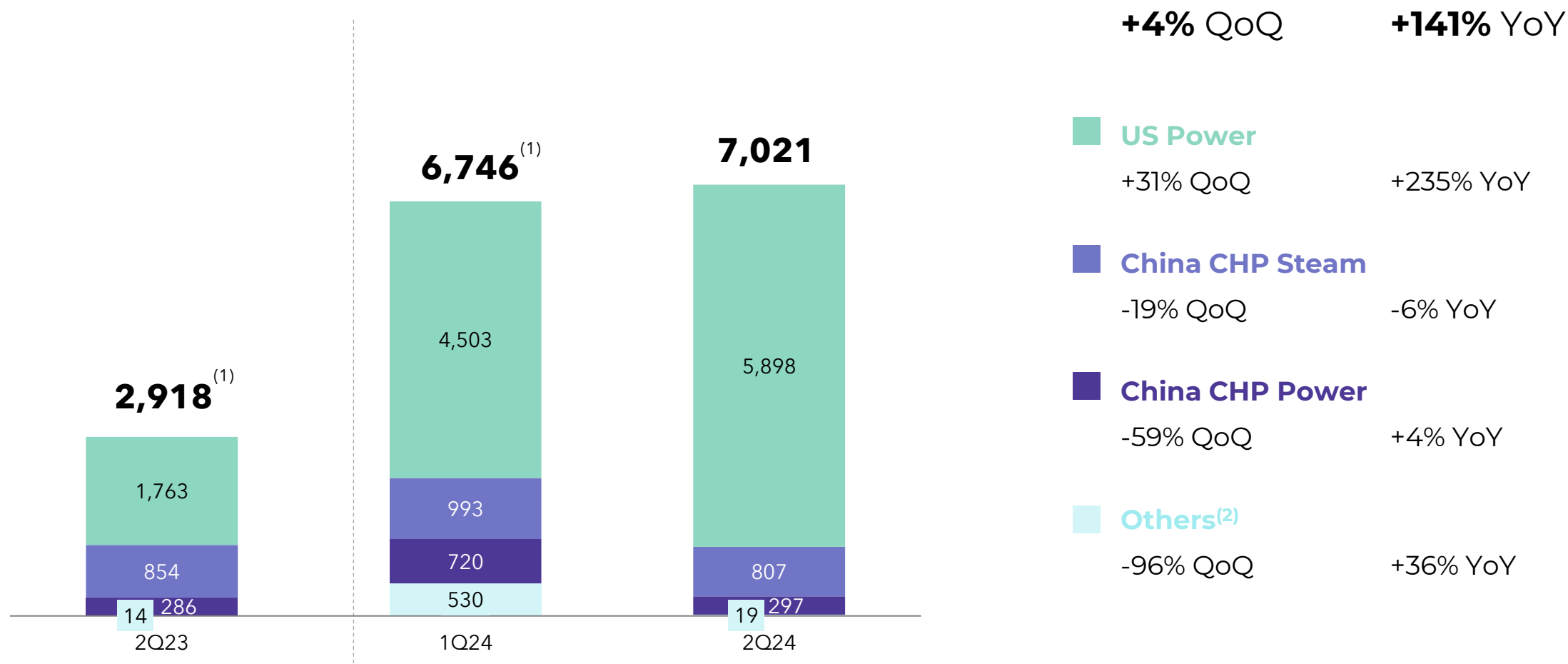
This new development will serve as a roadmap to expand **new energy infrastructure and services** in the US power market. By leveraging synergies and capturing upside, we can **drive unparalleled value across our portfolio.**



Financial performance

Banpu Power consolidated revenue – 2Q24

Unit: THB M

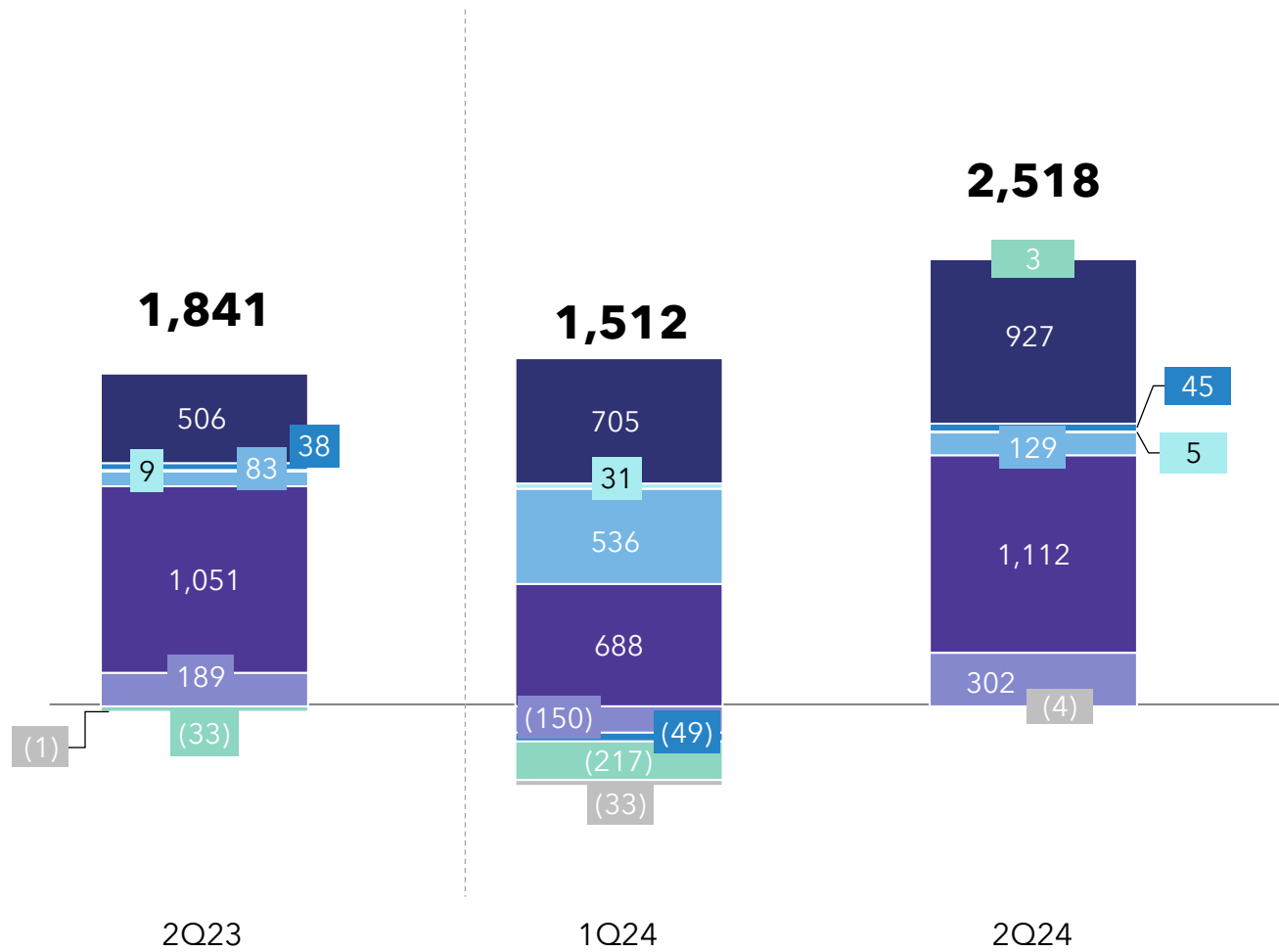


Note: (1) There has been a change in accounting policy for hedge accounting. Going forward, spark spread revenue and cost will be recorded at contract price, rather than the market price as previously done. This change will impact revenue, cost, and realized gain/loss on derivative. The data for 2Q23, 1Q24, 2Q24 already reflects this new policy.

(2) Others include hot water, cooling water, and Zhengding solar rooftop

Banpu Power consolidated EBITDA – 2Q24

Unit: THB M



+67% QoQ

+37% YoY

Banpu NEXT

n/a QoQ

n/a YoY

US Power

+31% QoQ

+83% YoY

Nakoso IGCC

n/a QoQ

+19% YoY

SLG

-84% QoQ

-43% YoY

China CHP

-76% QoQ

+55% YoY

HPC

+62% QoQ

+6% YoY

BLCP

n/a QoQ

+60% YoY

Others (1)

n/a QoQ

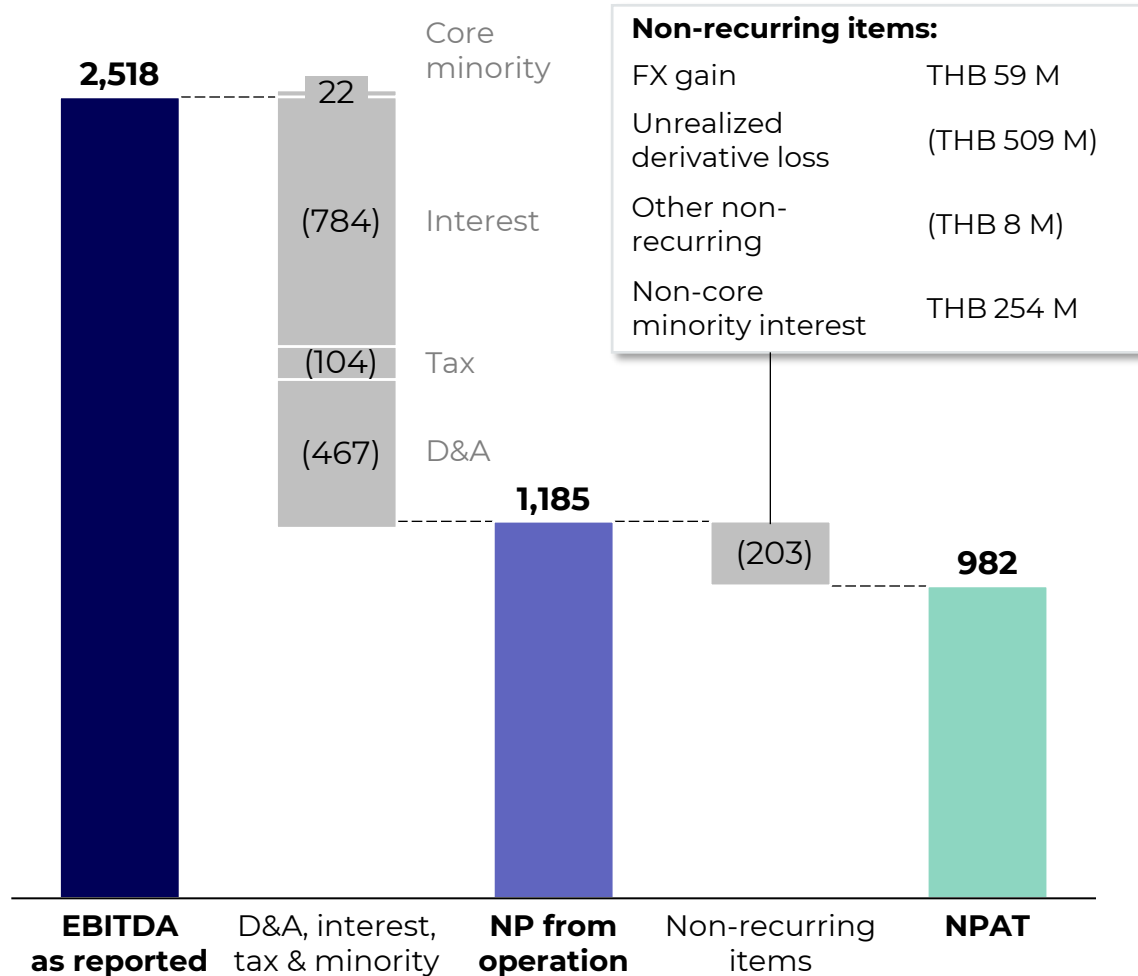
n/a YoY

Note: (1) Others include Head office - BPP

Banpu Power consolidated NPAT – 2Q24

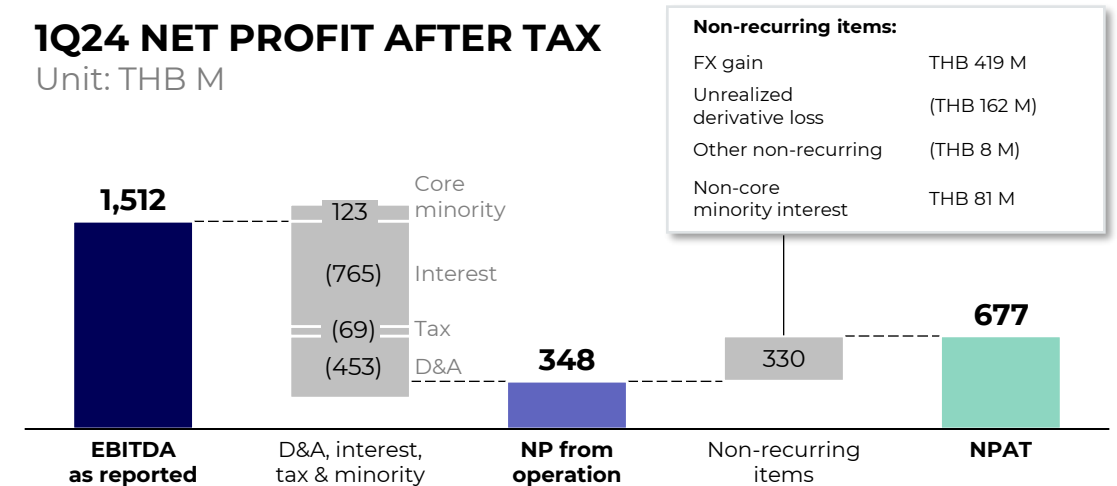
2Q24 NET PROFIT AFTER TAX

Unit: THB M



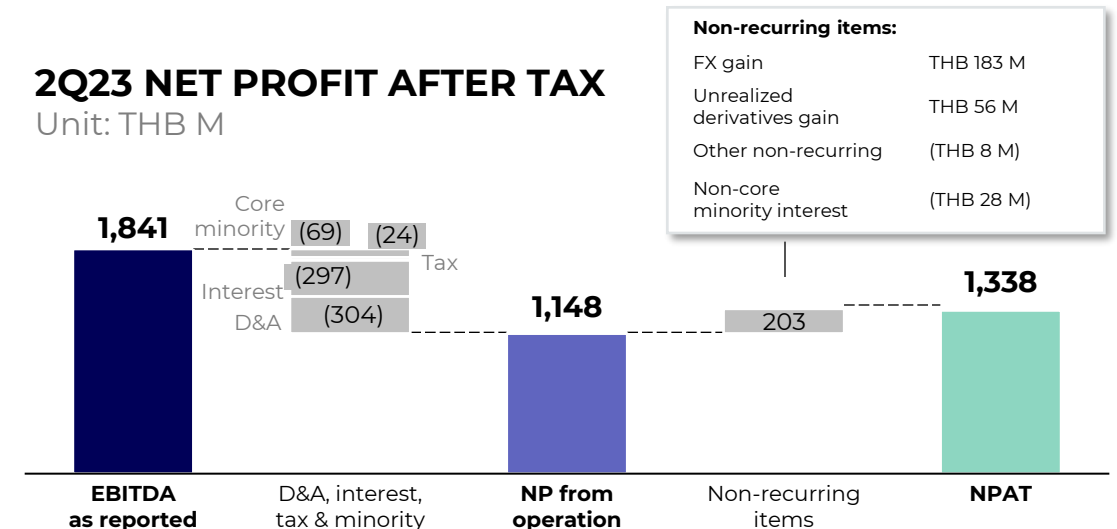
1Q24 NET PROFIT AFTER TAX

Unit: THB M



2Q23 NET PROFIT AFTER TAX

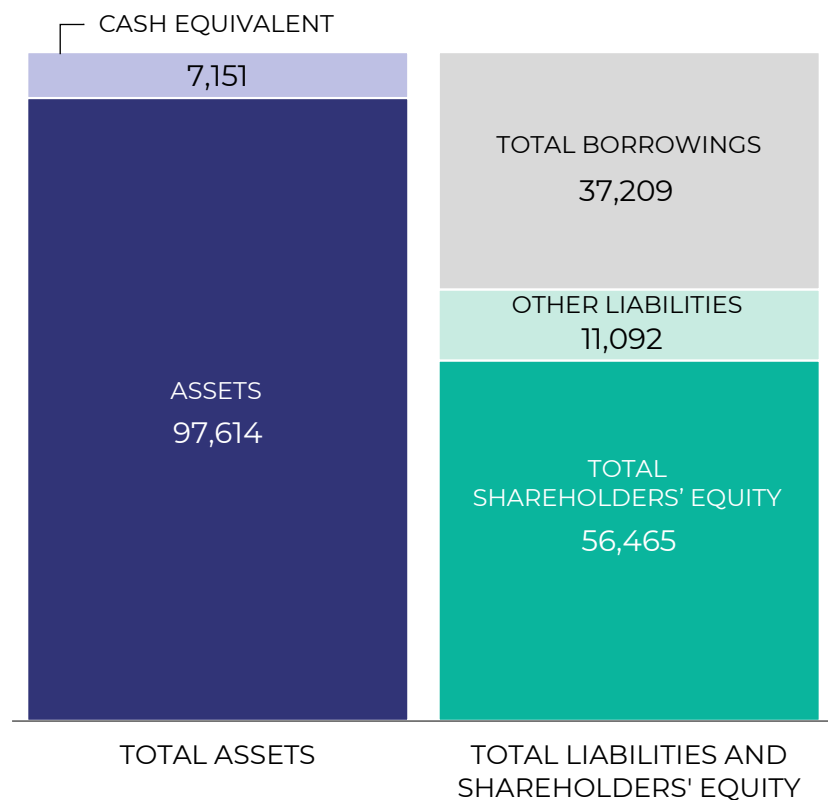
Unit: THB M



Banpu Power consolidated financial position – 2Q24

2Q24 Consolidated Financial Position

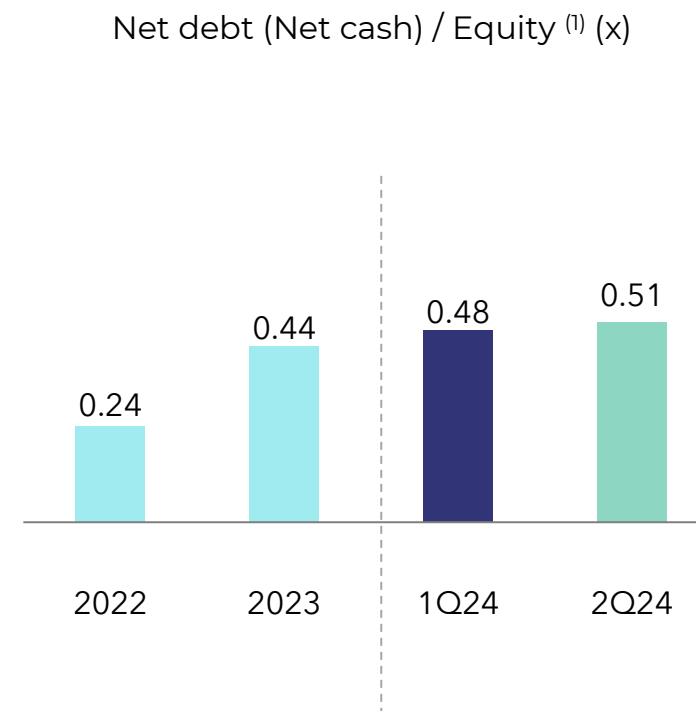
Unit: THB M



31 June 2024

In 2Q24, total assets were THB 104,767 M, an increase of THB 1,406 M from 1Q24. The net D/E ratio increased from 0.48 to 0.51 contributed from additional debt secured.

Gearing Ratios



Note: (1) Net debt to book value of shareholders' equity

Thermal performance

China CHP: operational performance

China Combined Heat and Power (CHP) Plants

In 2006, Banpu invested into 3 combined heat and power plants in China with total of 548 equity MWe at present.

Quarter update: All plants operating as planned with no disruptions.



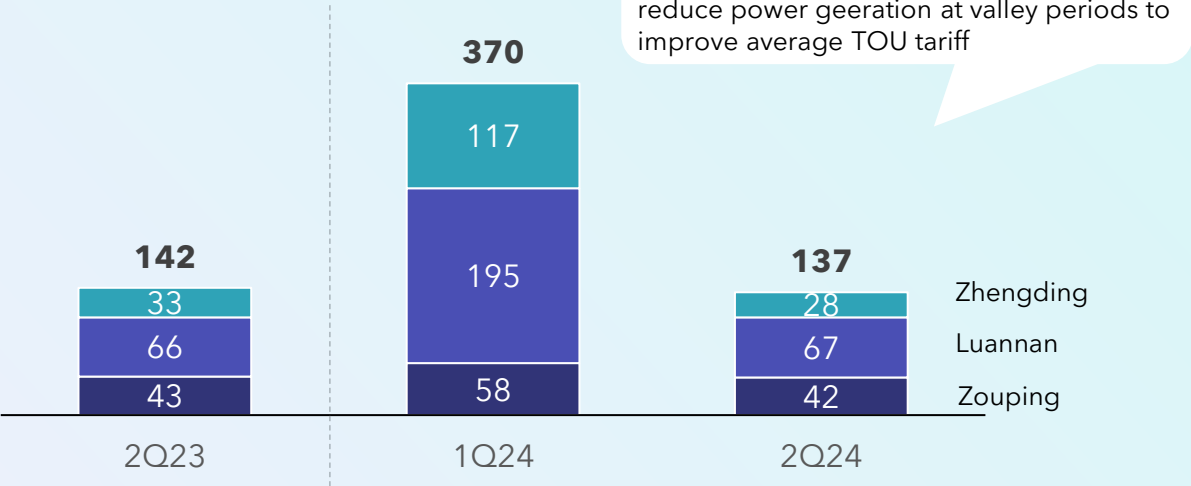
ZHENGDING CHP
🇨🇳 **HEBEI, CHINA**
Ownership: 100%
Power capacity: 139 MWe

LUANNAN CHP
🇨🇳 **HEBEI, CHINA**
Ownership: 100%
Power capacity: 246 MWe

ZOUPING CHP
🇨🇳 **SHANDONG, CHINA**
Ownership: 70%
Power capacity: 233 MWe

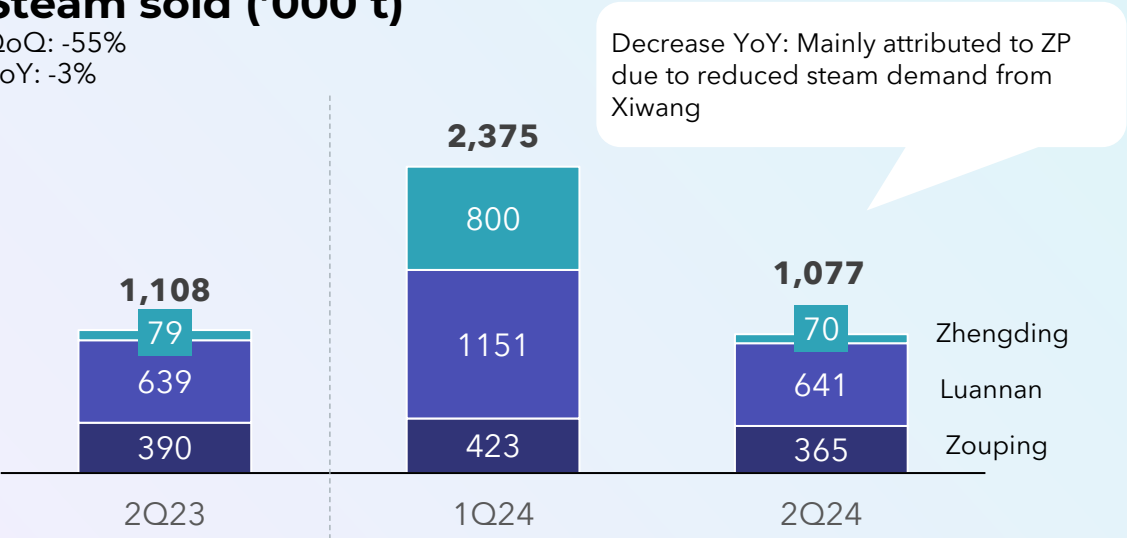
Electricity sold (GWh)

QoQ: -63%
YoY: -3%



Steam sold ('000 t)

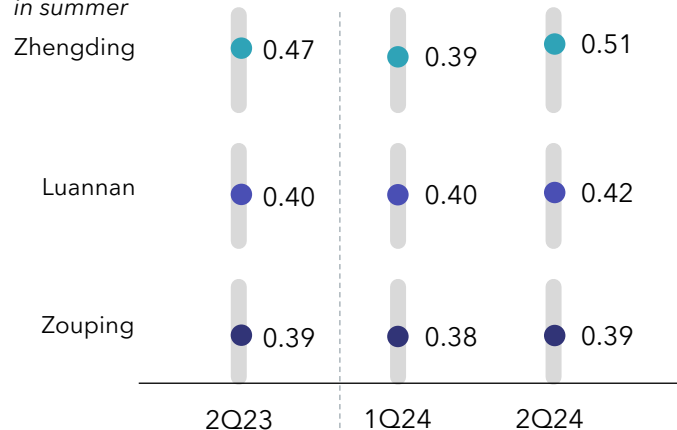
QoQ: -55%
YoY: -3%



China CHP: financial performance

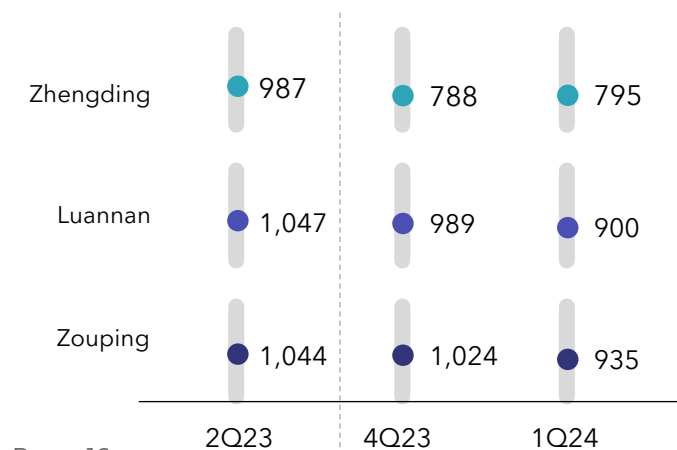
Tariff (RMB/kWh)

Higher YoY & QoQ contributed by higher tariff at ZD and LN, and ZD's new operation mode which capitalized on the higher TOU tariff in summer



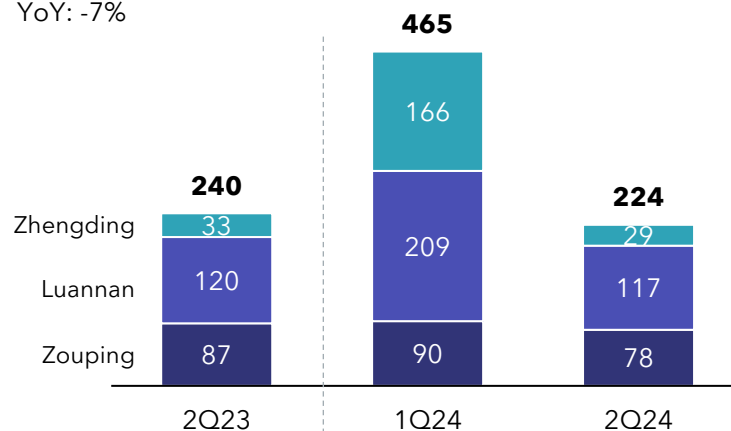
Coal price (RMB/t)

Lower YoY due to the downturn trend of coal price with sufficient coal supply and tepid demand in 2Q24.



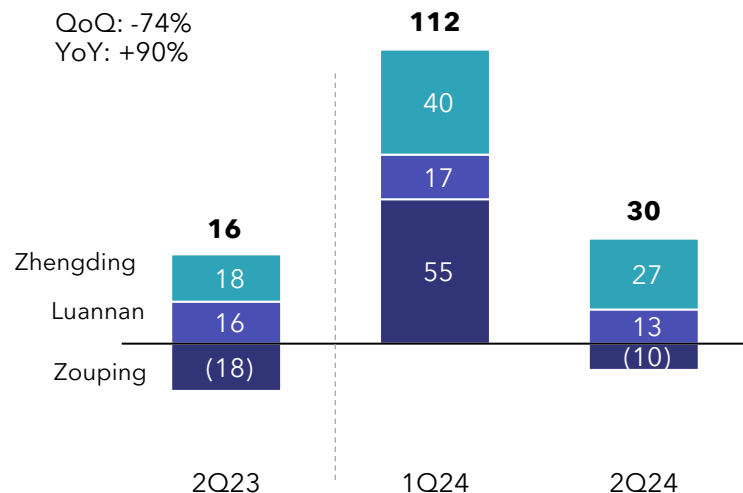
Total revenue (RMB M)

QoQ: -52%
YoY: -7%



EBITDA (RMB M)

QoQ: -74%
YoY: +90%

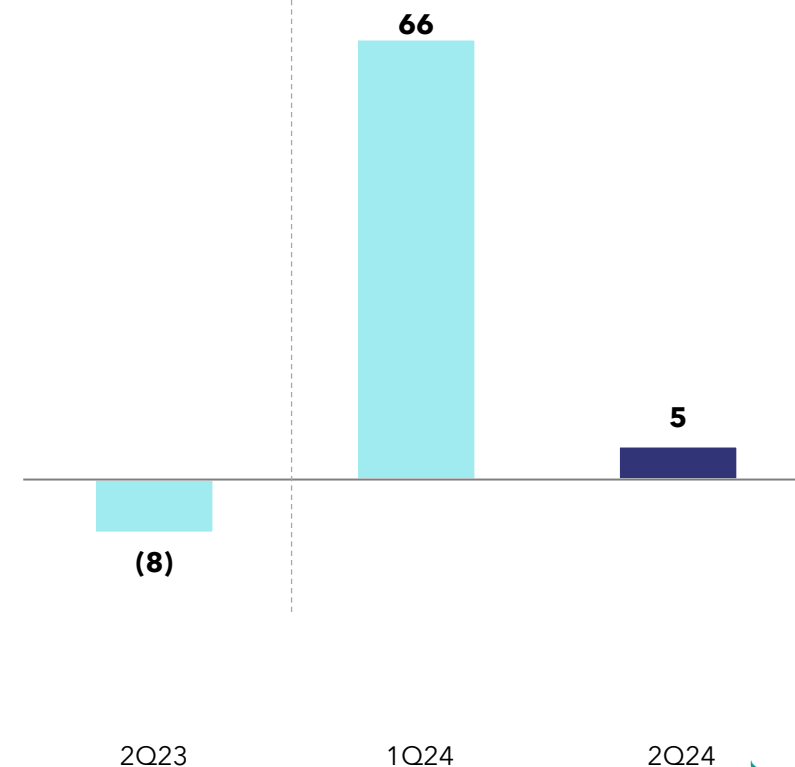


Profit contribution to BPP (RMB M)

QoQ: -93%
YoY: +155%

Based on Banpu Power's
100% interest for Luannan and Zhengding,
and 70% for Zouping

Higher YoY from LN & ZD driven by a significant reduction in coal costs; this offsets the decrease from ZP due to lower steam sales



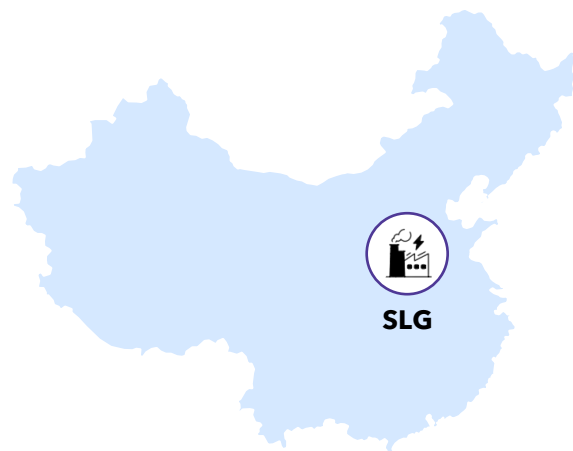
SLG: operational and financial performance


Shanxi Lu Guang Power Plant

Commissioned in 2021, SLG is a high efficiency coal-fired power plant that utilizes best of class technology to significantly lower emissions.

Quarter update: Unit #1 was conducted C-Class maintenance in Apr 18-June 2. Unit #2 was dispatched for reserve shutdown of 24 days in Q2 due to insufficient power demand.

Continue to supply industrial steam supply in Q2.

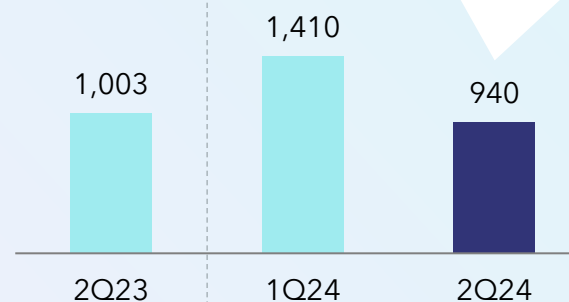


 **SHANXI, CHINA**
Ownership: 30%
Power capacity: 1,320 MW

Electricity sold (GWh)

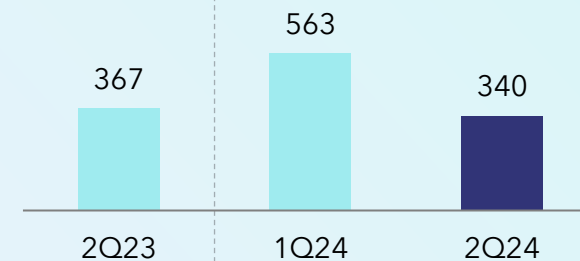
QoQ: -33%
YoY: -6%

Lower YoY due to retrofit of Unit 2, lower demand from cooler temperatures, and increased hydropower from heavy rainfall



Total revenue (RMB M)

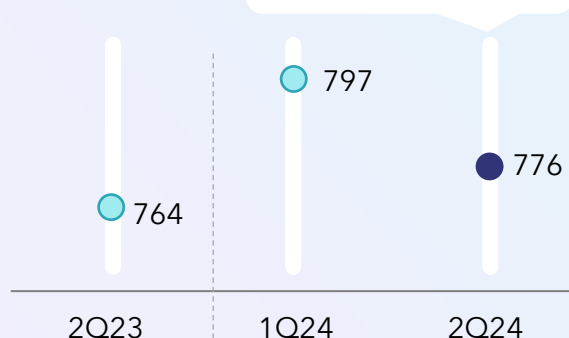
QoQ: -40%
YoY: -7%



Standard coal price (RMB/t)

QoQ: -3%
YoY: +2%

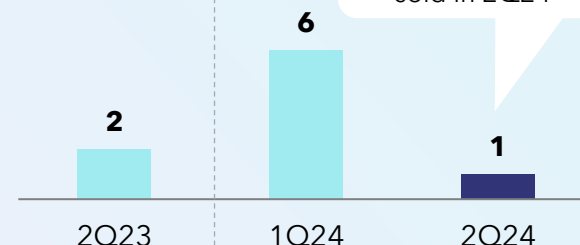
Continues to consume 100% of long-term coal



Profit contribution to BPP (RMB M)

QoQ: -84%
YoY: -43%

Lower YoY mainly due to less power sold in 2Q24

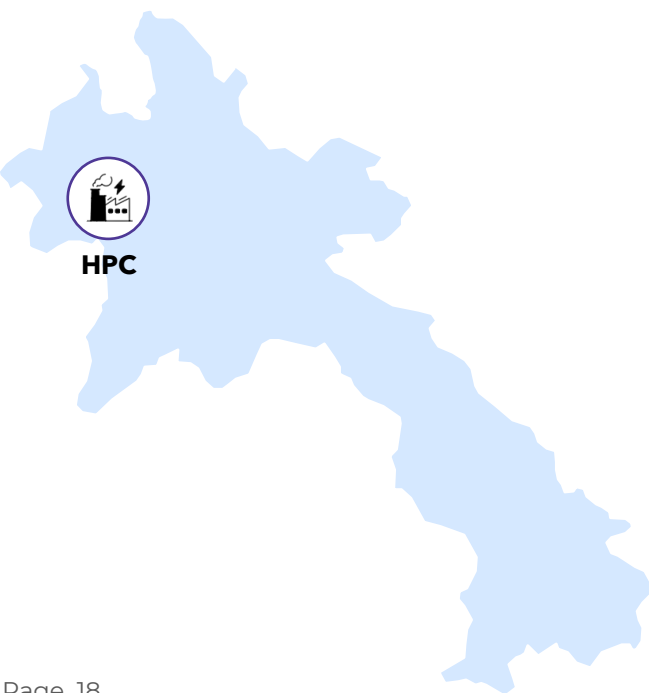



HPC: operational performance

HPC Power Plant

HPC is a lignite mine mouth power plant that commissioned between 2015 and 2016, making it Lao's largest power generating asset in terms of capacity.

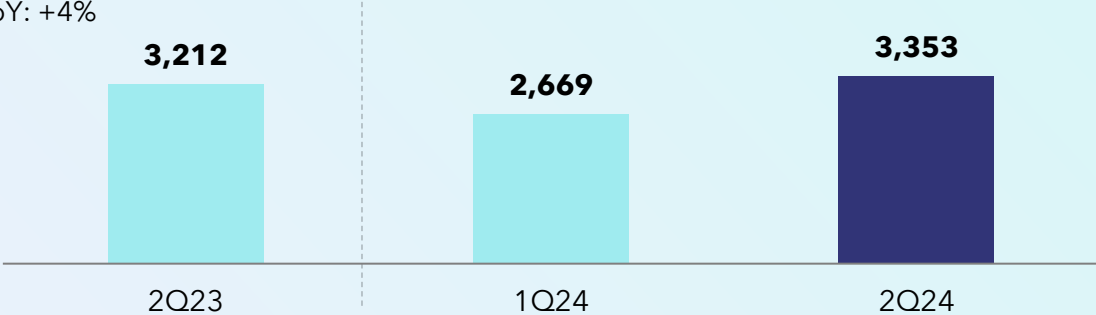
Quarter update: Operating smoothly as planned



HPC
 **XAYABURI, LAOS**
Ownership: 40%
Power capacity: 1,878 MW

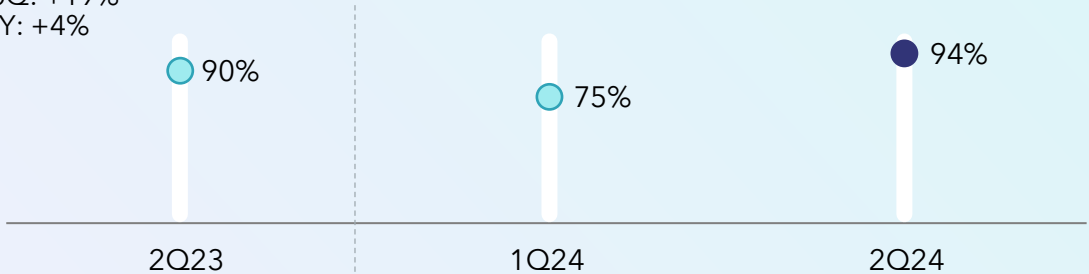
Net generation (GWh)

QoQ: +26%
YoY: +4%



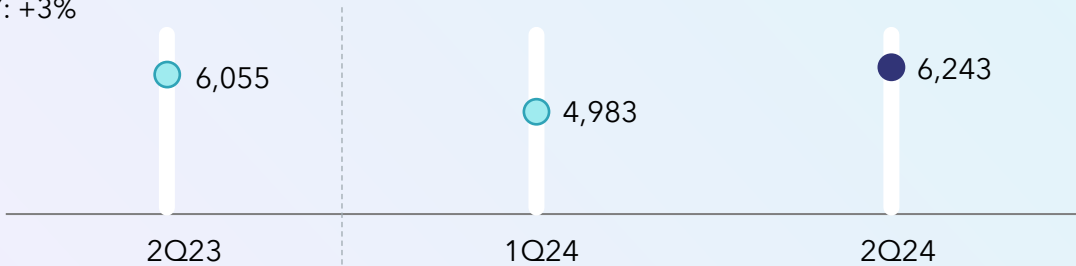
Equivalent availability factor (%)

QoQ: +19%
YoY: +4%



Contracted availability hour (hrs)

QoQ: +25%
YoY: +3%

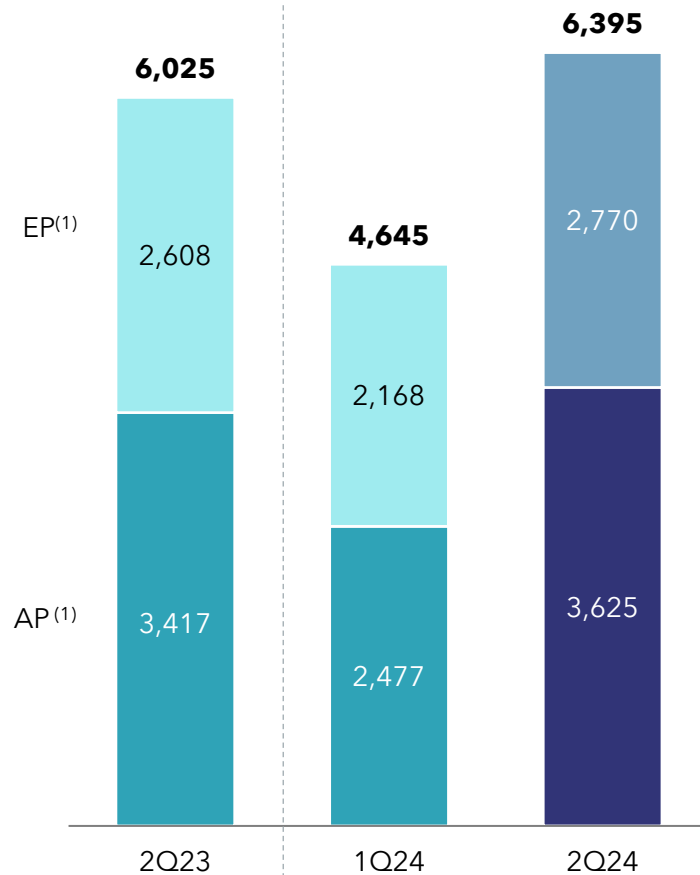


HPC:

financial performance

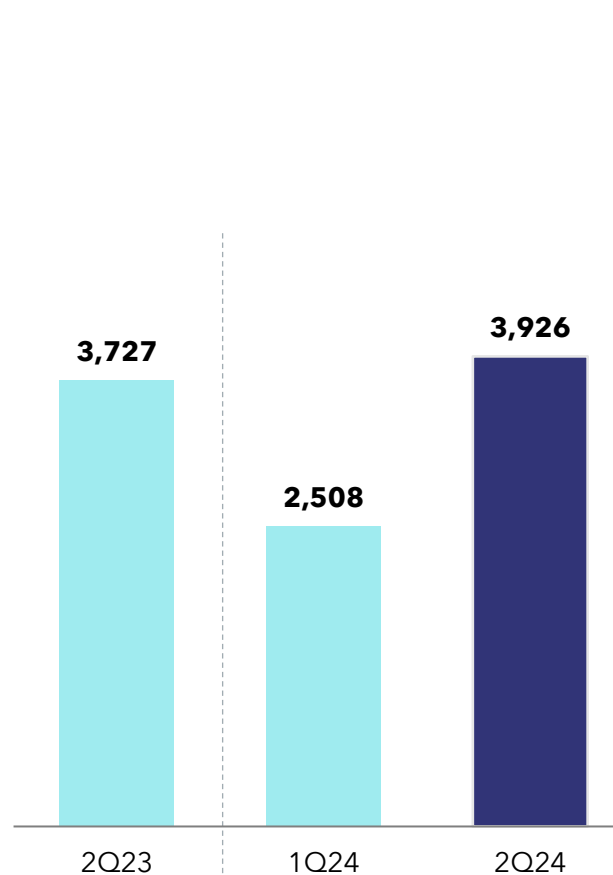
Total revenue (THB M)

QoQ: +38%
YoY: +6%



EBITDA (THB M)

QoQ: +57%
YoY: +5%

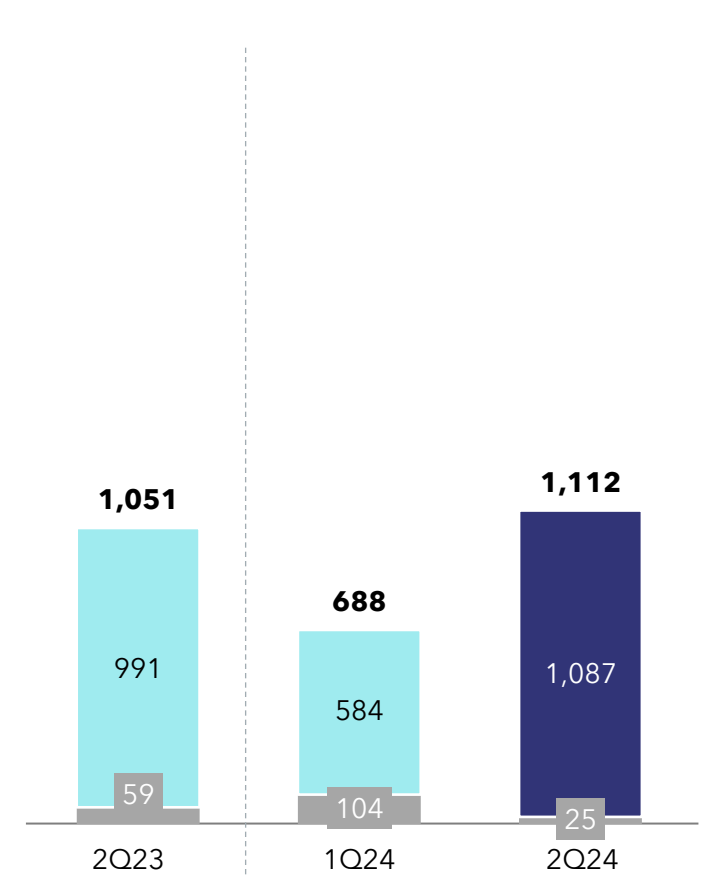


Profit contribution to BPP (THB M)

QoQ: +62%
YoY: +6%

Based on Banpu Power's 40% interest

■ FX Gain/loss



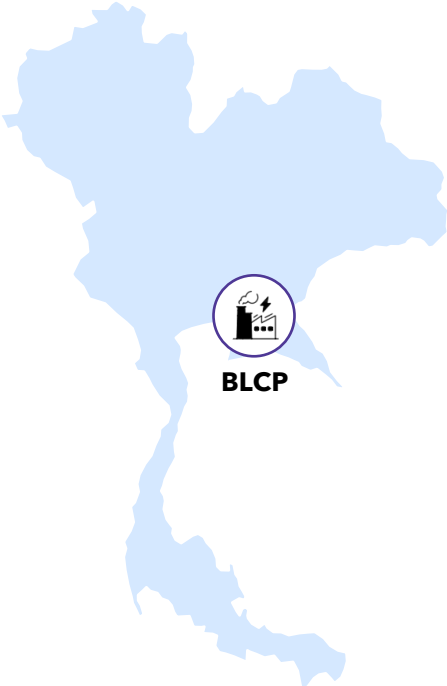
Note: (1) 100% basis for availability payment (AP), energy payment (EP)


BLCP: operational performance

BLCP Power Plant

BLCP is a coal-fired power plant located in Map Ta Phut Industrial estate, Rayong with Unit 1 and 2 COD in 2006 and 2007, respectively.

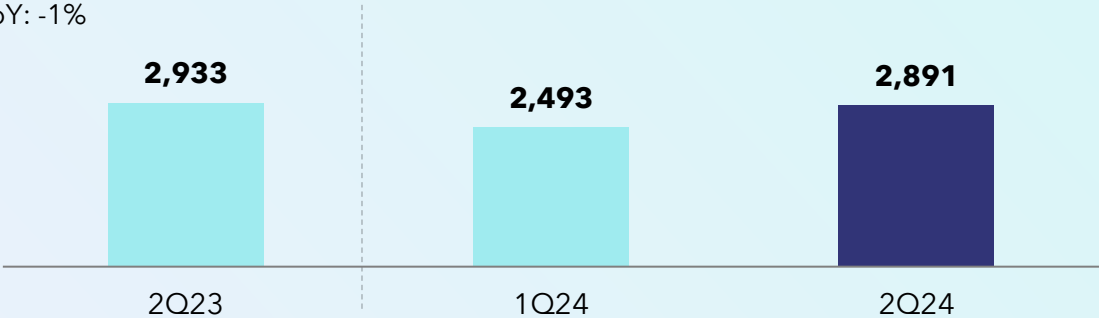
Quarter update: Operating smoothly as planned



BLCP
 **RAYONG, THAILAND**
Ownership: 50%
Power capacity: 1,434 MW

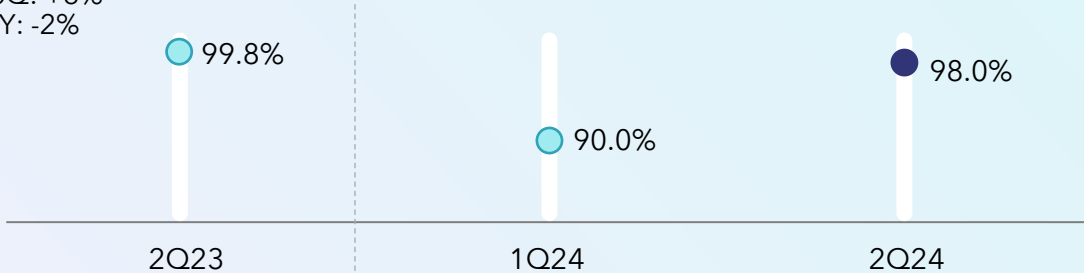
Net generation (GWh)

QoQ: +9%
YoY: -1%



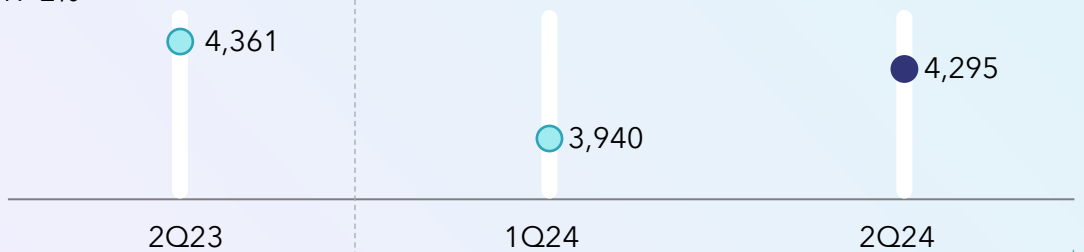
Equivalent availability factor (%)

QoQ: +8%
YoY: -2%



Contracted availability hour (hrs)

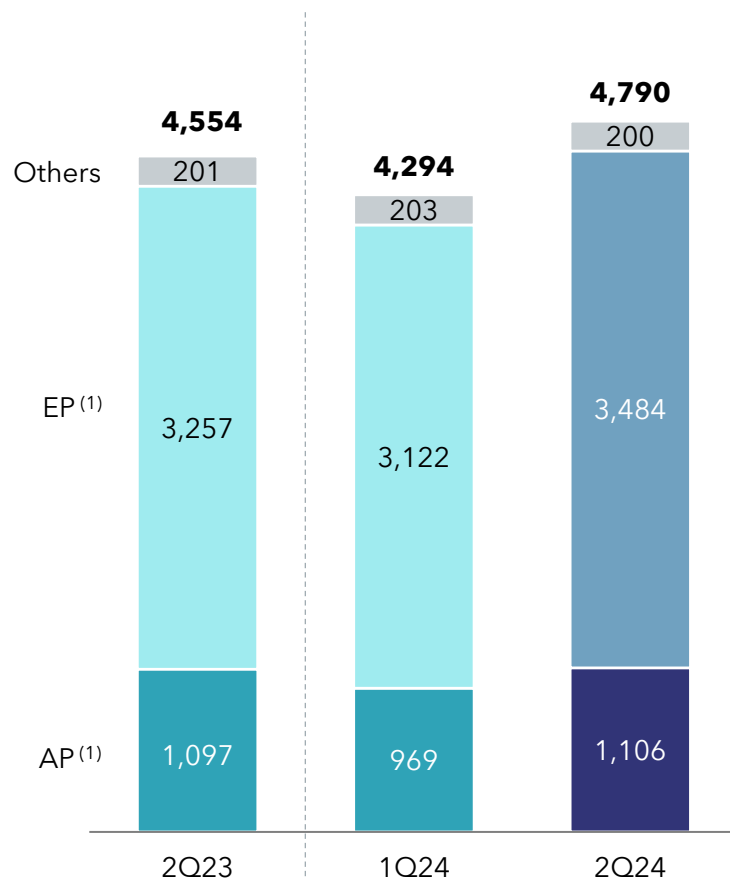
QoQ: +9%
YoY: -2%



BLCP: financial performance

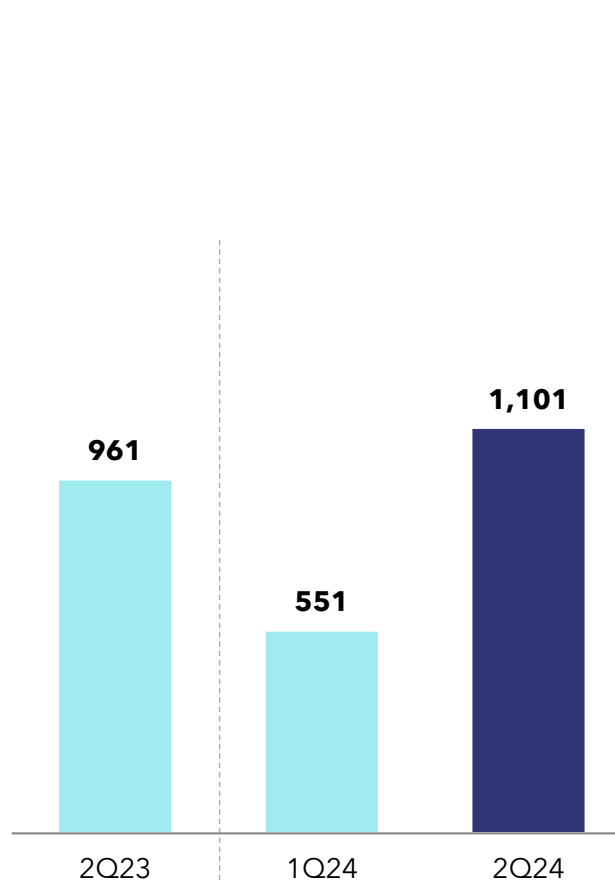
Total revenue (THB M)

QoQ: +12%
YoY: +5%



EBITDA (THB M)

QoQ: +100%
YoY: +15%

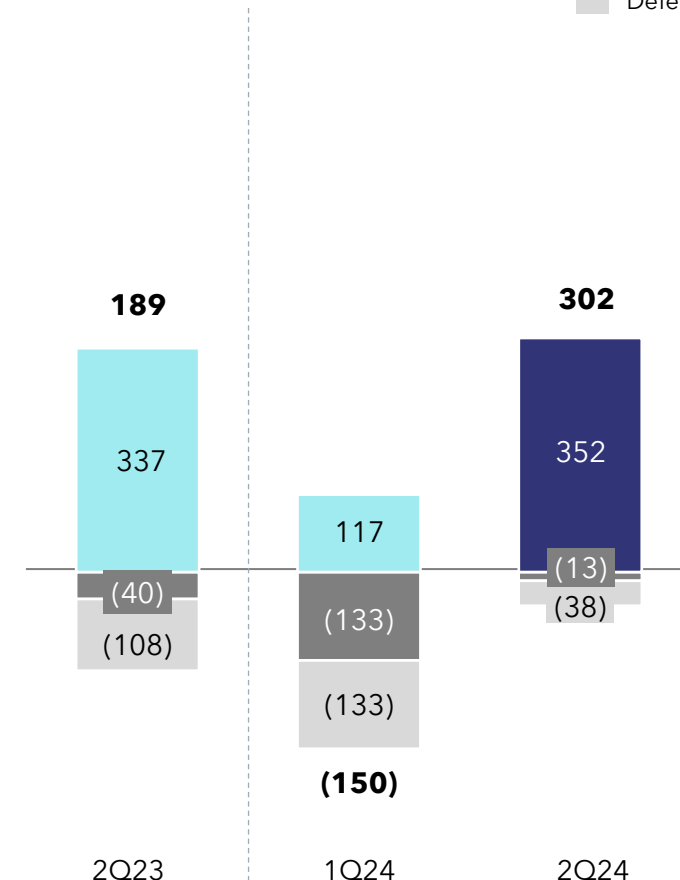


Profit contribution to BPP (THB M)

QoQ: n.a.
YoY: +60%

Based on Banpu Power's 50% interest

■ FX Gain/loss
■ Deferred tax



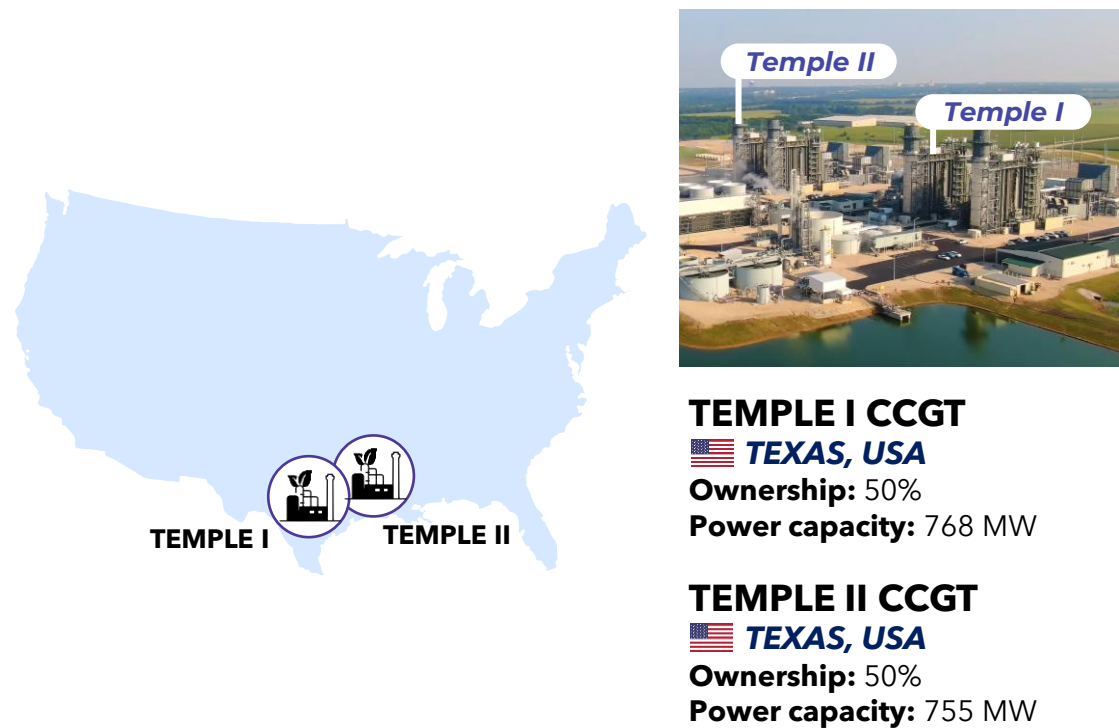
Financial performance provided are based on IFRS accounting standard
Note: (1) 100% basis for availability payment (AP), energy payment (EP)

Temple I & II: operational performance

Temple I & II CCGT

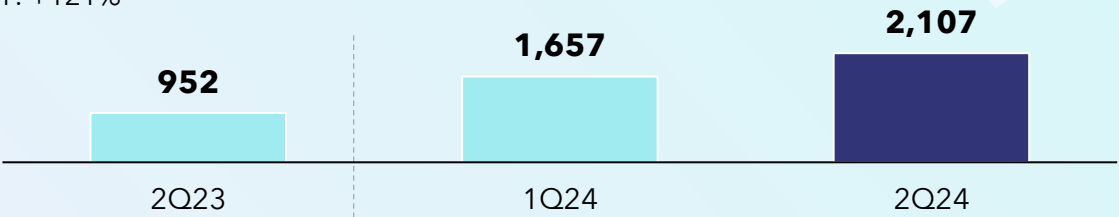
Temple I & II are combined cycle gas-fired power plants located next to each other, supplying base load power to the ERCOT market, COD in 2014 and 2015, respectively. Both assets have recognized revenue since November 2021 and July 2023, respectively.

Quarter update: T2 Conducted spring outage as planned.



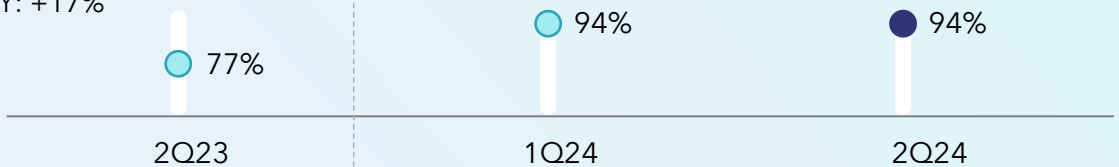
Net generation (GWh)

QoQ: +27%
YoY: +121%



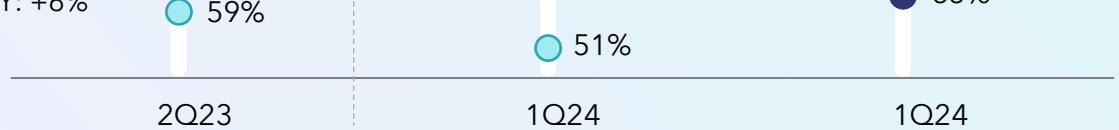
Equivalent availability factor (%)

QoQ: +0%
YoY: +17%



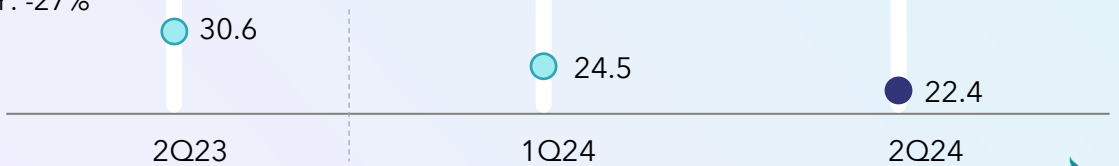
Capacity factor (%)

QoQ: +14%
YoY: +6%



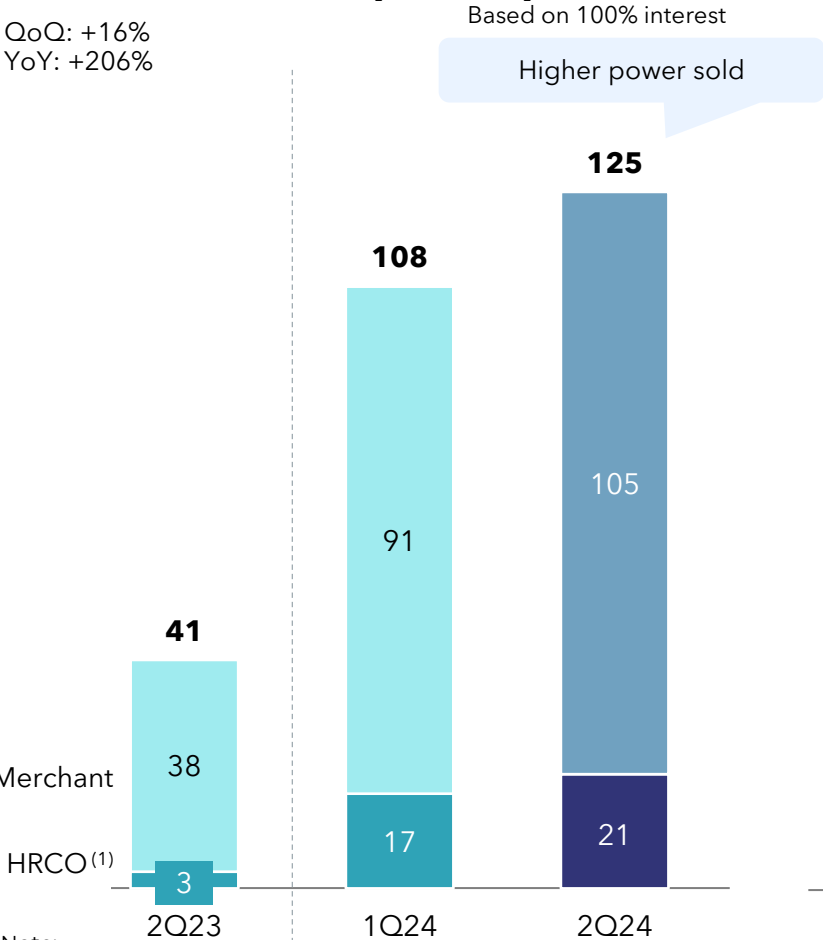
Spark spread (US\$/MWh)

QoQ: -9%
YoY: -27%

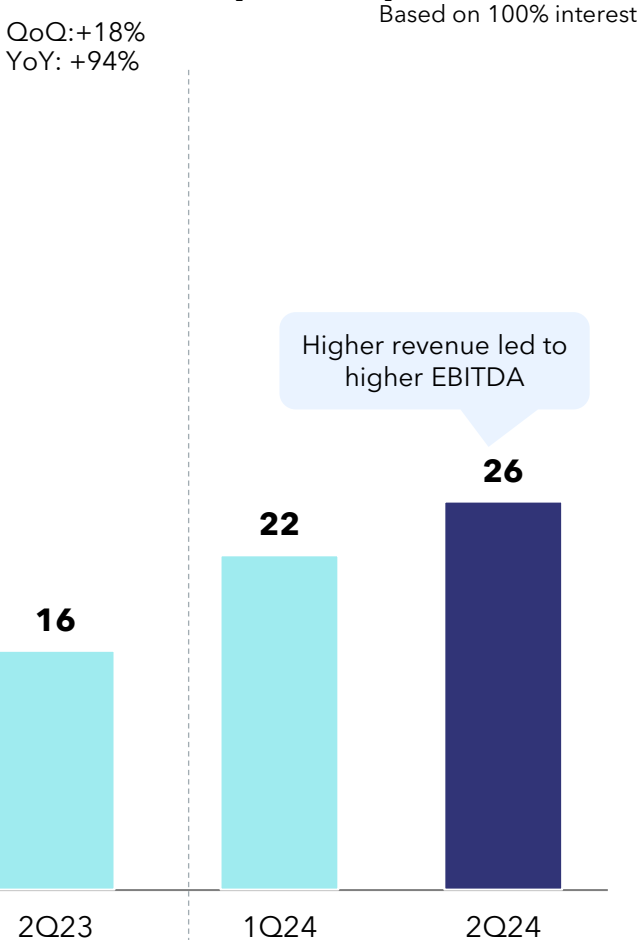


Temple I & II: financial performance

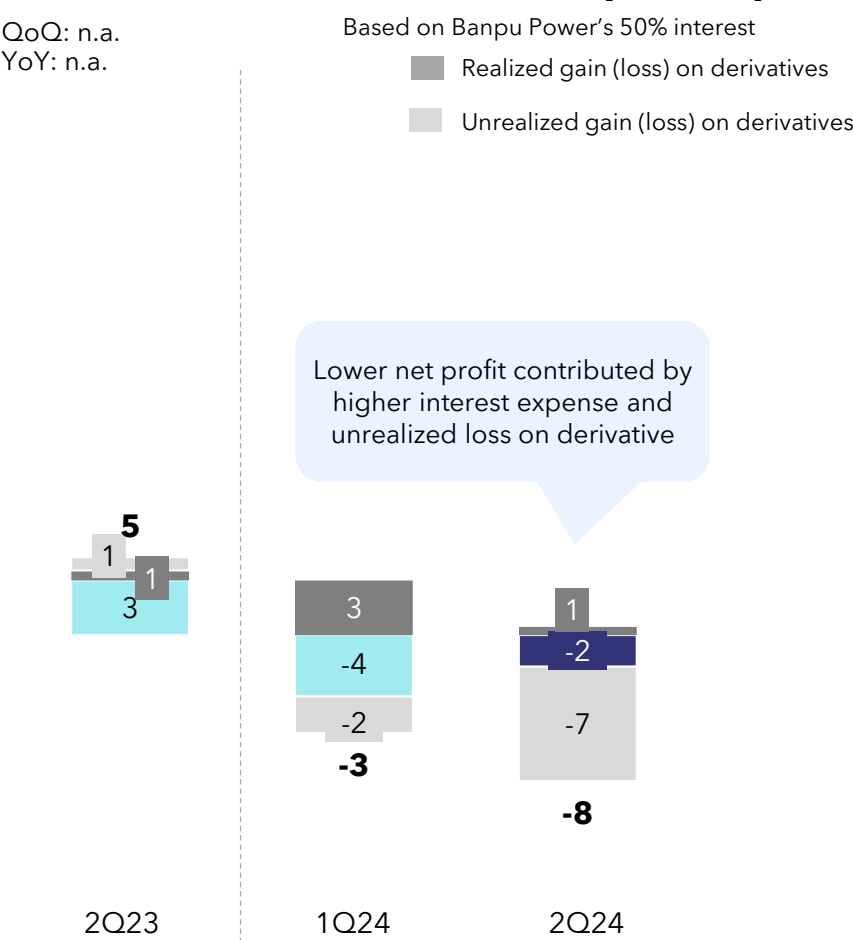
Total revenue ⁽²⁾ (US\$ M)



EBITDA ⁽³⁾ (US\$ M)



Profit contribution to BPP (US\$ M)



Note:

(1) Heat Rate Call Option (HRCO) is a derivative used to secure monthly fixed revenue to ensure stable cash flow streams for both low and peak season

(2) There has been a change in accounting policy for hedge accounting. Going forward, spark spread revenue and cost will be recorded at contract price, rather than the market price as previous done. This change will impact revenue, cost, and realized gain/loss on derivative. The data for 2Q23, 1Q24, 2Q24 already reflects this new policy.

(3) EBITDA includes realized gain / (loss) from derivative but excluded unrealized gain / (loss) from derivative.

Nakoso: operational & financial performance

Nakoso Power Plant

Nakoso is an integrated gasification combined cycle power plant that generates power at higher efficiencies with lower emissions and fuel consumption, COD in April 2021.

Quarter update: Nakoso IGCC's completed their yearly maintenance outage

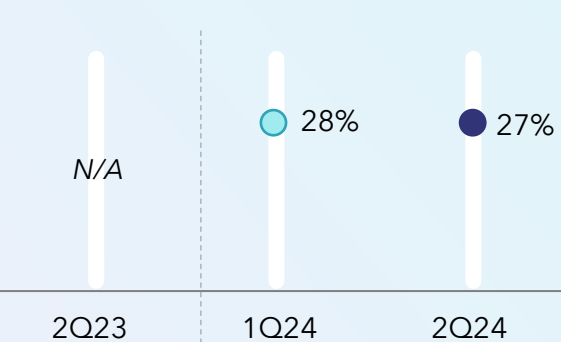


Nakoso
🇯🇵 **FUKUSHIMA, JAPAN**
Ownership: 13.4% ⁽¹⁾
Power capacity: 543 MW

Note:
(1) BPP owns 33.5% in NIMCO, which owns 40% of Nakoso IGCC
Page 24

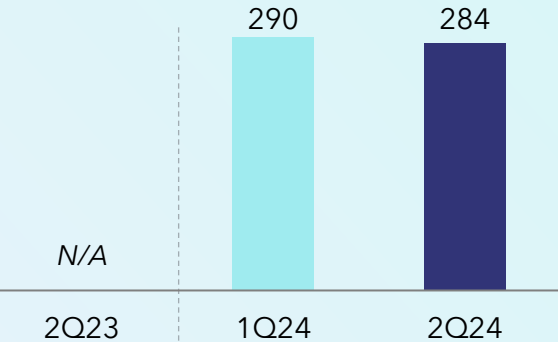
Equivalent availability factor (%)

QoQ: -1%
YoY: n.a.



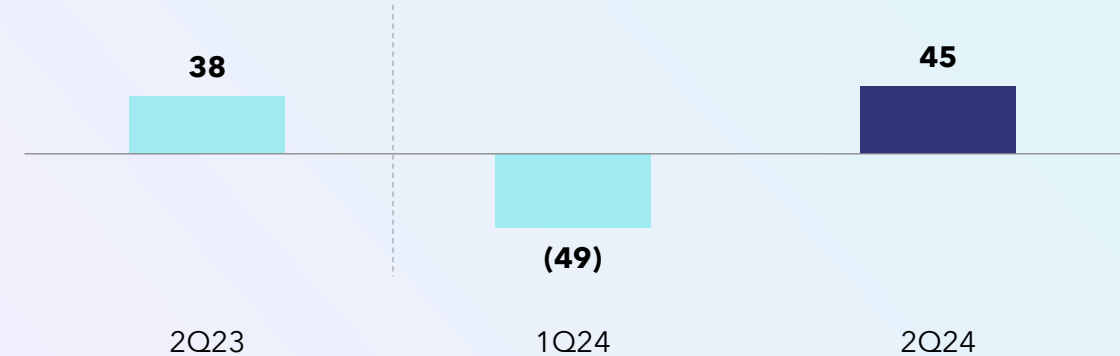
Net generation (GWh)


QoQ: -2.1%
YoY: n.a.



Profit Contribution to BPP (THB M)

QoQ: +192%
YoY: +18%
Based on Banpu Power's 13.4% interest



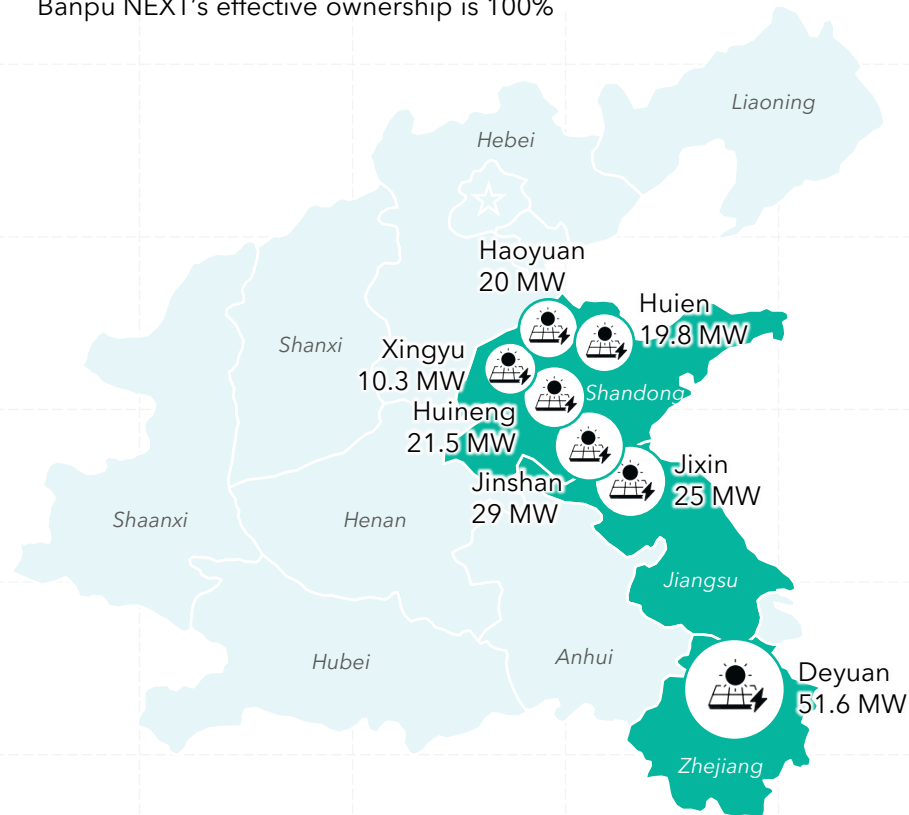


Renewables & Energy Technology performance

China solar: total equity capacity of 177 MW_{dc}

Banpu Power's solar portfolio in China

Banpu NEXT's effective ownership is 100%



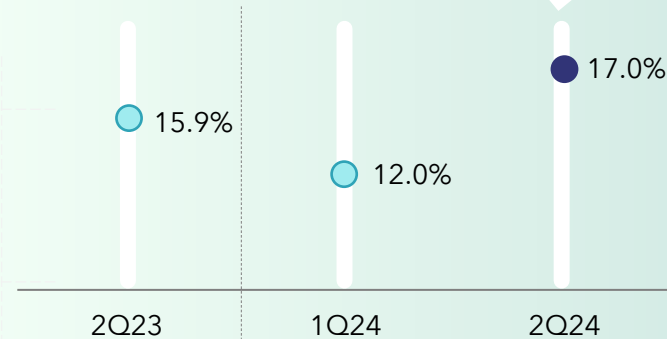
Equity capacity based on Banpu NEXT's interest

Note: RMB1.0/kWh of FIT and subsidies for Jinshan, Haoyuan and Huineng phase 1, RMB0.83/kWh for Huineng phase 2, RMB0.98/kWh for Hui'en and RMB0.87/kWh for Deyuan

Average capacity factor (%)

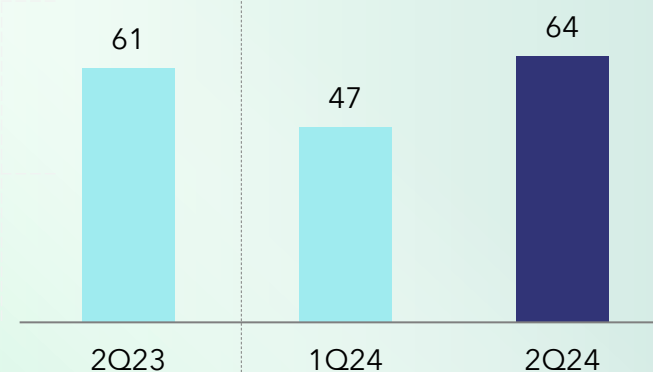
QoQ: +5%
YoY: +1%

Favorable irradiation
QoQ & YoY



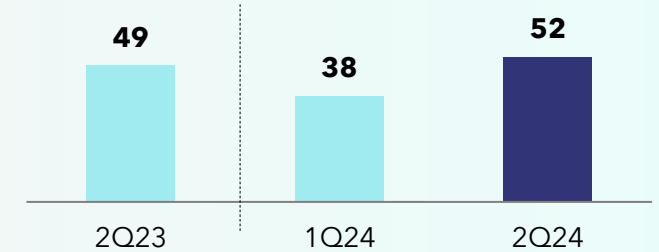
Power sold (GWh)

QoQ: +36%
YoY: +5%



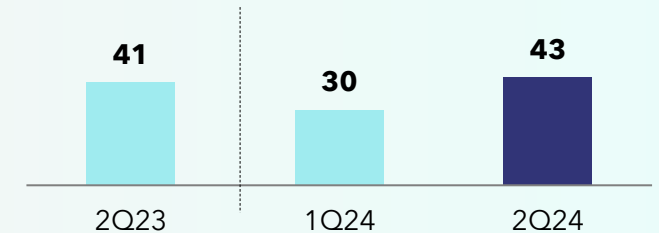
Revenue (RMB M)

QoQ: +37%
YoY: +6%



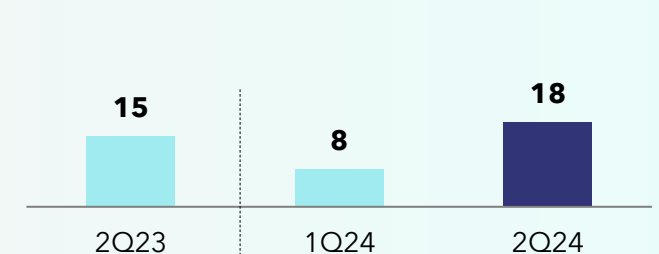
EBITDA (RMB M)

QoQ: +43%
YoY: +5%



Net profit (RMB M)

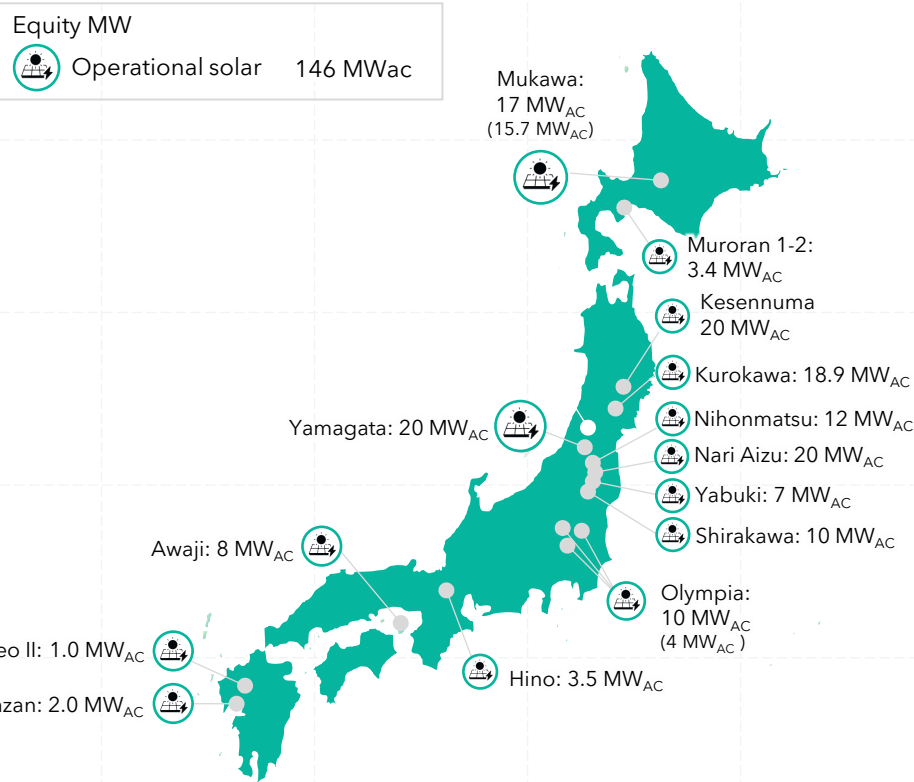
QoQ: +125%
YoY: +20%



Japan solar: total equity capacity of 146 MW_{ac}

Banpu Power's solar portfolio in Japan

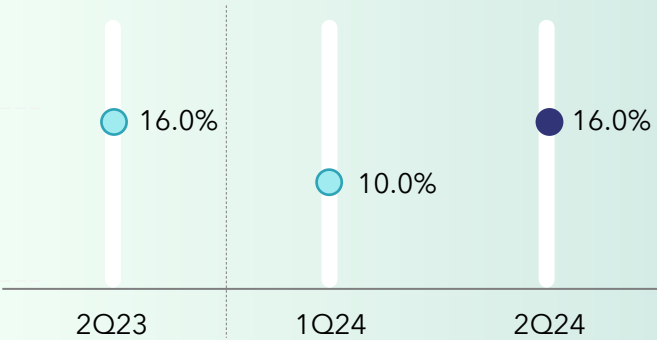
Capacity presented on a 100% basis and Banpu NEXT's equity capacity in parentheses; figure not drawn to scale



Equity capacity based on Banpu NEXT's interest

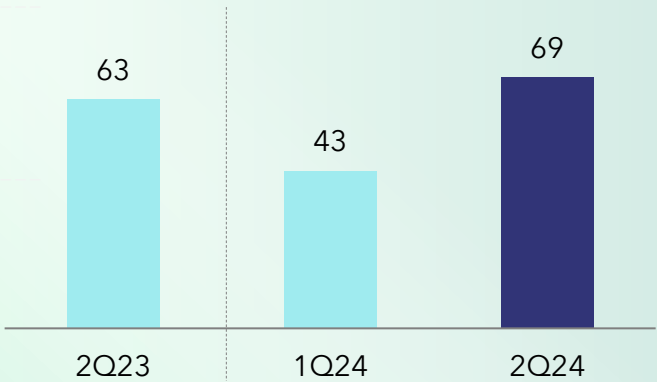
Average capacity factor (%)

QoQ: +6%
YoY: 0%



Power sold (GWh)

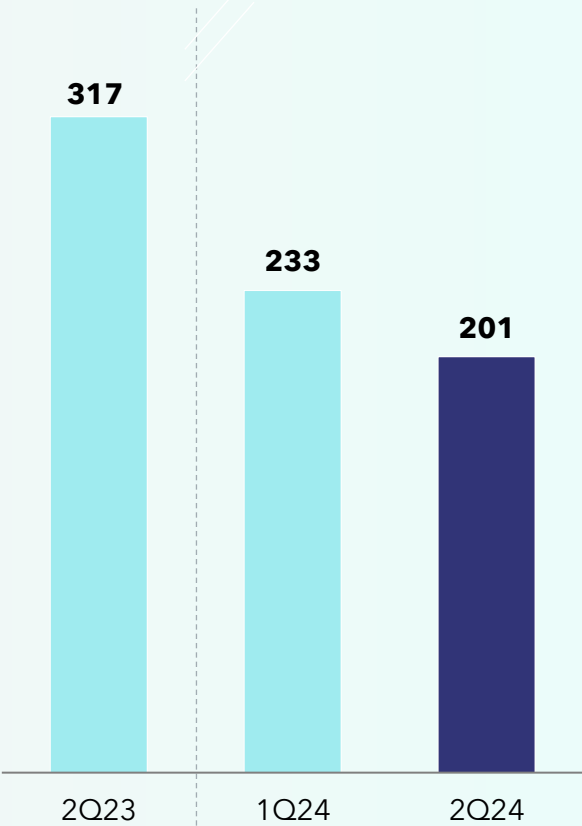
QoQ: +59%
YoY: +10%



Cash Distribution⁽¹⁾ (JPY M)

QoQ: -14%
YoY: -37%

Based on Banpu NEXT's
40-100% interest

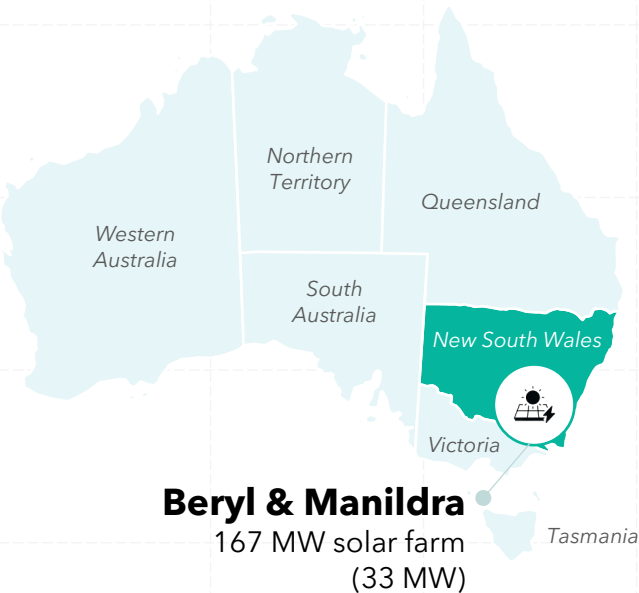
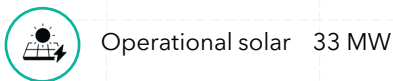


(1) From TK investment

Australia solar: Beryl and Manildra

Banpu Power's solar portfolio in Australia

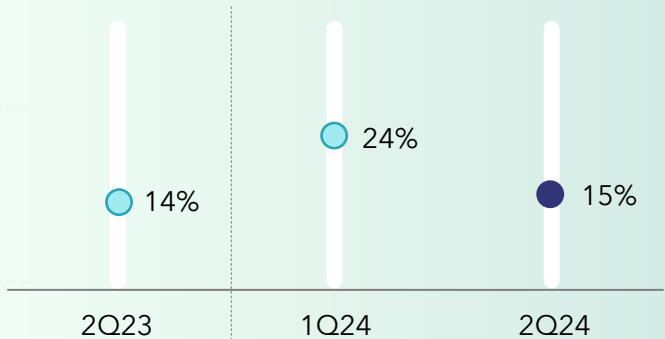
Equity Capacity ⁽¹⁾ (MW)



Note: (1) Equity capacity based on Banpu NEXT's interest, with the remaining 134 MW held by Banpu Group

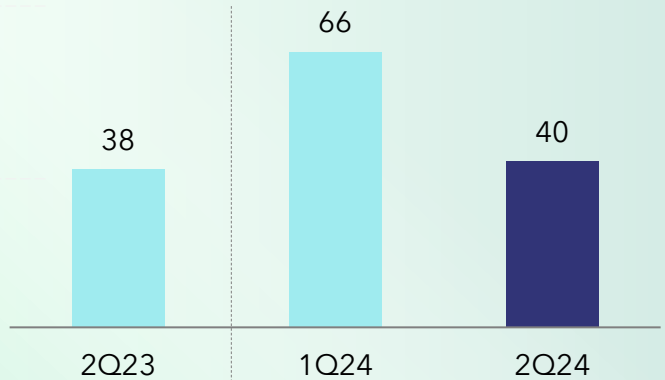
Average capacity factor (%)

QoQ: -9%
YoY: +1%



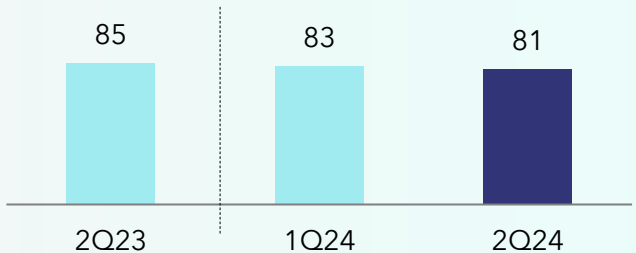
Power sold (GWh)

QoQ: -39%
YoY: +5%



Average Power Tariff (A\$/MWh)


QoQ: -2%
YoY: -5%

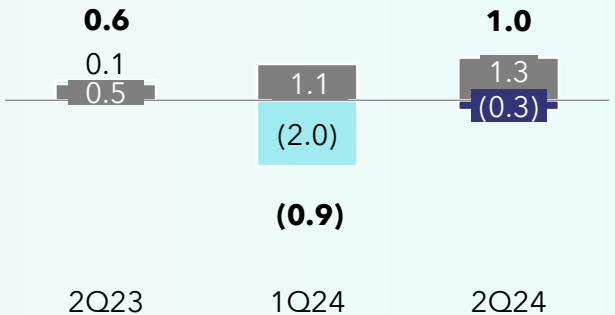


Net profit (A\$ M)

QoQ: +211%
YoY: +67%

Based on Banpu NEXT's
20% interest

 Gain (loss) on derivatives






Vietnam renewables: solar and wind

Banpu Power's renewables portfolio in Vietnam

Average wind speed at
100 m height (m/s)

4-5 5-6 >6

Equity Capacity (MW)

-  Operational solar 35 MW
-  Operational wind 37.6 MW
-  Developing wind 80 MW

Vinh Chau (Soc Trang)

Phase 1 - 30 MW onshore wind
(Tariff & COD date under finalization)
Phase 2 & 3 - 50 MW onshore wind
(Feasibility study)

El Wind Mui Dinh

37.6 MW
Onshore Wind

Nhon Hai Solar

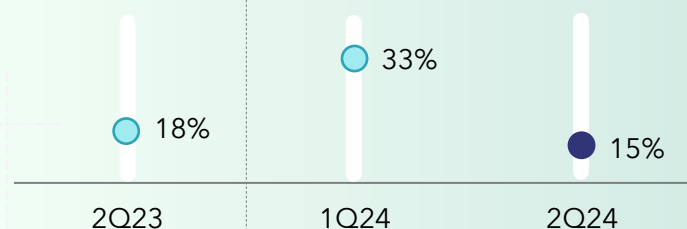
35 MW

Equity capacity based on Banpu NEXT's interest

Average capacity factor (%)

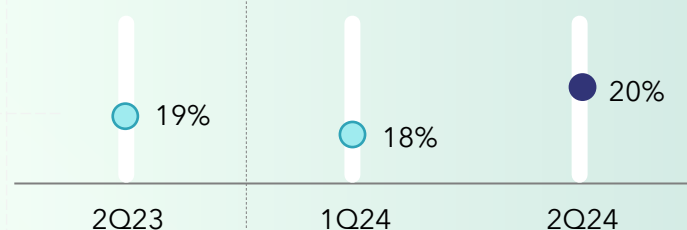
WIND

QoQ: -18%
YoY: -3%



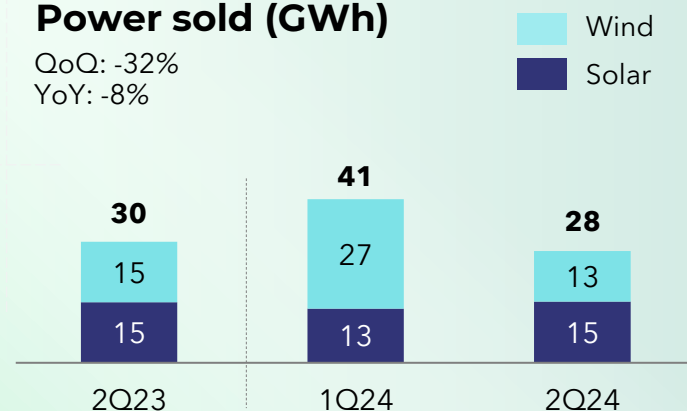
SOLAR

QoQ: +2%
YoY: +1%



Power sold (GWh)

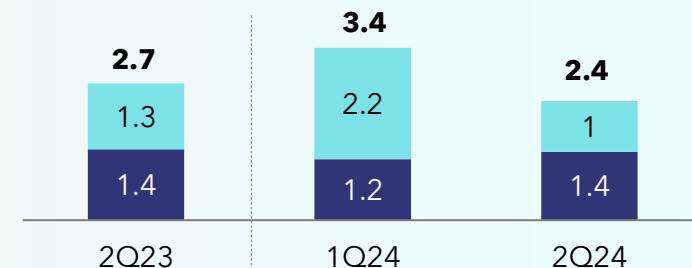
QoQ: -32%
YoY: -8%



Revenue (US\$ M)

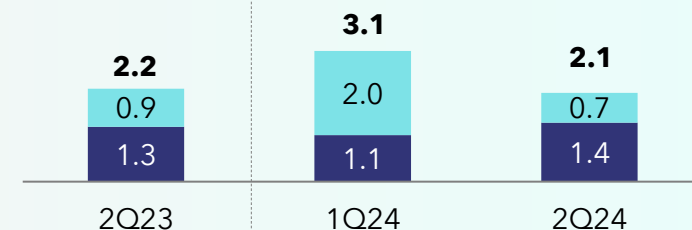
QoQ: -31%
YoY: -13%

Based on Banpu NEXT's
100% interest



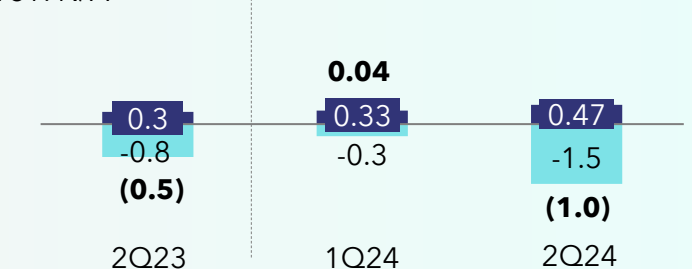
EBITDA (US\$ M)

QoQ: -32%
YoY: -5%









Net profit (US\$ M)

QoQ: N/A
YoY: N/A



Energy technology: current position and future targets

	2Q24	2025 target	2030 target
 Solar: rooftop & floating	258 MW Committed capacity	500 MW	2030 target INTEGRATED CLEAN ENERGY ECOSYSTEM 
 Battery & ESS solutions	Battery production capacity	6.0 GWh	
Battery farm	In progress	58 MWh	
 Smart cities & energy management	27 projects Energy management, smart infra, etc.	60 projects	
 Energy trading	831 GWh Electricity sales (1H24)	2,400 GWh (annually)	
 E-Mobility	337 MWh Electricity sales (MuvMi battery & charger) 794 Units EVs (Battery + 2-Wheelers)	<i>MaaS</i> Mobility-as-a-service	

Energy technology: 2Q24 rooftop and floating solar updates

ACCELERATING DEVELOPMENTS ACROSS BANPU GEOGRAPHIES

THAILAND

100 MW

Total committed capacity

- New contract signing with C.N.I. Engineering Supply Phase 2 and Impact Challenger Phase 2 Production for a total capacity of 0.6 MW in 2Q24.
- New commercial operations with NSL Food, TTB Industry, S.C.S. Shoes, Apex-Smart Place, Rugby School Phase 5 and T.A.C. Consumer for a total capacity of 2.9 MW.

CHINA

66 MW

Total committed capacity

- Committed capacity of solar rooftop project at Zhengding. CHP, with a current operating capacity is 15.4 MW.

VIETNAM

62 MW

Total committed capacity

- Committed capacity of solar rooftop project for Solar ESCO, with a current operating capacity of 30 MW.

INDONESIA

32.3 MW

Total committed capacity ⁽¹⁾

- IBP has signed additional solar rooftop PPA of 5 MW in 2Q24.
- Currently, the total installed capacity is approximately 8 MW.



Energy technology: 2Q24 battery and ESS solutions updates

SVOLT ENERGY (THAILAND)'S BATTERY PACK FACTORY

2.0 GWh

Production capacity

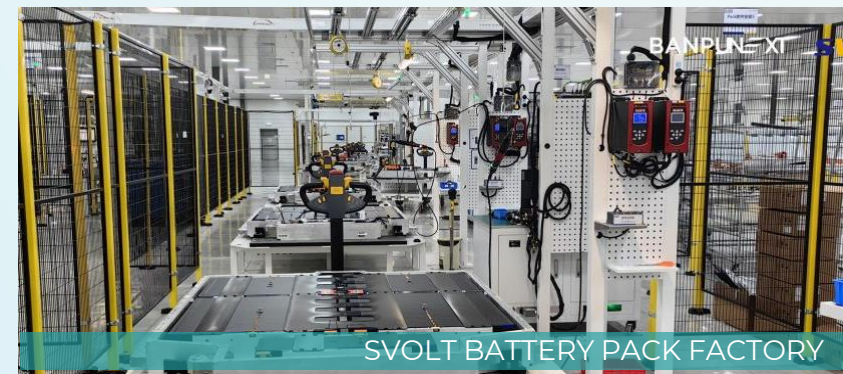
2,269 Units

2Q24 production output

STRATEGIC FOCUS SEGMENTS:



E-mobility



SVOLT BATTERY PACK FACTORY

DP NEXT PRODUCTION PLANT (AMATA CITY, CHONBURI)

1.0 GWh

Production capacity

4Q24

Expected COD

90%

Construction progress
(Pending machine installation)

PROJECT UPDATES

Plant renovation and factory acceptance tests are completed.
Machine installation is on track to finish by September 2024.



DP NEXT PRODUCTION PLANT

IWATE TONO PROJECT

58 MWh

Capacity

2Q25

Expected COD

97%

Construction progress

PROJECT UPDATES

Phase 2 of the construction of extra high-voltage electric equipment and the substation is ongoing without any delay of the planned construction schedule, which is due at the end of October 2024.



IWATE TONO PROJECT

Energy technology: 2Q24 energy management updates

DISTRICT COOLING SYSTEM (DCS) AT GOVERNMENT CENTER ZONE C (BANGKOK) THROUGH BANPU NEXT AND SP GROUP'S JV

12,600 RT

Chilled water management capacity ⁽¹⁾

4Q24

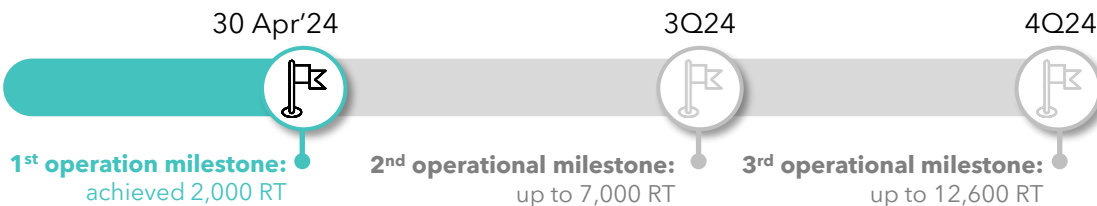
Expected full operation

92%

Construction progress (July 15th)



PROJECT UPDATES



GOVERNMENT CENTER ZONE C, DCS PROJECT

ENERGY EFFICIENCY IMPROVEMENT THROUGH BANPU NEXT ECOSERVE

BANPU NEXT
EcoServe

25 Contracts

Including BOOT, EPC, SOLAR and IFM contracts

22,600 RT

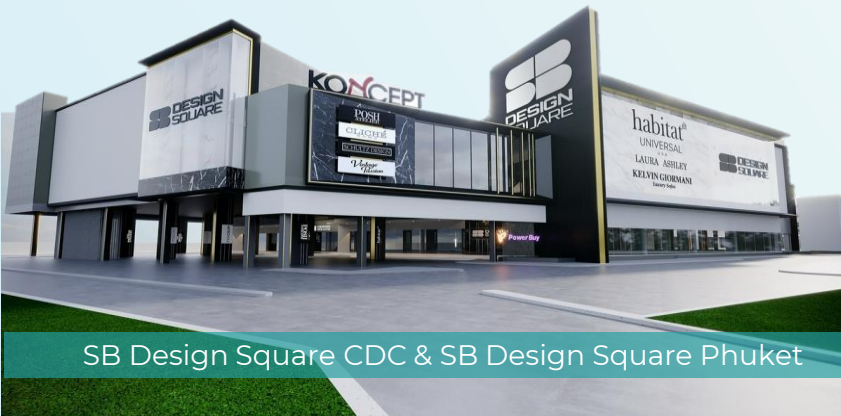
Chilled water management capacity

2,800 kW

Compressed air management capacity

KEY UPDATES

Banpu NEXT EcoServe has been awarded the contracts to manage chiller plants for SB Design Square Phuket and SB Design Square CDC - Bangkok



SB Design Square CDC & SB Design Square Phuket

Energy technology: 2Q24 e-mobility updates

MUVMi'S E-TUKTUKS JOIN THE GOVERNMENT'S ELECTRIC PUBLIC VEHICLE SUPPORT PROGRAM



PROGRAM DETAILS

NEX 2 e-tuktuks

Registered vehicle models

103 e-tuktuks

Registered vehicles, out of 582 in the government's program

Safety measures

Quality manufacturing and safety equipment installed

MUVMi'S JOURNEY SO FAR

Over 13 million

Trips serviced

Over 1,000 jobs

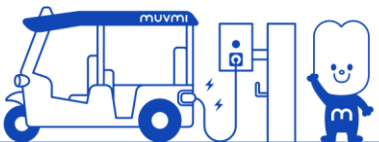
Created for drivers of diverse ages and genders

Over 2,700 tCO₂e

GHG emissions reduction

New service routes

- Expand to the west side of Bangkok in Q4'2024
- Extend from Wongwian Yai to Icon Siam



IMPLEMENTED AN ADVANCED MARKETING & SALES STRATEGY WITH MARKET-DRIVEN PRICING AND SECURED SUPPLY AGREEMENTS VIA A COMPETITIVE TENDERING

831 GWh

1H24 accumulative sales

1,286 clients

Increasing from 707 clients in 1Q24

8 utility areas

From both private and public sectors

45% of total sales are market-linked price products, while the remaining sales are fixed-price contracts secured through tendering and hedged to minimize potential risks.

E-mobility



Energy trading



Energy technology: 2Q24 CVC updates

EXPANSION INTO TRADING-AS-A-SERVICE WITH INVESTMENT INTO ENSPIRED

Enspired provides real-time information on energy assets and fully-automated trading-as-a-service to utilities, asset developers, VPP operators and energy funds.

EUR 3 M

Investment amount

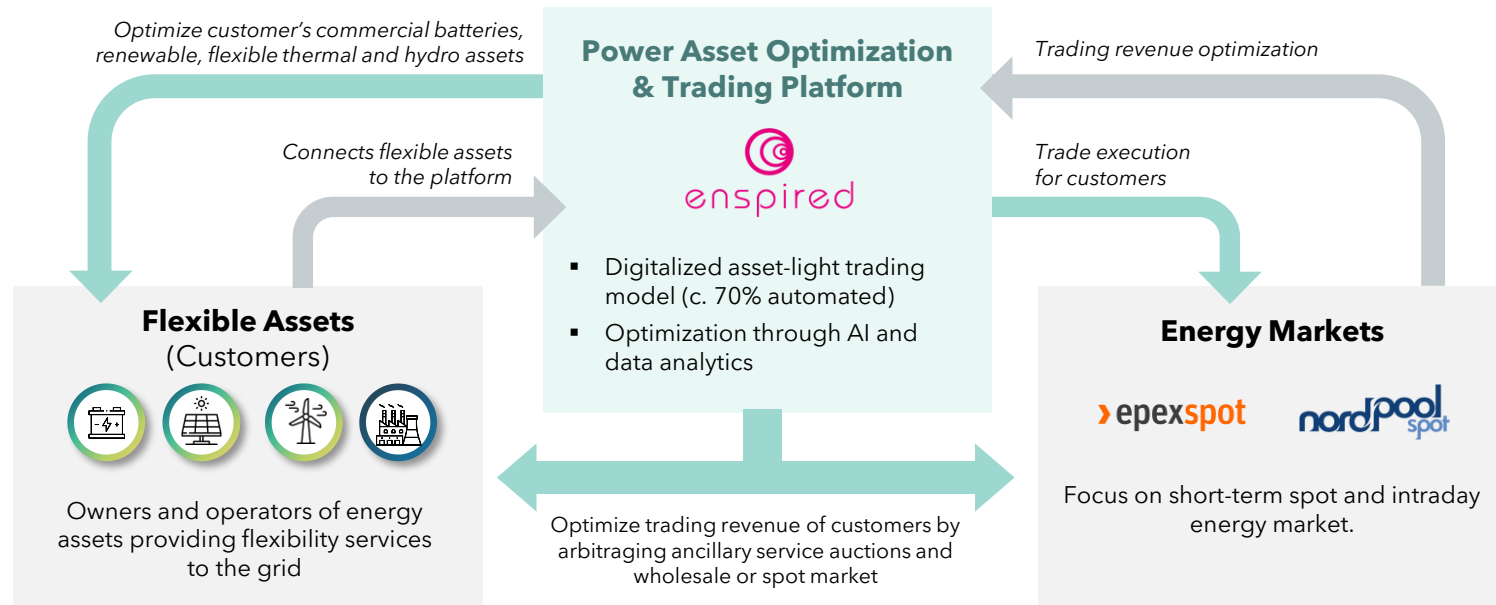
c. 4%

Ownership

INVESTMENT RATIONALE

This investment gives access to high quality AI and technology from Europe to enhance Banpu NEXT's battery and energy trading operations

TRADING-AS-A-SERVICE PLATFORM



Appendix

ESG recognition



Prepared by SET, shortlists Thai companies with business and sustainability excellence

for SET-listed companies with market cap. between THB 30-100 bn

Commended Sustainability Award

For outstanding sustainability practices, inclusive corporate governance, and dedication to minimizing negative impacts, while creating positive ones for society and the environment

Outstanding Company Performance Award

For outstanding performance, good corporate governance and adherence to regulations of the SET

Outstanding CEO Award

Presented to CEOs with moral values, visionary leadership, and a commitment to prioritizing sustainability practices

Credit rating



A Strategic Partner of S&P Global

As a strategic partner of S&P Global, Tris Rating has over 20-years of experience as a leading credit rating agency in Thailand



SET awarded for strong ESG disclosures, including environmental management practices and interactions with key stakeholders



5 stars
5 coins

for the CGR Checklist 2023 from the Thai Institute of Directors Association (IOD) and the AGM Checklist 2023 from the Thai Investors Association (TIA), respectively



5th
Consecutive year

The THSI, prepared by SET, shortlists Thai companies following the highest ESG standards

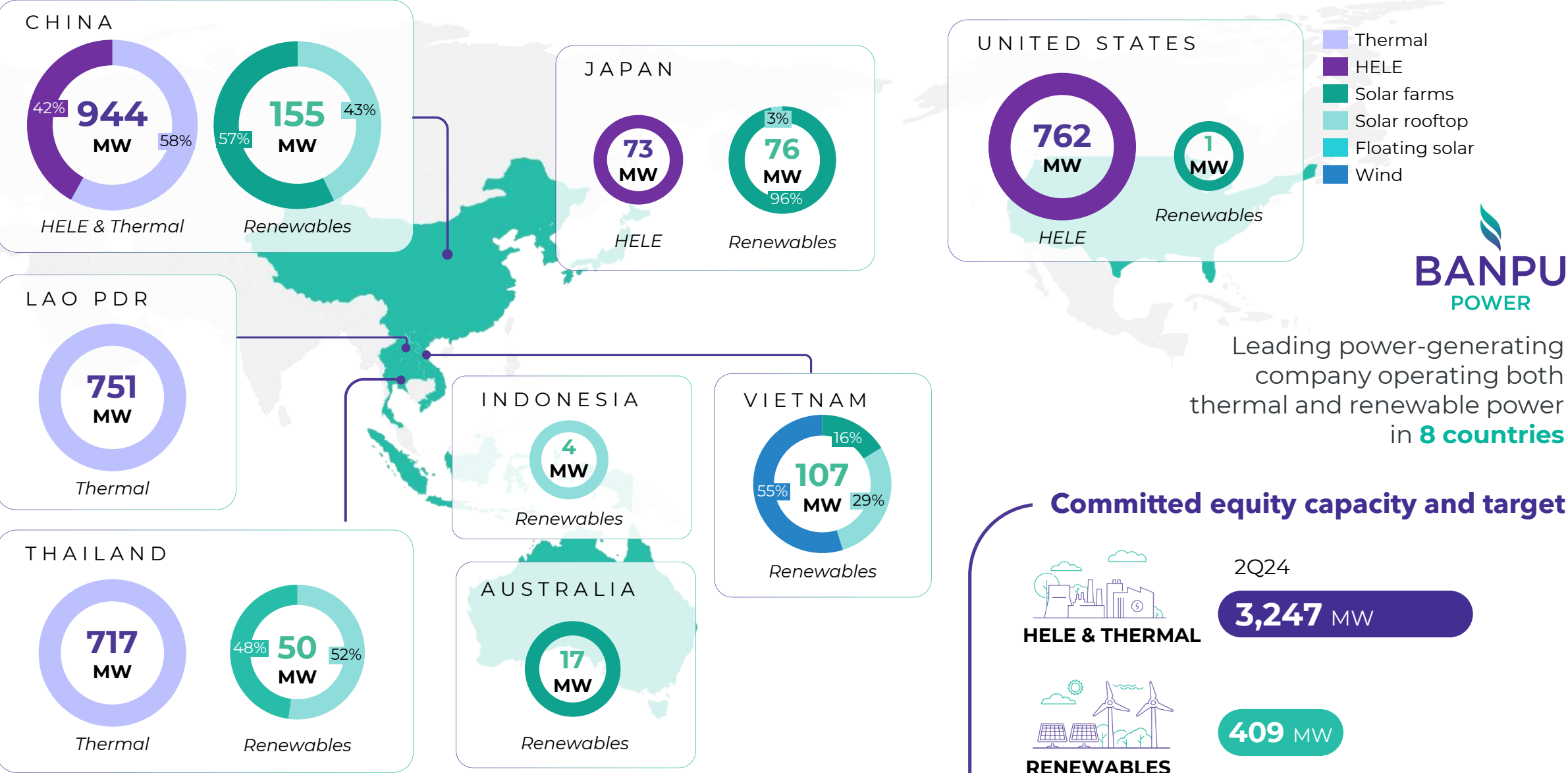
Most Sustainable Energy Company Thailand 2024

Global Business Outlook Magazine recognizes industry leading ESG companies globally.

A+

ratings with a '**stable**' outlook on the company, reflecting the company's stable cash flow, proven track record of strong operations and quality of power portfolio

Banpu Power's robust and diversified global portfolio



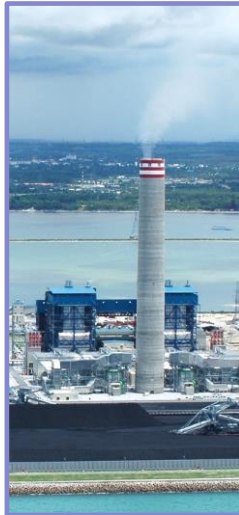
Thermal Power: 2Q24 updates



HPC

Operating smoothly as planned, with high EAF and net generation, resulting in increased profit sharing.

94%	EAF ⁽¹⁾ (+4% YoY)
THB 6.4 bn	Revenue
THB 3.9 bn	EBITDA
THB 1.1 bn	share of profit



BLCP

Achieved high EAF while managing operations without planned maintenance, leading to impressive profits from increased revenue and effective cost control.

98%	EAF (-2% YoY)
THB 4.8 bn	Revenue
THB 1.1 bn	EBITDA
THB 0.3 bn	share of profit



SLG

Reduced power sales due to the reserve shutdown of Unit 2 resulted in decreased revenue and profit sharing.

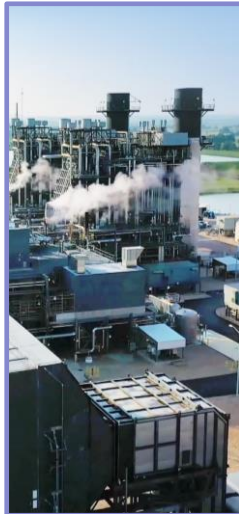
940 GWh	net power sold (-6% YoY)
RMB 1.0 M	share of profit



China CHP

Lower YoY electricity sales due to reduced steam demand at Zouping and Zhengding. Higher QoQ Time-of-Use (ToU) mode at Zhengding and lower coal prices led to improved profits.

RMB 224 M	Revenue
RMB 30 M	EBITDA
RMB 5 M	share of profit



Temple I & II ⁽³⁾

Increased power sales boosted EBITDA, but net profits were affected by finance costs associated with business expansion.

94%	EAF (+17% YoY)
2,107 GWh	net generation
US\$ 125 M	Revenue
(US\$ 8 M)	share of loss ⁽²⁾



Nakoso IGCC

Nakoso completed yearly maintenance on June 6th, 2024

27%	EAF
284 GWh	net generation
THB 45 M	share of profit

Note: : (1)Equivalent Availability Factor (EAF) is a percentage of a given operating period in which a generating unit is available without any planned and unplanned shutdown or deratings

(2) Includes US\$ 6 M of loss on derivatives

(3) Recognized Temple II since July 2023

Renewable Power: 2Q24 updates



China Solar

Higher power sold from improved irradiation.

17%	avg. capacity factor
64 GWh	power sold (+5% YoY)
RMB 43 M	EBITDA
RMB 18 M	profit contribution



Japan Solar

Favorable irradiation has contributed to improved capacity factor and increased power sold YoY.

16%	avg. capacity factor
69 GWh	power sold (+10% YoY)
JPY 0.2 bn	cash distribution



Australia Solar

Favorable weather has led to an increase in both capacity factor and power sold.

15%	avg. capacity factor
40 GWh	power sold (+5% YoY)
A\$ 1.0 M	share of profit ⁽¹⁾



Vietnam Solar

Nhon Hai Solar demonstrated a consistent capacity factor and power sold.

20%	avg. capacity factor
15 GWh	power sold (+0% YoY)
US\$ 0.5 M	share of profit



Vietnam Wind

El Wind Mui Dinh

15%	avg. capacity factor
13 GWh	power sold (-13% YoY)
(US\$ 1.5 M)	share of loss

Vietnam Wind

Vin Chau project

- Completed construction and commissioning activities
- On process of COD documentation with the relevant authorities

Note: Banpu Power has 50% shareholding in Banpu NEXT

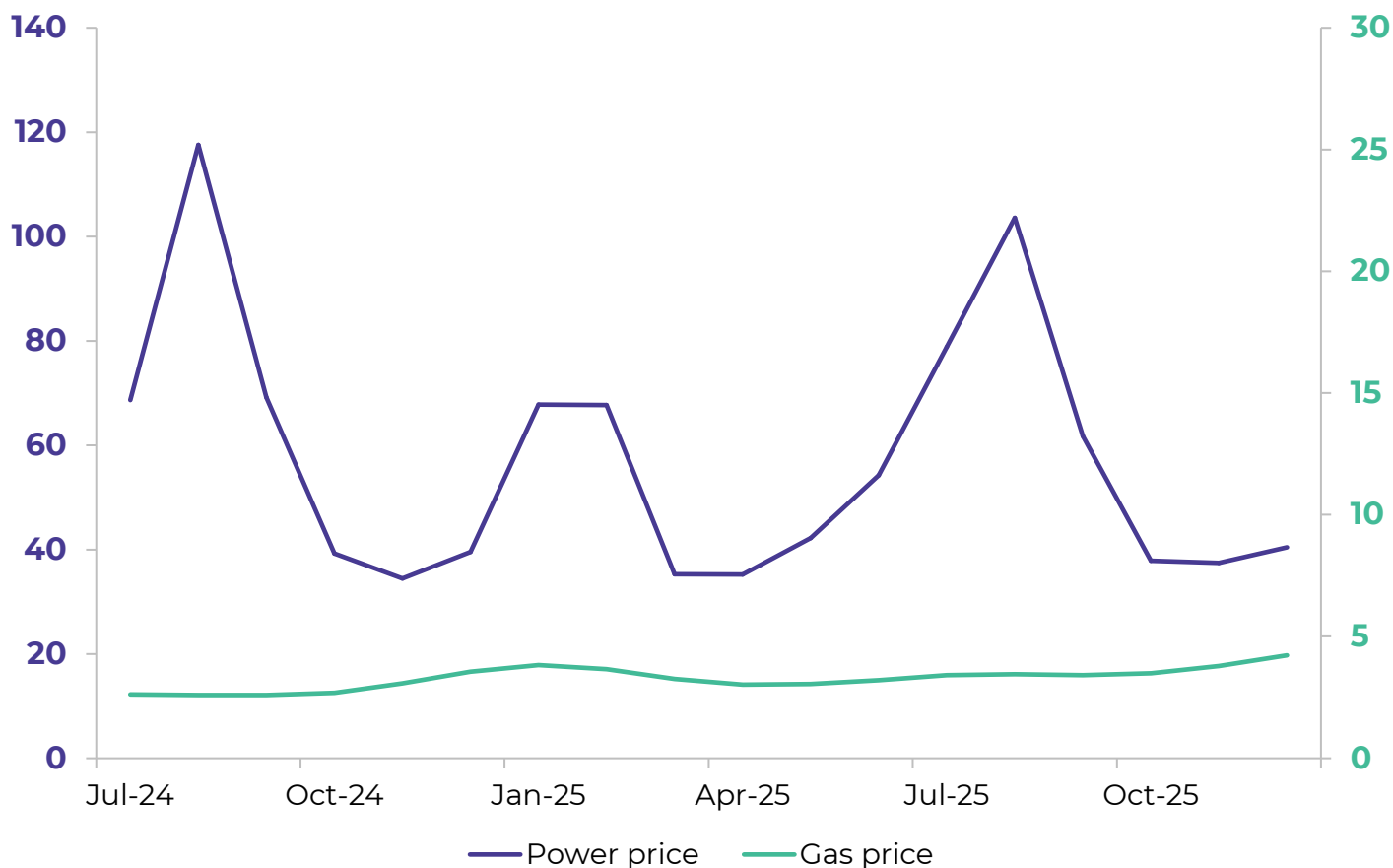
(1) Includes A\$ 1.3 M of loss on derivatives

US power outlook: potential upside from weather volatility

Forecasted power and gas prices

Unit: US\$ / MWh

Unit: US\$ / Mmbtu



Source: EIA

Key takeaways

- ➔ The EIA is forecasting that average wholesale electricity prices in ERCOT will rise to \$60/MWh in 2H24 up 43% from \$42/MWh in 1H24
- ➔ Henry hub spot prices are expected to average \$2.8 Mmbtu up from an average of \$2.2 Mmbtu in 1H24
- ➔ Although temperatures for the rest of the summer are expected to be close to the 10-year average, temporary heatwaves in the remaining months could cause power price spikes.
- ➔ Forward power prices could experience sudden spikes due to abrupt transitions from El Niño to La Niña weather patterns, driving volatility in both summer and winter months

Maintenance schedule for 2024

■ Major maintenance ■ Minor maintenance

POWER PLANT

BLCP

- Unit 1 on minor inspection for 18 days (1-17 Jan 2024)
- Unit 2 on minor inspection for 17 days (15-31 Dec 2024)

HPC

- Unit 1 on yearly maintenance for 22 days (21 Dec 2024 - 11 Jan 2025)
- Unit 2 on yearly maintenance for 22 days (3-24 Nov 2024)
- Unit 3 on extended major inspection for 55 days (24 Dec 2023 - 16 Feb 2024)

NAKOSO IGCC

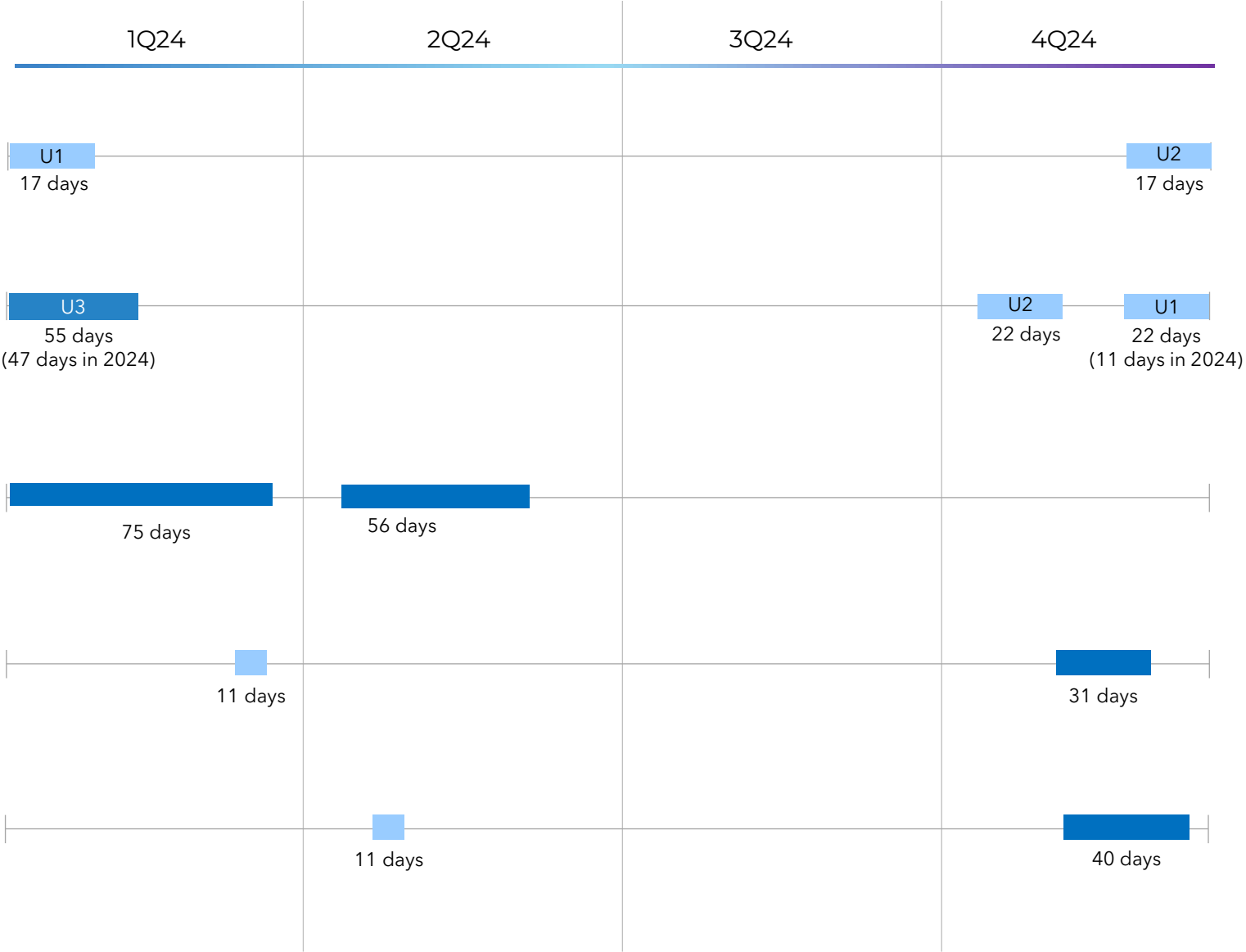
- Planned maintenance outage for 75 days (1-15 Mar 2024)
- Planned maintenance outage for 47 days (12 Apr -6 June 2024)

TEMPLE I CCGT

- Spring outage for 11 days (8 - 18 Mar 2024)
- Fall outage for 31 days (5 Nov - 5 Dec 2024)

TEMPLE II CCGT

- Spring outage for 11 days (30 Apr - 10 May 2024)
- Fall outage for 40 days (8 Nov - 17 Dec 2024)



Maintenance schedule for 2024

■ Major maintenance ■ Minor maintenance

POWER PLANT

SLG

- Unit 1 in reserve shutdown for 7 days (1 Mar- 3 Mar, 27 Mar-30 Mar)
- Unit 2 in reserve shutdown for 14 days (31 Mar- 11 Apr, Apr 16-17)
- Unit 1 on c-class maintenance for 46 days (18 Apr – 2 June)
- Unit 2 in reserve shutdown for 10 days (June 3-12)
- Unit 2 on maintenance for 10 days (Sep / Oct)

CHP LUANNAN

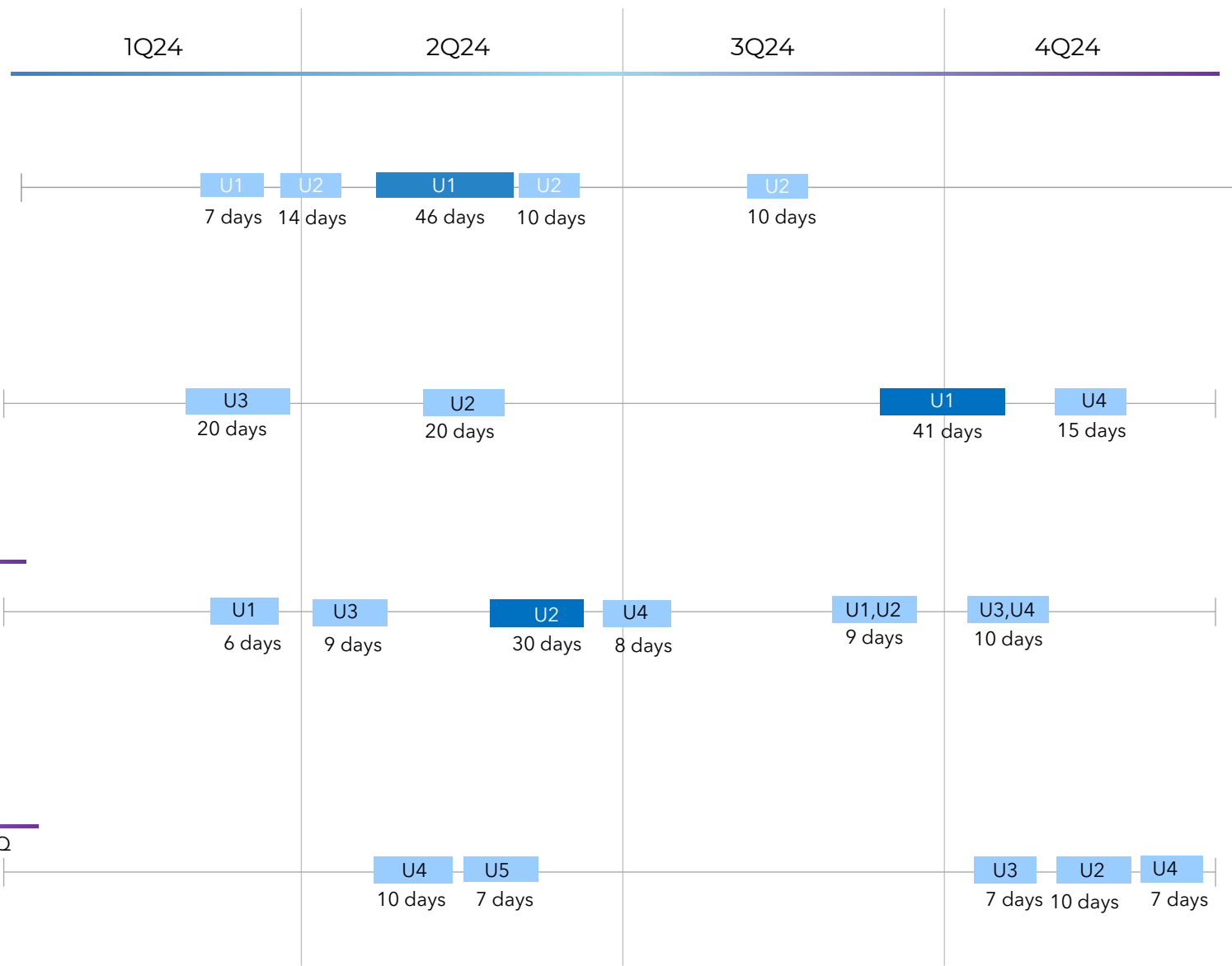
- Unit 3 on C-Class maintenance 20 days in 1Q
- Unit 2 on C-Class maintenance 20 days in 2Q
- Unit 1 on A-Class maintenance 41 days in 3Q-4Q
- Unit 4 on C-Class maintenance 15 days in 4Q

CHP ZHENDING

- Unit 1 on D-class maintenance 6 days in 1Q, D-class maintenance 9 days in 3Q
- Unit 2 on A-Class maintenance 30 days in 2Q, D-class maintenance 9 days in 3Q
- Unit 3 on D-class maintenance 9 days in 2Q, C-class maintenance 10 days in 4Q
- Unit 4 on D-class maintenance 8days in 2Q-3Q, 10 days in 4Q

CHP ZOUPING

- Unit 4 on C-class maintenance for 10 days in 2Q, D-Class maintenance 7 days in 4Q
- Unit 5 on D-Class maintenance for 7 days in 2Q
- Unit 2 on C-class maintenance for 10 days in 4Q
- Unit 3 on D-Class maintenance for 7 days in 4Q



Banpu Power: income statement

THB million	2Q24	1Q24	2Q23	QoQ%	YoY%
Sales revenue	7,201.0	6,746.0	2,917.7	+4.1%	+140.6%
Cost of sales	(6,213.8)	(5,909.9)	(2,410.5)		
Gross Profit	807.2	836.14	507.2	-3.5%	+59.1%
<i>GPM</i>	11%	12%	17%		
Administrative and selling expenses	(429.2)	(492.0)	(491.8)		
Equity income	1,466.8	303.9	1,253.2		
Other income	166.9	174.6	225.0		
Realized gains (loss) on Derivatives	39.1	235.8	43.2		
EBIT	2,050.8	1,058.5	1,536.9	+93.7%	+33.4%
Interest expenses	(777.1)	(749.3)	(295.8)		
Financial expenses	(6.7)	(16.2)	(1.4)		
Income tax (core business)	(23.4)	(28.2)	(17.1)		
NCI / Minorities (core business)	21.8	123.3	(68.6)		
Net profit - Core business	1,265.5	388.1	1,154.0	+226.0%	+9.7%
Non-recurring items	(7.7)	(8.5)	(8.4)		
Income tax (non-core business)	(0.0)	(0.0)	(12.6)		
Deferred tax income (expenses)	(80.7)	(40.6)	(6.5)		
NCI / Minorities (non-core business)	254.5	80.8	(28.1)		
Unrealized gain (loss) on Derivatives	(509.0)	(161.6)	56.2		
FX translation	59.0	419.0	182.9		
Net Profit	981.7	677.3	1,337.6	+44.9%	-26.6%

Banpu Power 2023 financial statement adjustments

	Before	After adjustment					Difference
Unit: THB million	FY2023	1Q23	2Q23	3Q23	4Q23	FY2023	FY2023
Sales revenue	30,443	3,561	2,918	17,290	4,611	28,380	(2,063)
Cost of sales	(19,886)	(3,624)	(2,410)	(9,241)	(4,846)	(20,122)	(236)
Gross Profit	10,557	(63)	507	8,049	(235)	8,258	(2,299)
GPM	35%	-2%	17%	47%	-5%	57%	22%
Administrative and selling expenses	(2,192)	(458)	(492)	(588)	(654)	(2,192)	-
Equity income	5,009	2,456	1,253	537	763	5,009	-
Other income	783	136	225	108	314	783	-
Realized gains (loss) on Derivatives	(3,478)	159	43	(1,899)	518	(1,178)	+2,299
EBIT	10,680	2,230	1,537	6,207	706	10,680	-
Interest expenses	(2,047)	(276)	(296)	(730)	(746)	(2,047)	-
Financial expenses	(6)	(1)	(1)	(2)	(2)	(6)	-
Income tax (core business)	(147)	(5)	(17)	(5)	(119)	(147)	-
NCI / Minorities (core business)	(1,925)	192	(69)	(2,552)	504	(1,925)	-
Net profit - Core business	6,554	2,139	1,154	2,918	344	6,554	-
Non-recurring items	(137)	(5)	(8)	(4)	(119)	(137)	-
Income tax (non-core business)	(57)	(4)	(13)	(23)	(17)	(57)	-
Deferred tax income (expenses)	(199)	38	(7)	(455)	225	(199)	-
NCI / Minorities (non-core business)	807	(13)	(28)	573	275	807	-
Unrealized gain (loss) on Derivatives	(1,613)	25	56	(1,145)	(549)	(1,613)	-
FX translation	(36)	(66)	183	236	(389)	(36)	-
Net Profit	5,319	2,114	1,338	2,099	(231)	5,319	-

Banpu Power: Sustainable Development Goals

CLIMATE ACTION

- ✓ GHG emissions intensity < 0.676 ton CO₂e/MWh
- 🎯 Disclose climate change information according to TCFD
- 🎯 Establish business continuity management system and conduct drill at all operating assets
- 🎯 100% coverage of critical business function conduct business continuity plan drill

RESPONSIBLE CONSUMPTION AND PRODUCTION

- 🎯 Water consumption intensity Target: < 0.868 m³/MWh (Current: 0.958 m³/MWh)
- 🎯 Energy consumption intensity Target: < 1.55 GJ/MWh (Current: 2.3 GJ/MWh)
- ✓ 100% re-used/recycled of fly ash and bottom ash
- ✓ All operational control assets assessed for potential biodiversity impact

INDUSTRY, INNOVATION AND INFRASTRUCTURE

- 🎯 Ultra-low emissions intensity
- ✓ No significant environmental and social incident
- ✓ No significant ESG complaint from communities
- ✓ All combined heat and power plant in China was certified ISO 14001.
- ✓ Cybersecurity and privacy maturity score > 2.5



PEACE JUSTICE AND STRONG INSTITUTIONS

- ✓ Achieve zero incidents involving non-compliance, corporate governance and corruption
- ✓ 100% of significant corporate governance complaints resolved through a dispute mechanism
- ✓ Be a member of the Thai Private Sector Collective Action Against Corruption (CAC)

AFFORDABLE AND CLEAN ENERGY

- 🎯 Power gen. capacity Target: 5,300 MW | Current: 3,534 MWe
- ✓ Availability Factor (AF) > 90%
- ✓ Forced Outage Factor (FOF) < 5%
- 🎯 Key ESG issues are part of senior management's KPI

DECENT WORK AND ECONOMIC GROWTH

- ✓ No major incident and occupational illness in employees and contractors
- 🎯 Employee Engagement score: [TH] Target: >70% (Current: 57%) [CH] Target: >85% (Current: 91%)
- ✓ Banpu Heart Score: > 70% in TH and >90% in CH
- ✓ No significant human rights complaints
- ✓ No complaint about customer privacy and product use

✓ Achieved 🎯 Goal / Target

