



Banpu 3Q24 results

Investor and analyst update

15th November 2024



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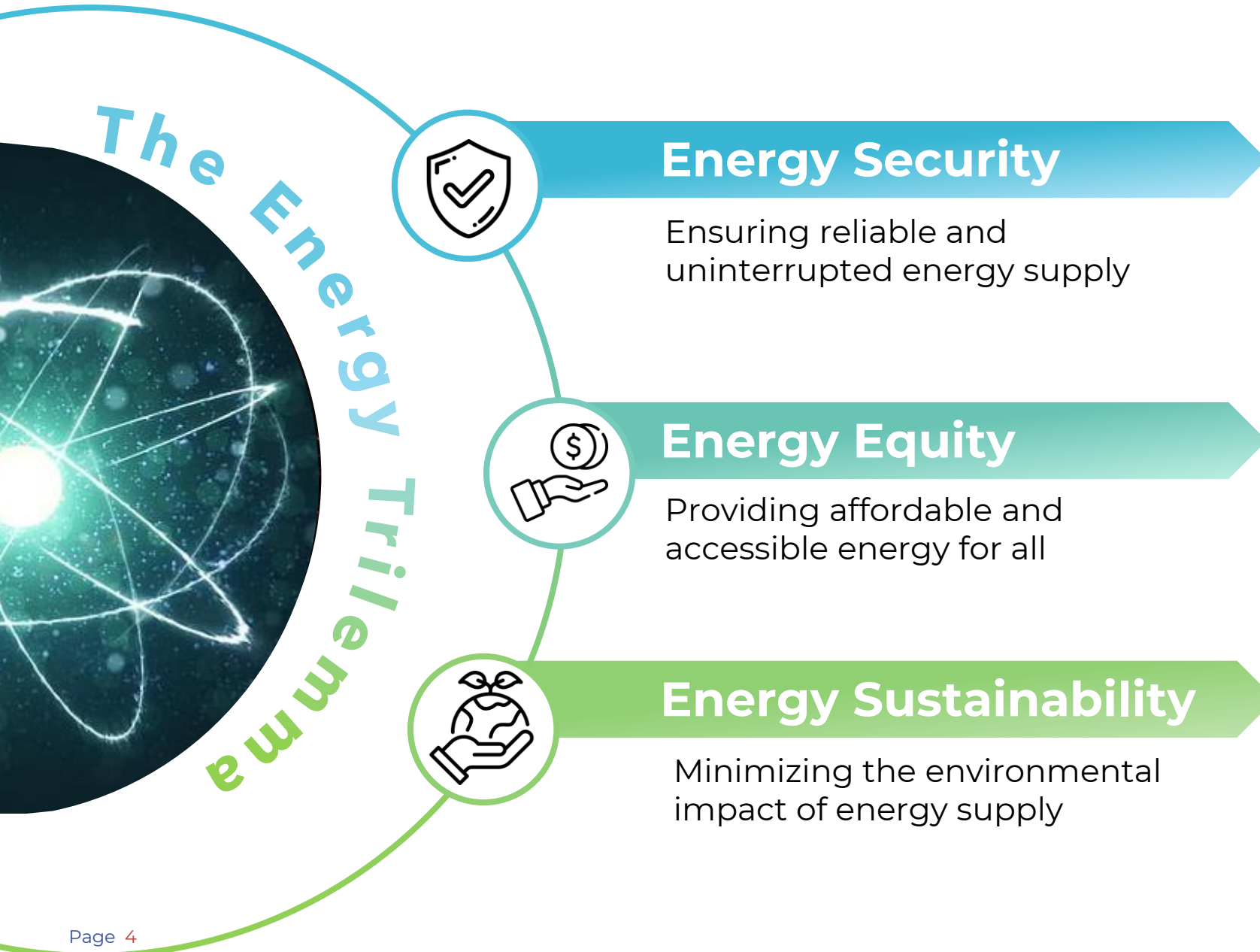
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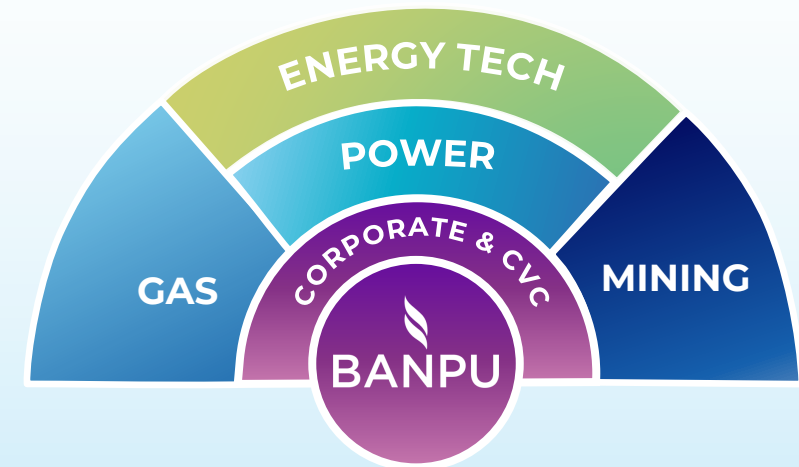
OT Banpu 2030: Energy Symphonics

The Energy Trilemma



ENERGY SYMPHONICS

A synchronized **2025-2030 strategy** crafted to address the world's Energy Trilemma by providing a **reliable, affordable, and lower-emission** energy supply



Banpu 2030 strategy: leveraging 5 trends

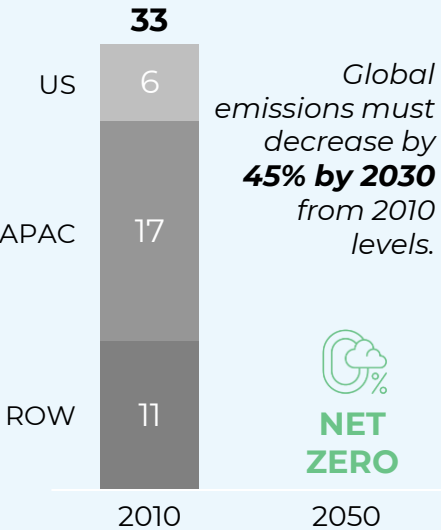
1

Net Zero

The UN's 2050
Net Zero target

UN'S 2050 NET ZERO TARGET

Unit: billion tons of CO₂ emissions



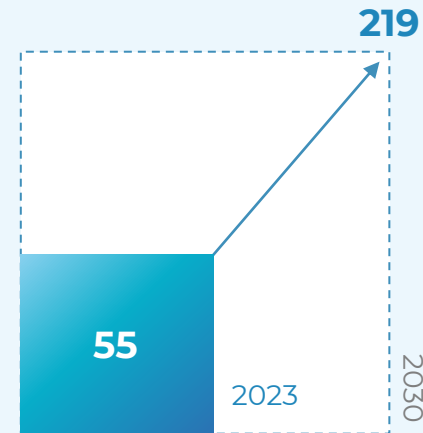
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AI-Data Centers

Surging electricity demand from AI-related data centers in the US and worldwide

DATA CENTER DEMAND

Unit: GW capacity⁽¹⁾



3

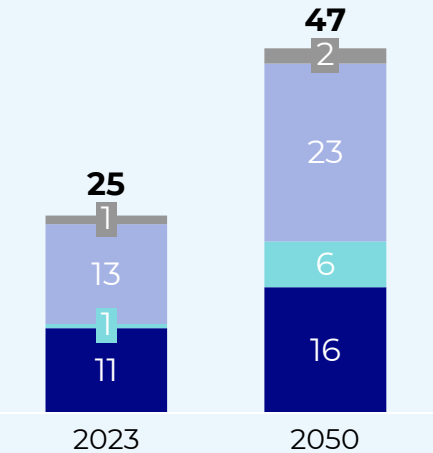
Electrification

Continued growth in the electrification and digitalization of transport, industry and households

ENERGY CONSUMPTION

Unit: '000 TWh

Industry Buildings Transport Others⁽³⁾



4

Resiliency

Growing geo-political tensions necessitating both diversification and resiliency

“Regional conflicts and geopolitical strains are highlighting **significant fragilities in today's global energy system**, making clear the need for stronger policies and greater investments to accelerate and expand the transition”



World Energy Outlook 2024

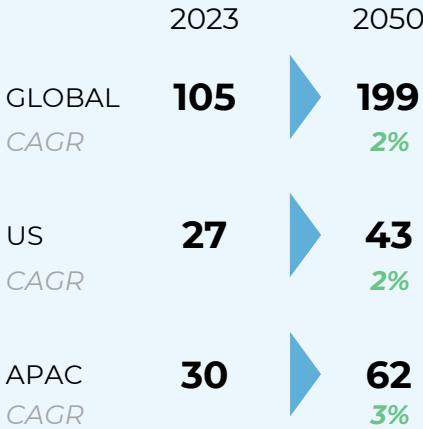
5

Demographics

Population and rapid economic growth in the developing world

REAL GDP

Unit: US\$ tn



Banpu 2030: Energy Symphonics strategy

1

DECARBONIZATION



- **Net Zero by 2050**
- **>20%** emissions reduction by 2030
- **>50%** non-coal-related earnings contribution to consolidated EBITDA by 2030

2

GAS-POWER-CCUS



- **Winning Formula** of gas with CCUS and gas-fired power to deliver resilient, economic and decarbonized power
- **Capturing value-adding opportunities** with the introduction of Carbon Sequestered Gas (CSG) products

3

RENEWABLES+



- **Continued investment in renewables** in Asia-Pacific and beyond
- **Parallel and synergistic investment in BESS projects** to address intermittency from renewable energy

4

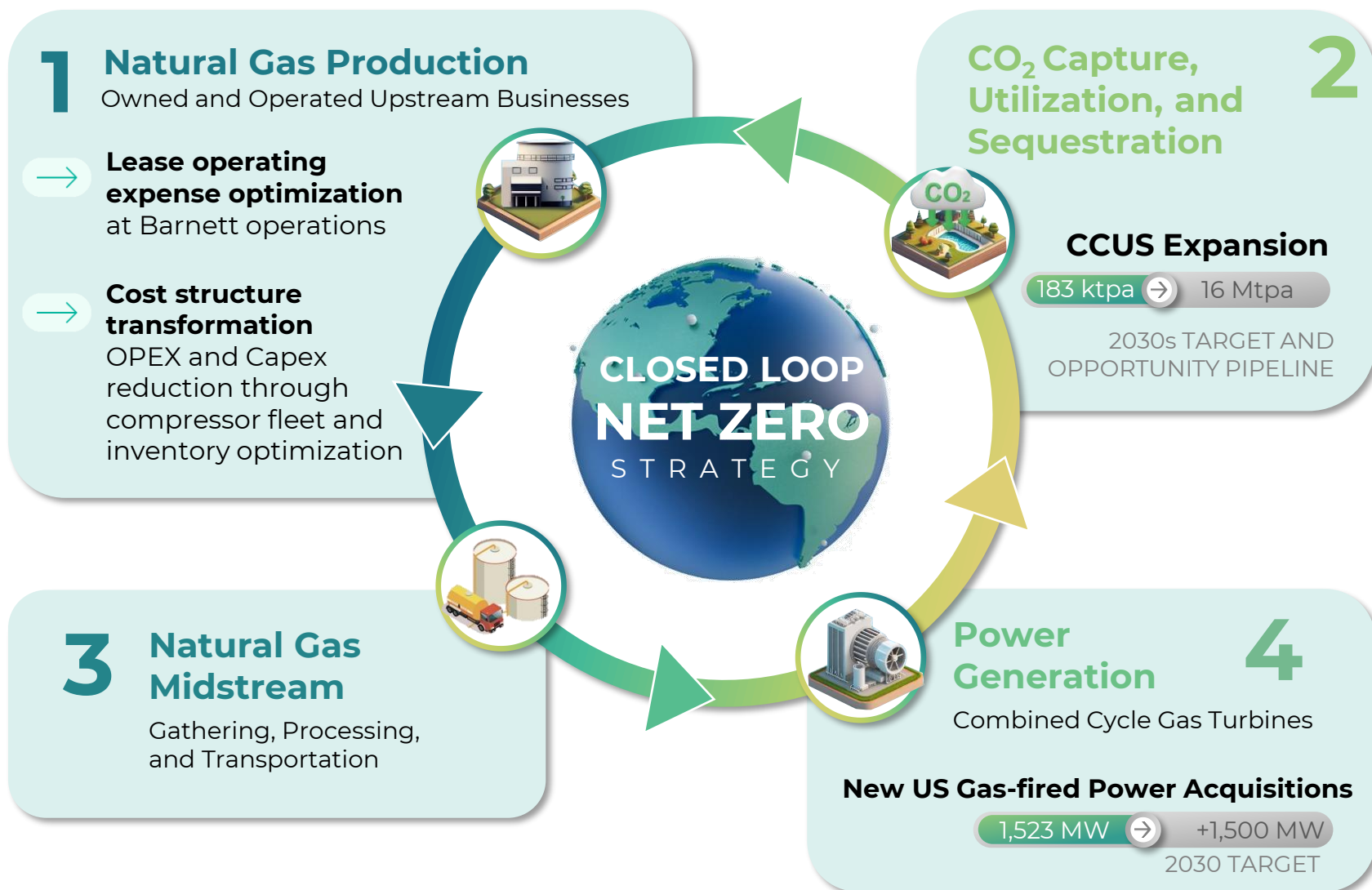
NEXT-GEN MINING



- **Integration of smart solutions and AI** to Banpu's mining operations
- **New investment in strategic minerals** leveraged to growth trends and entech
- **Focus on emission reduction of operations** through green initiatives

Banpu 2030: Gas-Power-CCUS

INTEGRATED VALUE CHAIN



KEY STRATEGIC ACTIONS

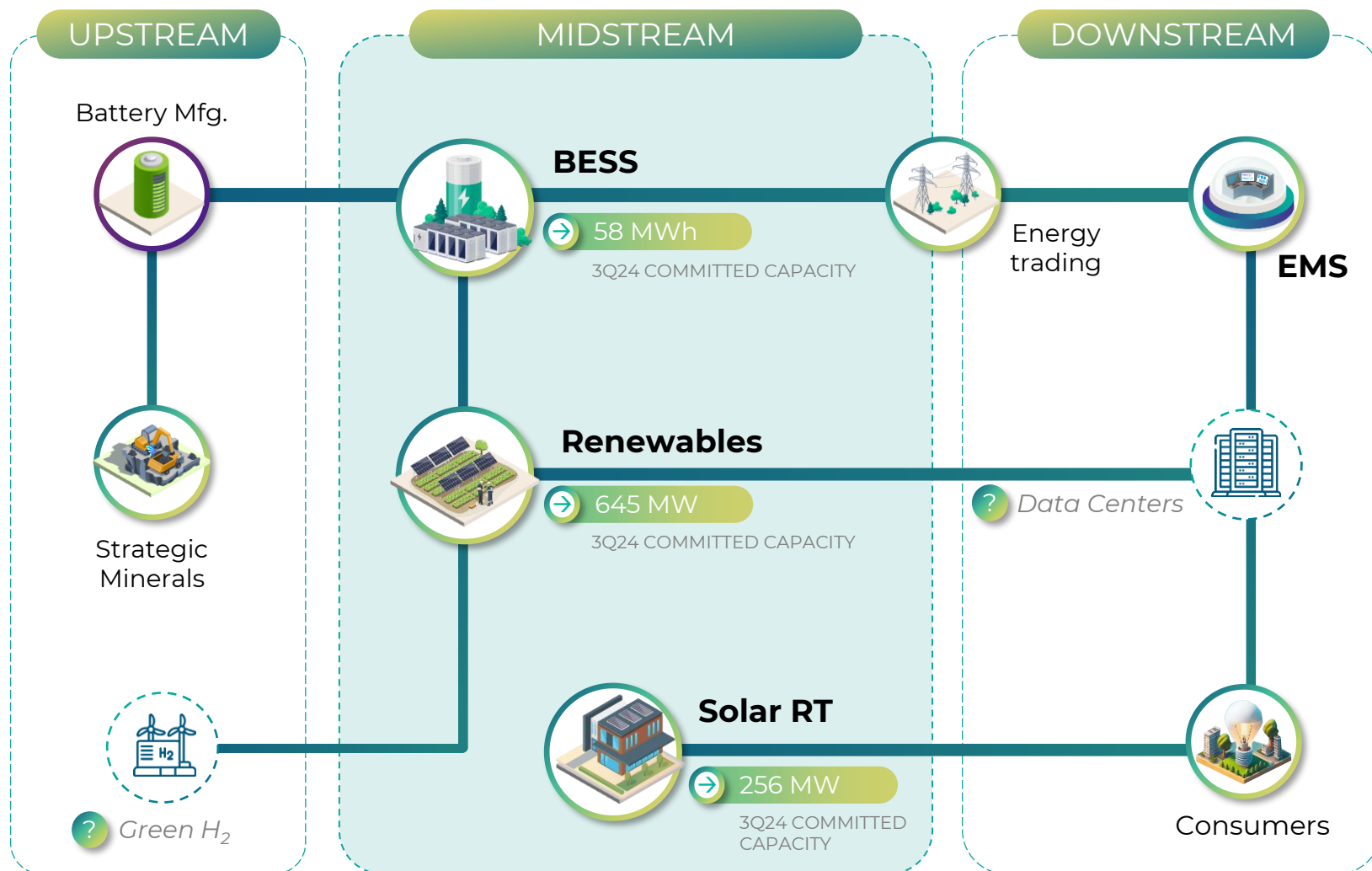
Unlocking **BKV's full potential** as a unique US integrated green gas value play through the US public markets

Capturing **data center power demand boom** through establishment of BKV-BPP JV partnership

Expanding **CCUS ambitions** under dCarbon Ventures, to 16 Mtpa target and opportunity pipeline by 2030s

Banpu 2030: Renewables+

INTEGRATED GREEN ENERGY AND ENERGY TECH VALUE CHAIN



KEY STRATEGIC ACTIONS



Expansion of quality renewable assets

focusing on high-yield, grid-scale, renewables in APAC and beyond



Investment and expansion into BESS projects

Across liberalized electricity markets, in parallel enhancing internal trading capabilities



Banpu NEXT evolution

Expanding from Net Zero Solutions Provider to Green Infrastructure to include energy-related services, carbon credit management, and more



Exploring downstream value plays

Including new S-curve areas and megatrends such as data centers and green hydrogen

Banpu 2030: Next-Gen Mining

MINING VALUE CHAIN



KEY STRATEGIC ACTIONS



Intelligent Mining

Connecting 'pit-to-port' utilizing technology and AI to enhance operations



Diversification

Exploring strategic minerals which are critical to the energy transition; as well as infrastructure-as-a-business models through port and road upgrades as a revenue source.

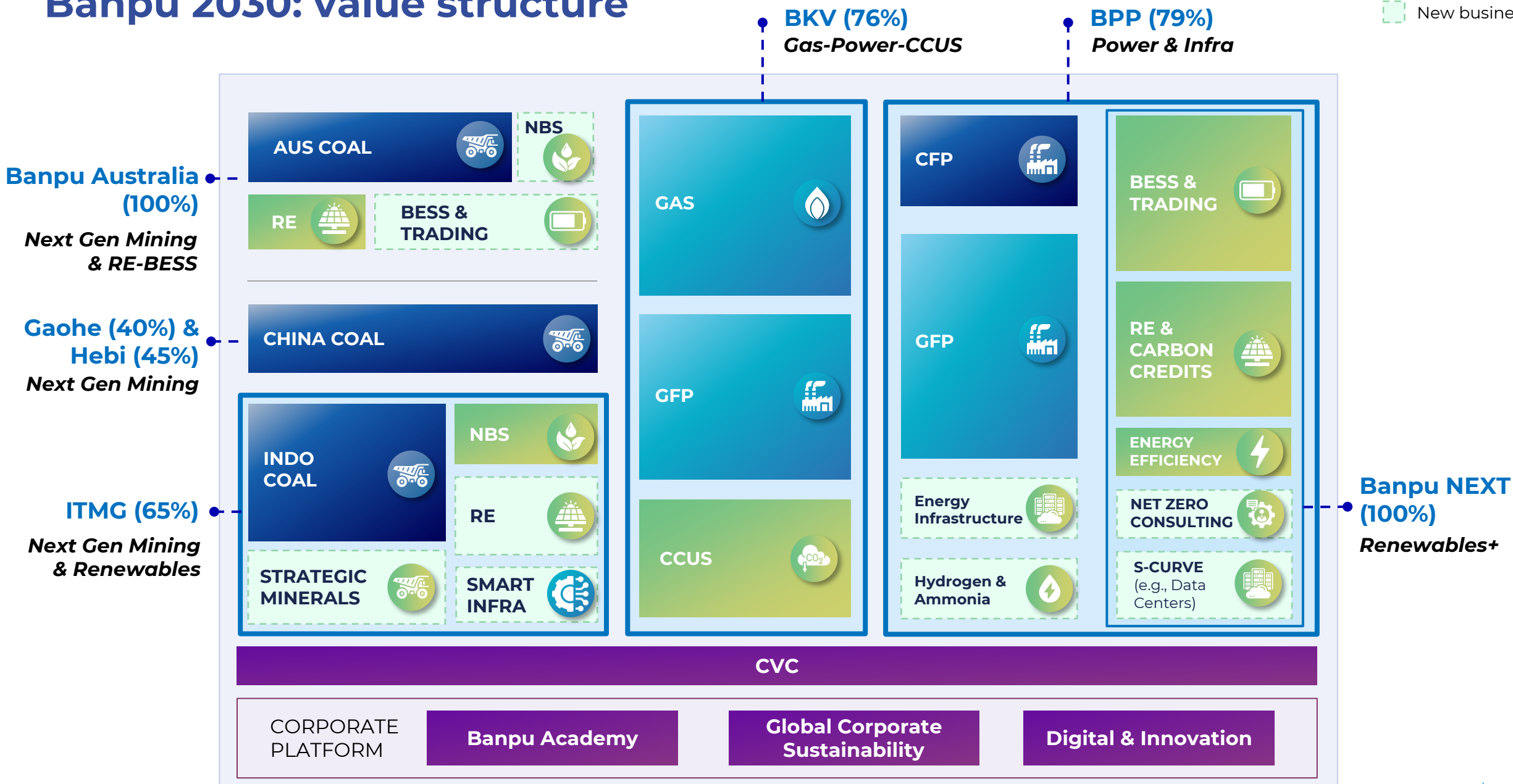


Decarbonization

Committed to no new investment in coal mines, focusing on reducing emissions of operations through green energy, using EV hauling trucks, and exploring nature-based solutions.

Banpu 2030: value structure

 New business



Banpu 2030: global energy transition leader



Ensuring long-term value creation for shareholders while also looking after stakeholders and the planet, putting the company at the heart of the global energy transition.

Banpu: 2030 strategic targets

EBITDA GROWTH



>1.5x

2030 EBITDA⁽¹⁾

Generate **strong and sustainable cashflow** with **high upside potential** to **maximize shareholder value**

DECARBONIZATION



>20% reduction

Scope 1 and 2 GHG emissions by 2030



>50% EBITDA

from non-coal related businesses by 2030

Strong focus on generating **low carbon-intensive cashflow growth** to facilitate our **Energy Transition journey**

GROWTH FOCUS



2030

capex allocation

Growth focus

- Gas-Power-CCUS
- Renewables+
- Next-Gen Mining
- Digitalization

Strategic allocation into **synergistic and high growth areas** to **maximize cash** and **asset value** funded through **cash, portfolio rationalization and debt**

Banpu: 3Q24 highlights

Key Financial Metrics

\$1,339 M | **\$379 M** | **0.82 x**

Sales Revenue

EBITDA

ND/E

Improved performance across Mining business from operational initiatives, supported by Gas and Power businesses

Stable from 0.82x in the previous quarter

ESG Excellence



A
Rating

Member of
Dow Jones
Sustainability Indices
Powered by the S&P Global CSA

Awarded
since 2014



A+
Credit Rating



AAA
Rating



Honor
since 2018

with a **'stable'** outlook on the company and senior unsecured debentures reflecting the company's stable business growth.

3Q24 key updates

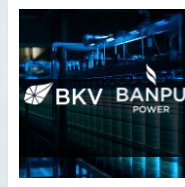
IPO OF GAS FLAGSHIP ON NYSE

Creating a Growth Engine into Gas-Power-CCUS in the US

BKV successfully completed its IPO in September 2024, raising \$270 M in gross proceeds to be used for debt repayment and business expansion.



Note: Used with permission of ©2024 NYSE Group, Inc.



BKV-BPP JV, capturing power and data center demand growth

BKV Corp. and Banpu Power's joint venture, BKV-BPP Power JV aims to capture the surging demand of electricity and data center boom, leveraging upsides in the US power markets.



Banpu NEXT invests in Amp Japan

Banpu NEXT and Asia-Pacific Sustainable & Decarbonization Infrastructure Equity, LP, a fund sponsored by Aravest and SMBC Group, invested US\$145 M in Amp Japan, a platform for developing, acquiring, and operating renewables in Japan.



Iwate Tono Battery Farm nearing completion

Phase 2 of high-voltage equipment and substation construction is underway, with COD expected by 2Q25. Banpu Japan also received Tono City's '19th Anniversary Honored Contributor Award' for our commitment to the community and the BESS project.

The background of the slide is a dark blue, futuristic digital interface. It features several glowing financial charts, including candlestick and line graphs, overlaid on a grid. There are also some 3D rectangular blocks with data-like patterns on them. The overall aesthetic is high-tech and data-driven.

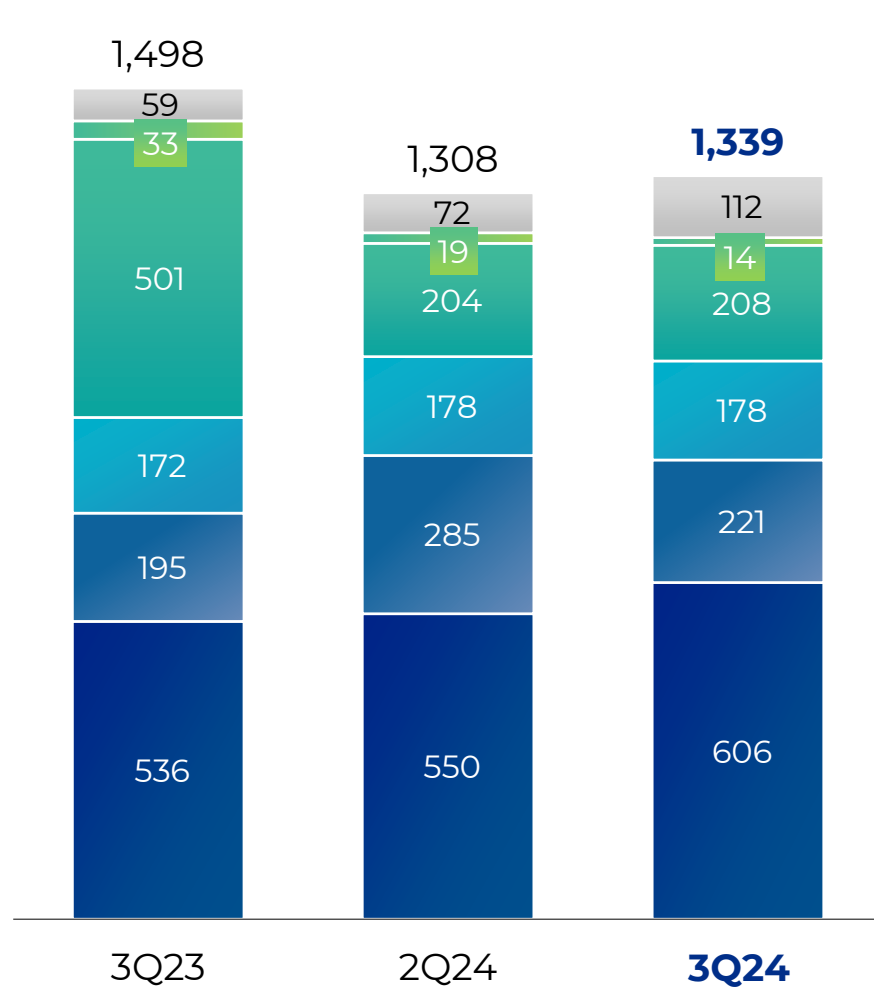
02

Financial Summary

Consolidated financials: Sales revenues – 3Q24

TOTAL SALES REVENUE

Unit: US\$ M



Note: *Revenue from others includes coal trading, and other businesses

% CHANGE

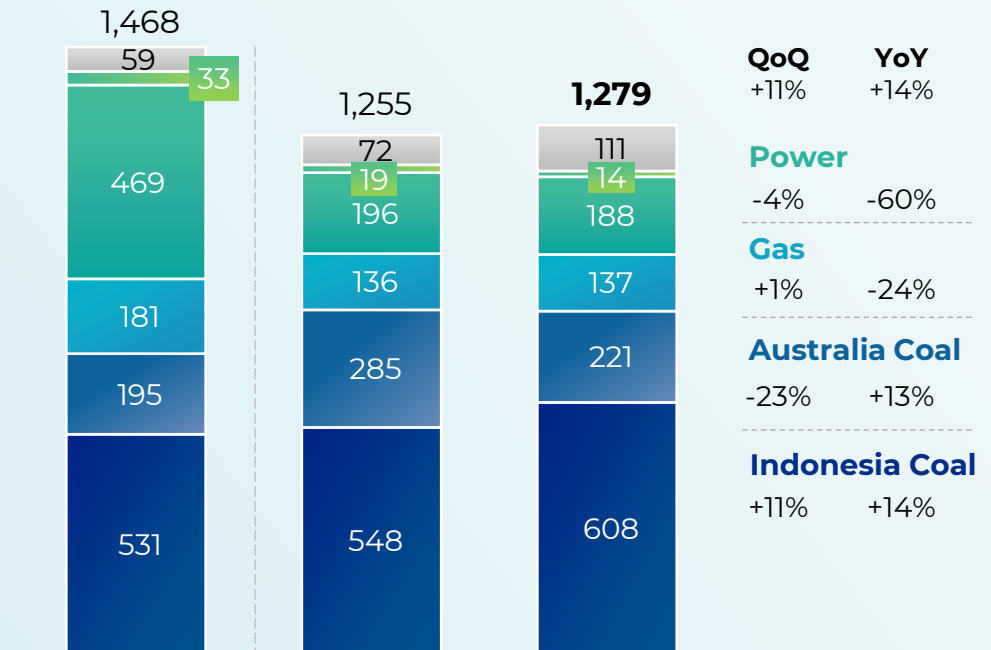
QoQ	YoY
+2%	-11%

Others*	+55%	+88%
Energy technology	-26%	-59%
Power	+2%	-58%
Gas	+0%	+4%
Australia Coal	-23%	+13%
Indonesia Coal	+11%	+14%

FINANCIALS

SALES REVENUE FROM OPERATIONS

Unit: US\$ M



QoQ	YoY
+11%	+14%

Power

-4%	-60%
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Gas

+1%	-24%
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Australia Coal

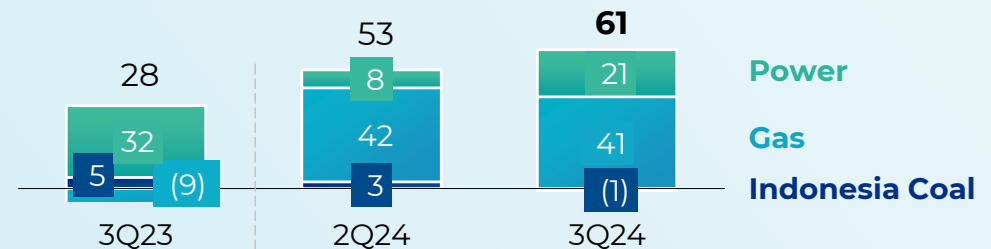
-23%	+13%
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Indonesia Coal

+11%	+14%
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REALIZED GAIN/(LOSS) FROM COMMODITY HEDGING

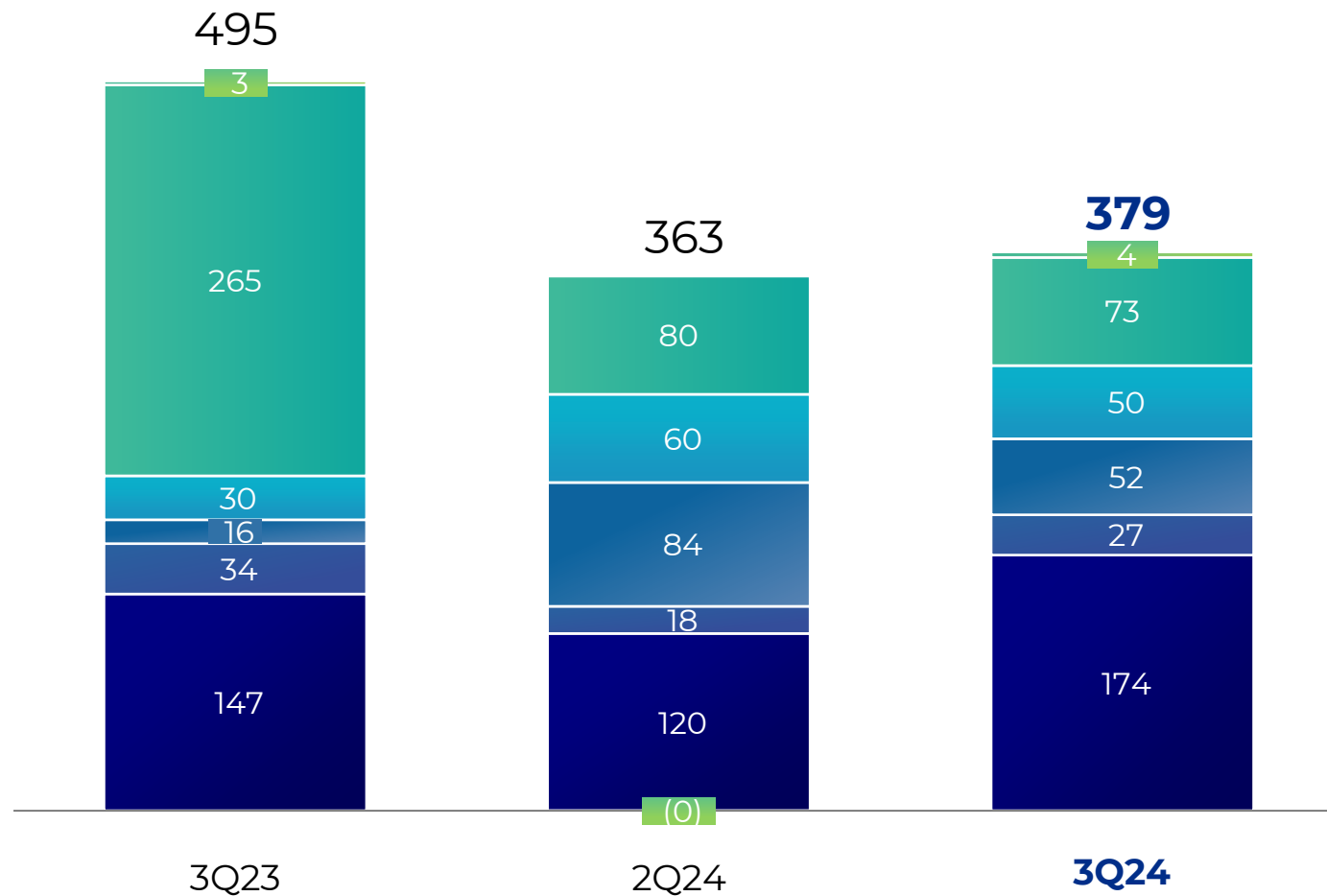
Unit: US\$ M



Consolidated financials:

Consolidated EBITDA – 3Q24

Unit: US\$ M



Note: *Revenue from others includes coal trading, and other businesses

+5% QoQ

-23% YoY

Energy technology

n.a.

+40%

Power

-8% QoQ

-72% YoY

Gas

-17% QoQ

+67% YoY

Australia Coal

-39% QoQ

+219% YoY

China Coal

+48% QoQ

-20% YoY

Indonesia Coal

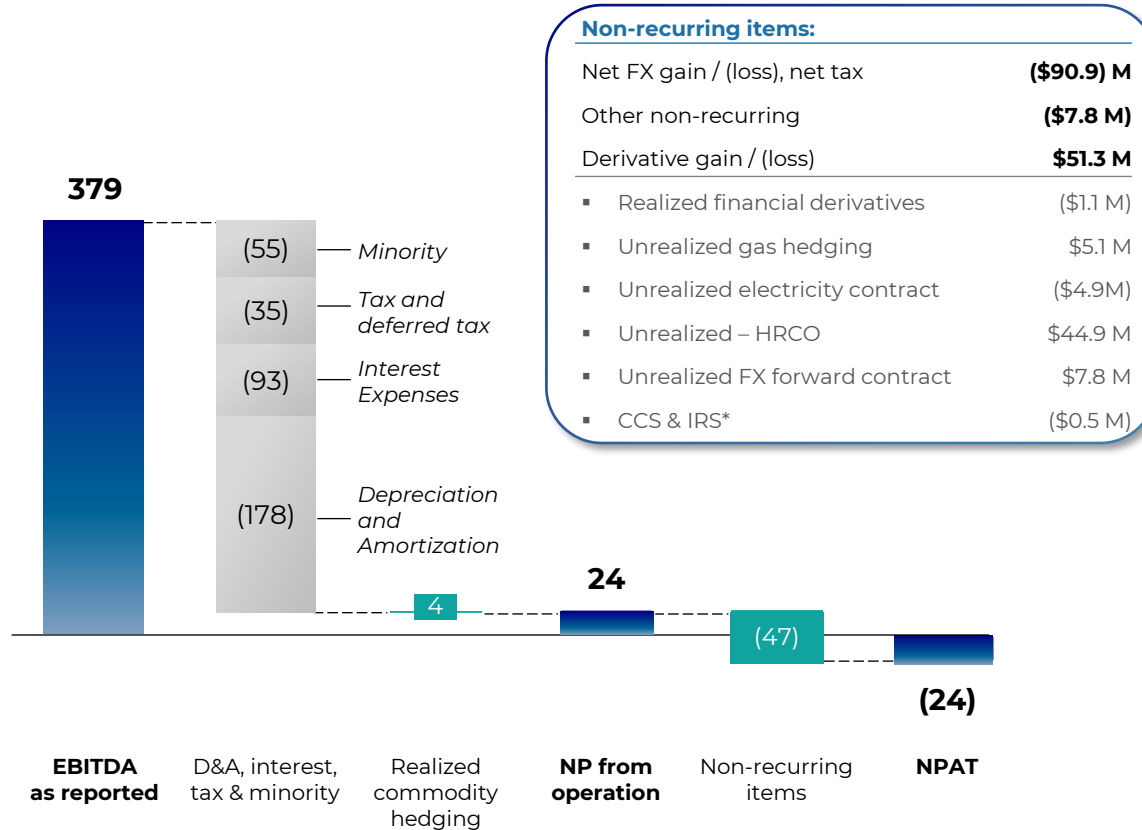
+44% QoQ

+18% YoY

Consolidated financials: NPAT- 3Q24

3Q24 NET PROFIT AFTER TAX

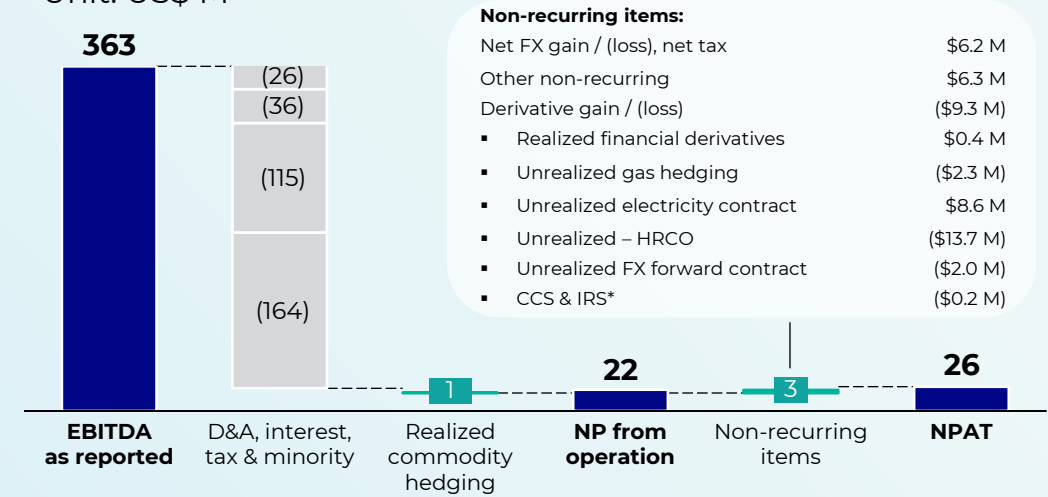
Unit: US\$ M



FINANCIALS

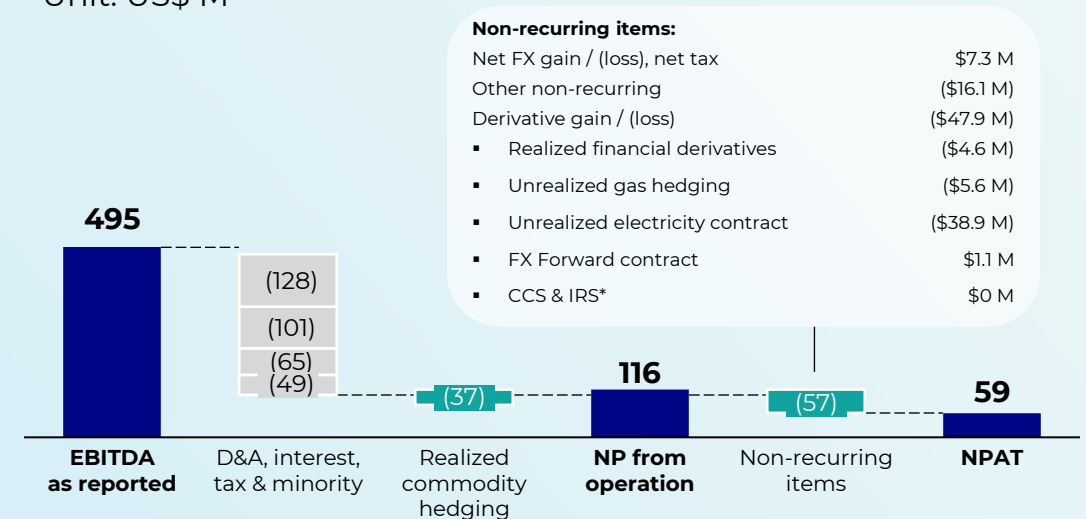
2Q24 NET PROFIT AFTER TAX

Unit: US\$ M



3Q23 NET PROFIT AFTER TAX

Unit: US\$ M





03

Energy Resources

US Presidential Election Outcome: implications

TRUMP WINS US PRESIDENCY

DONALD J. TRUMP



312

Electoral votes

74,834,220 (51%)

Popular vote

KAMALA D. HARRIS



226

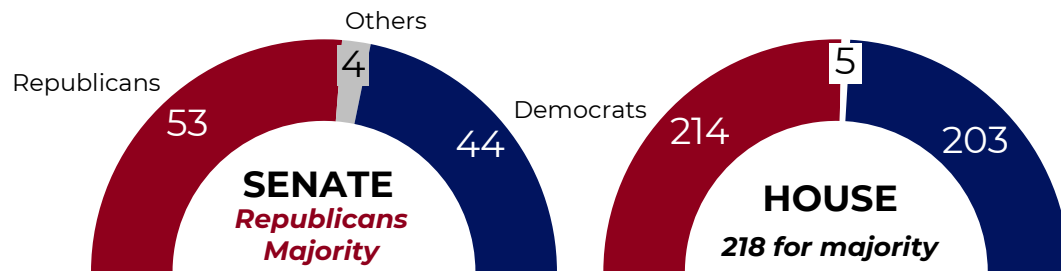
Electoral votes

71,239,698 (48%)

Popular vote



REPUBLICANS RETAIN MAJORITY IN THE HOUSE AND GAIN CONTROL OVER THE SENATE ⁽¹⁾



Republicans have "taken control" of the Senate and likely the House of Representative, meaning they have won the majority of seats in that chamber after an election giving them significant power over the legislative agenda and processes in Congress.

Domestic O&G Industry

Domestic production expected to grow as Trump loosens climate agenda and paves way for traditional energy production.

- Loosened O&G regulations, lowered productions costs, and upgrades to pipeline infrastructure
- Drawbacks on renewables, potential exit from Paris Climate Agreement
- LNG projects to make a comeback with lifts on previous approval pauses

Trade Tensions

Potential retaliatory action against US exports

- US trade tariffs may lead to actions like the trade war with China in 2018 when Chinese buyers were reluctant to purchase US LNG and oil due to risk of tariffs.
- Loosening regulation on methane emissions may face reactions from markets that are demanding emission cuts, affecting US exports.

Geopolitics

Trump wants to end the war

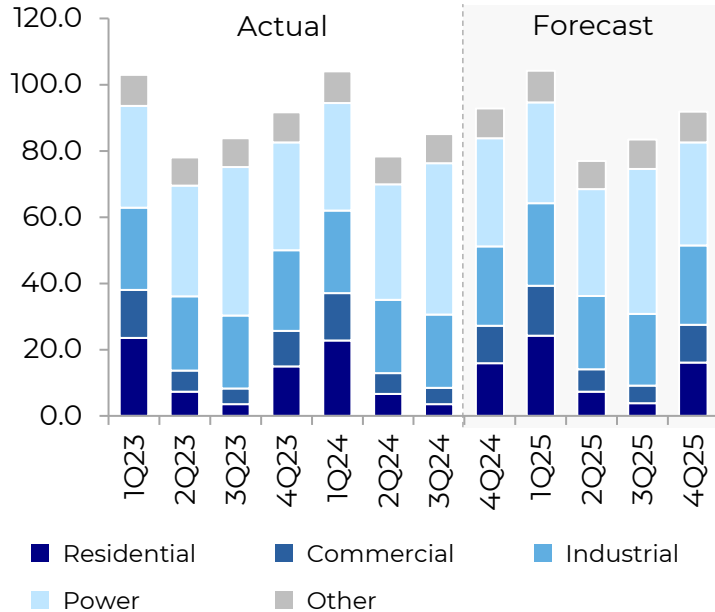
Successful de-escalation will potentially lead to taking a large risk premium from global O&G markets.

- **Russia/Ukraine:** Trump wants to end the war but there is still lack of clarity on how. Europe's stance against Russia will continue to support the US O&G industry.
- **Middle East:** Trump is supportive of Israel and has mentioned he looks to bring peace to the region. However, Trump aims to achieve so by taking an aggressive stance against Iran, potentially through tightening sanctions, which could impact regional O&G supply.

US gas market update

US Consumption & Projection

Unit: Bcf/d

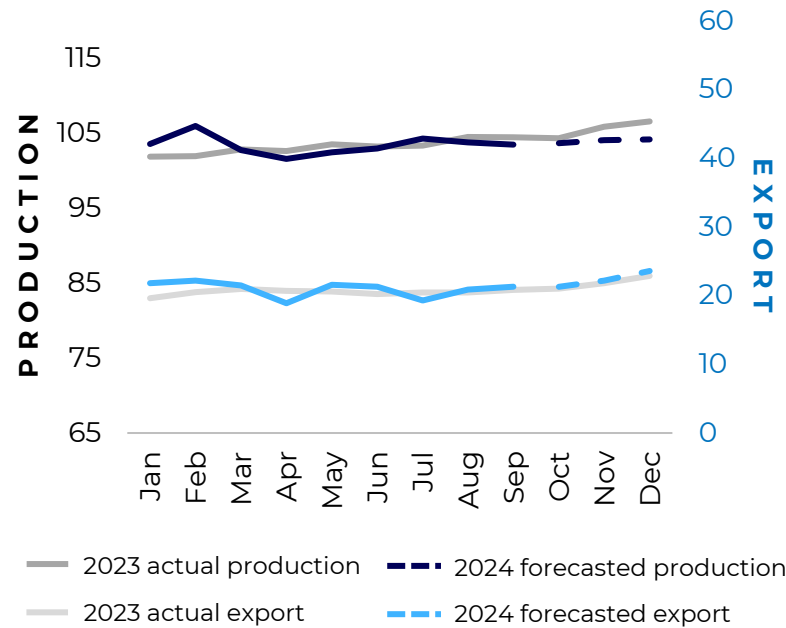


- US consumption averaged 93 Bcf/d in 3Q24, slightly increasing from last year. This quarter's demand was primarily driven by the power sector amid record-high summer temperatures.
- Consumption for 2024 is expected to average about 90 Bcf/d, reflecting modest growth from 2023.

Source: EIA Short-Term Energy Outlook (October 2024)

US Natural Gas Production

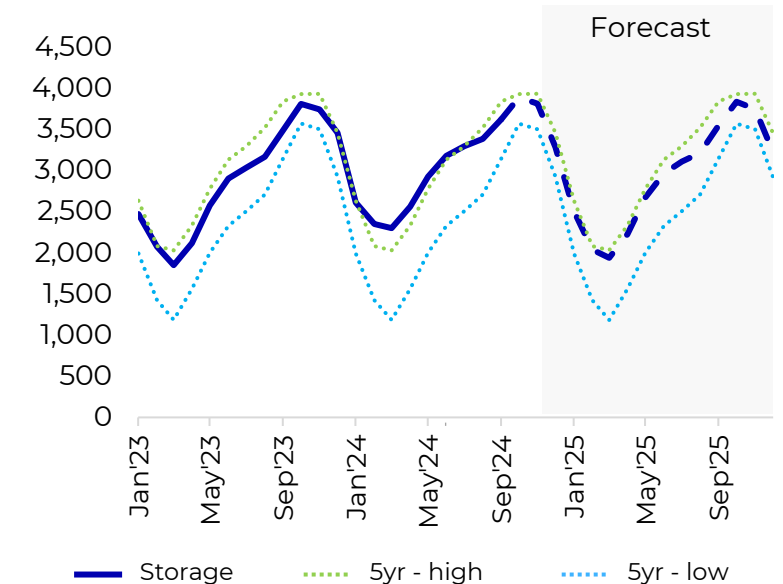
Unit: Bcf/d



- US natural gas production reached 104 Bcf/d in 3Q24, increasing 2% QoQ and remaining steady YoY, driven by new pipelines in Appalachia and higher output in Haynesville. However, producers are still implementing cuts and maintaining a conservative investment approach.
- US LNG exports averaged 13 Bcf/d in 3Q24, increasing 2% QoQ and 1% YoY, driven by higher production, but offset by maintenance and storm-related disruptions.

US Storage Level

Unit: Bcf



- In September 2024, natural gas inventories stood at 3.6Tcf, 5% above the 5-year average and about 0.1 Tcf higher than last year.
- The slowdown in injection rates during 3Q24 helped reduce the surplus, creating positive momentum and aligning storage levels more closely with the five-year average for the next quarter.

Expected gas prices to recover by 2025

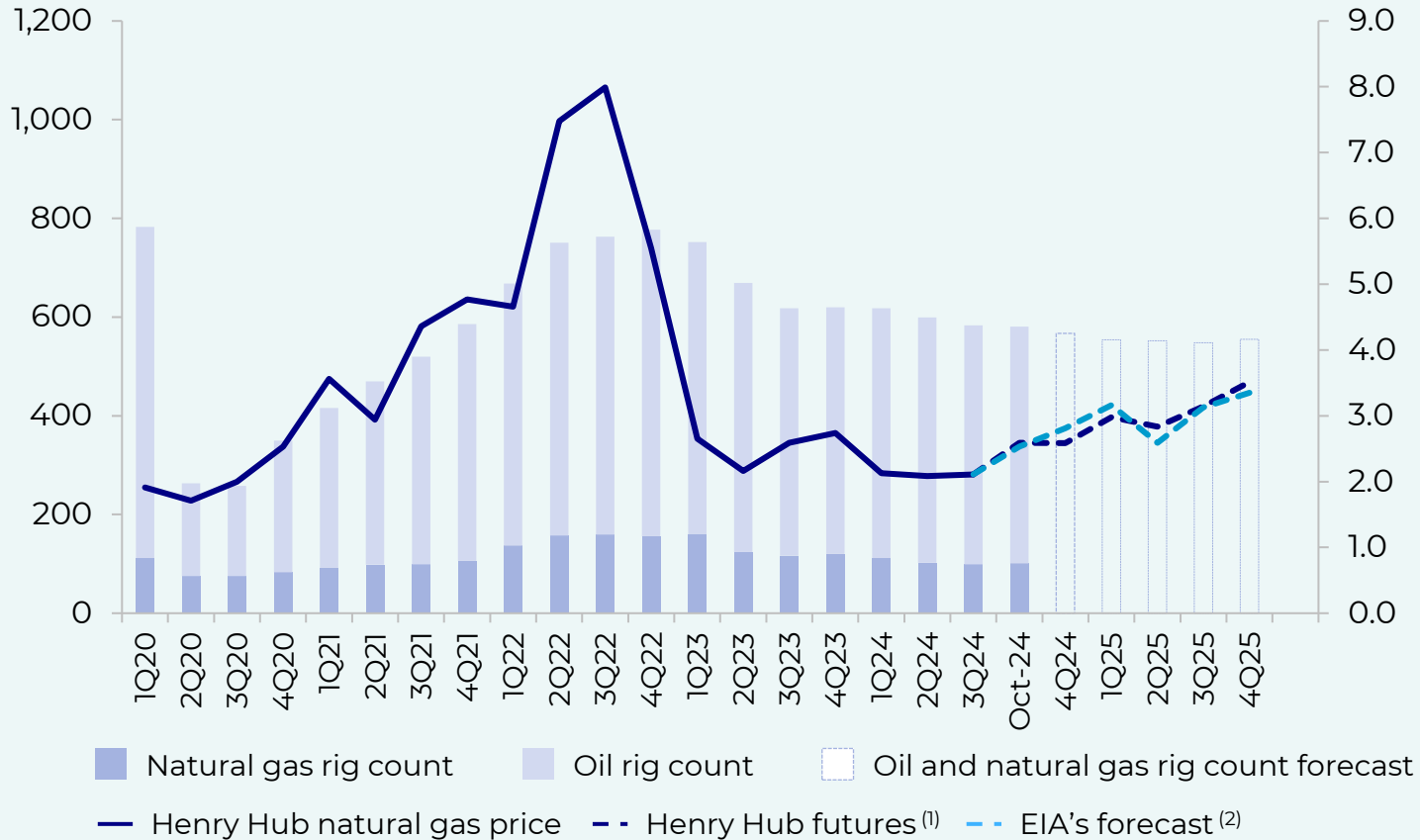
US Rig Count vs Henry Hub Price

US oil and natural gas rig count

Unit: rigs

Henry hub spot price

Unit: \$/MMBtu

Note: (1) As of October 29th, 2024; (2) Short-Term Energy Outlook (October 2024)

Source: EIA Short-Term Energy Outlook (October 2024), Baker Hughes US natural gas rotary rig count (October 2024)

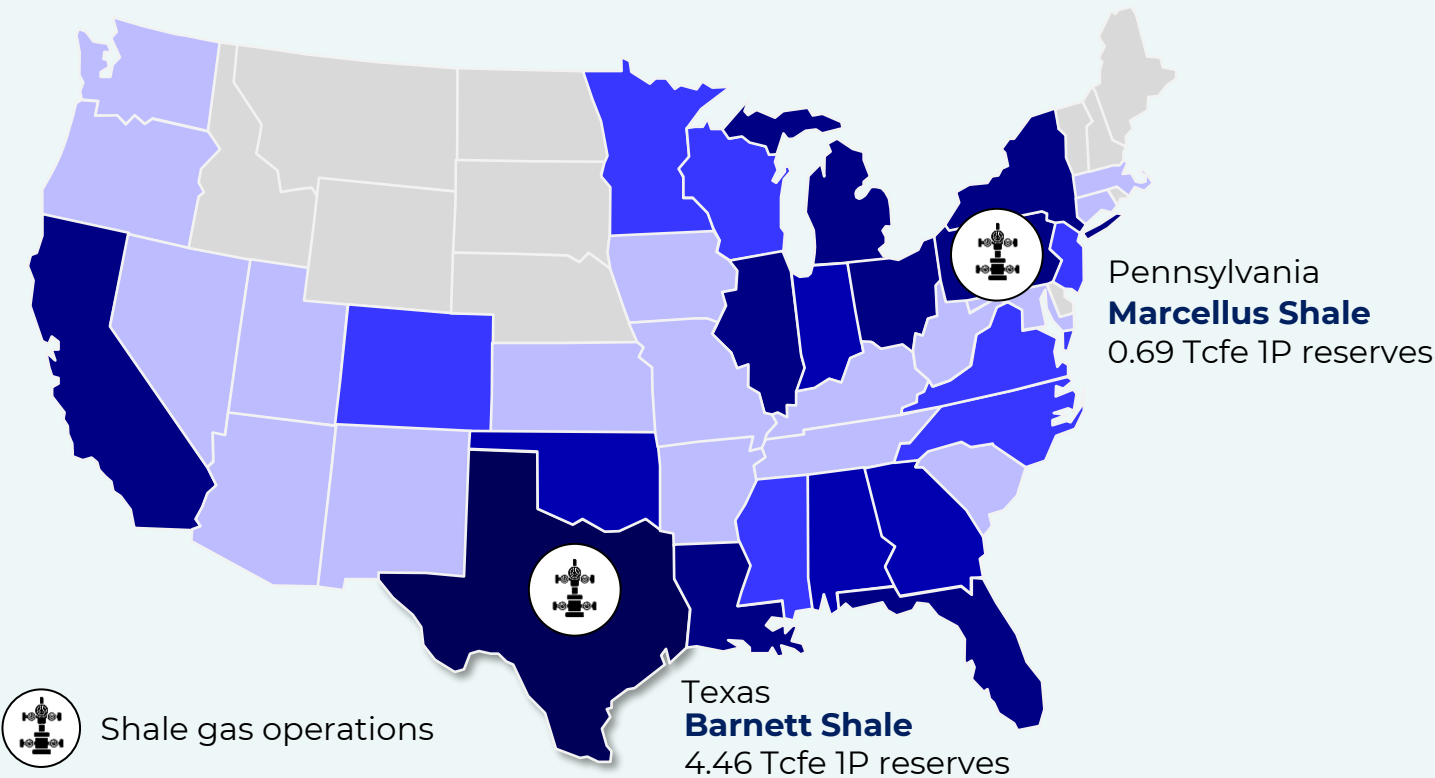
Comments

- Oil and gas rigs in 3Q24 remained low, and are expected to be relatively flat towards 2025, primarily due to the downward trend in oil prices.
- The pace of price recovery will largely depend on weather conditions; however, supply-demand dynamics are improving. Rising export demand from new LNG projects is expected to provide strong price support in 4Q24 and into 2025.
- Forecasts indicate that Henry Hub futures will rebound to around \$3.0/MMBtu by 2025



Gas Business:
3Q24 highlights

US Dry Gas Consumption 2023 by State ⁽¹⁾



Notes:
(1) As of (or, as applicable, for year end) December 31, 2023;
(2) Average local price = Henry Hub - basis differential while Realized price 3Q24 equivalent to \$2.51/Mcfe;
Realized price = Average local price+ realized hedge gains/losses;
(3) IFRS EBITDA. Significant differences between IFRS and BKV US GAAP EBITDAX include treatment of derivative gains and losses, depletion expense, accretion expense, stock compensation expense, BNAC expenses, equity income, and contingent consideration gains and losses for asset acquisitions

NATURAL GAS

Average local price ⁽²⁾
\$1.99/Mcfe +5% QoQ

Sales volume
70 Bcfe -4% QoQ

EBITDA ⁽³⁾
\$50 M -17% QoQ

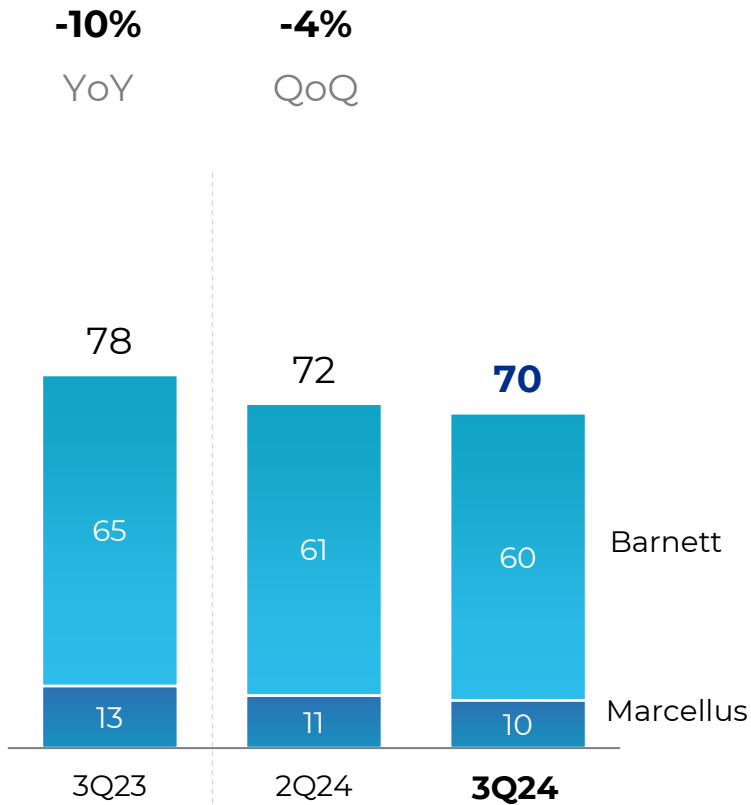


Gas Business: 3Q24 performance

The 3Q24 financial performance demonstrates the business's resilience and ability to generate sustainable and positive cash flow in the summer.

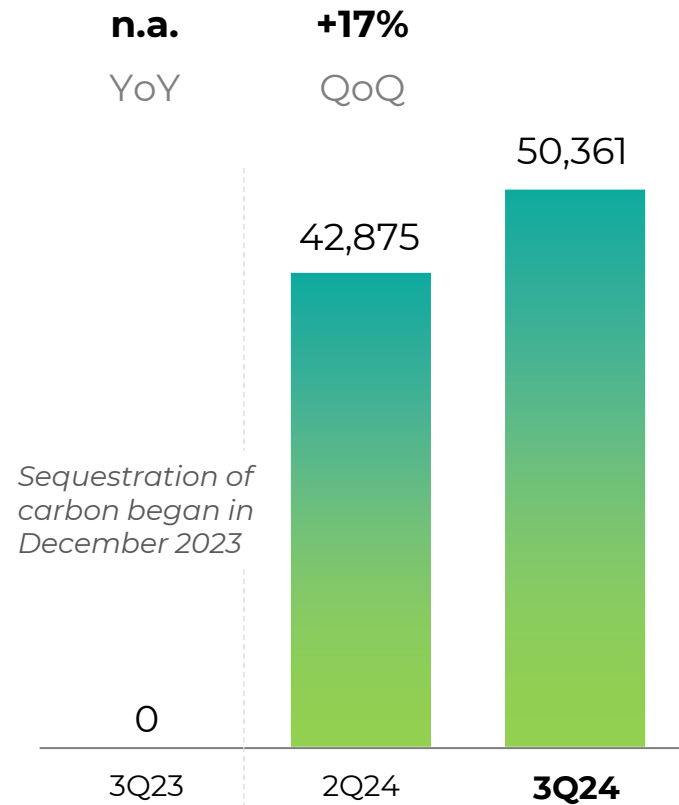
Gas Sales Volumes

Unit: Bcfe⁽¹⁾



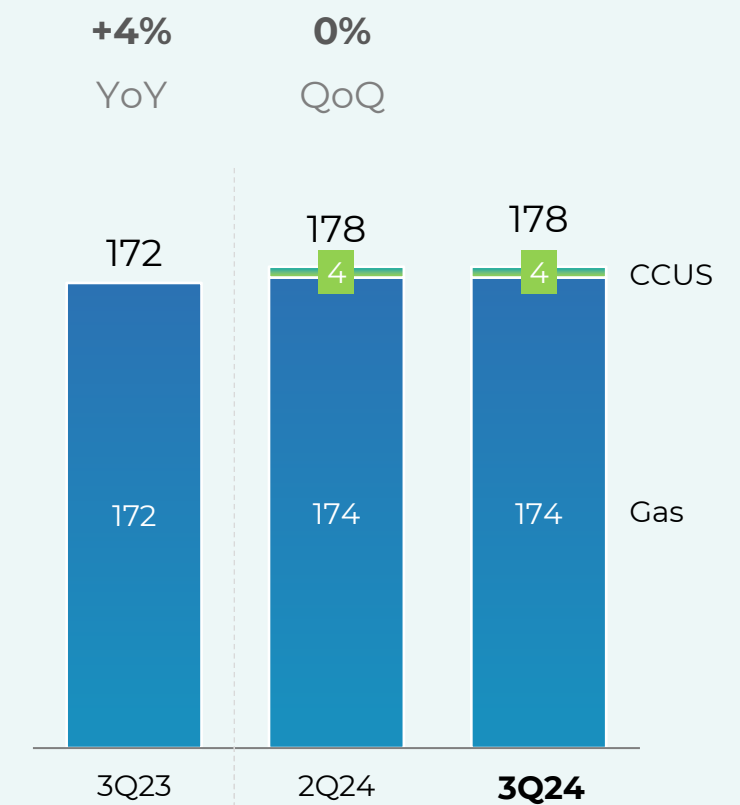
CCUS Sequestered Carbon Volume

Unit: Tons of CO₂e



Total Realized Revenue⁽²⁾

Unit: \$M



Note: (1) Bcfe = Billion cubic feet equivalent; (2) IFRS total realized revenue. Significant differences between IFRS and BKV total revenues and other operating income include net derivative gains and losses, marketing, non-operated midstream revenues, and others

Progress and development

CCUS Potential Project Pipeline by the 2030s

Estimated average annual injection rate

183 kt

Operating

43 kt

Developing

16 Mt

Target by 2030s

Project Showcase

Barnett Zero



→ 183 kt CO₂e



- Sequesters CO₂ generated as a byproduct from **BKV's Barnett operations**
- **One of the first commercial carbon sequestration wells** in the US
- **COD:** 4Q23

Cotton Cove



→ 43 kt CO₂e



- The project will sequester CO₂ generated as a byproduct from **BKV's Barnett operations**
- The project will utilize **BKV's midstream infrastructure** for operations
- **COD target:** 1Q26

Key goals and objectives

1 Decarbonization

- Scope 1 & 2 Net Zero by early 2030s and Scope 3 Net Zero by end of 2030s
- Carbon abatement target of up to 16 Mt of CO₂e per year by 2030s

2 Additional revenue generation

- Vertical expansion synergizing the gas value chain
- Additional source of revenue through sales of carbon sequestered gas product

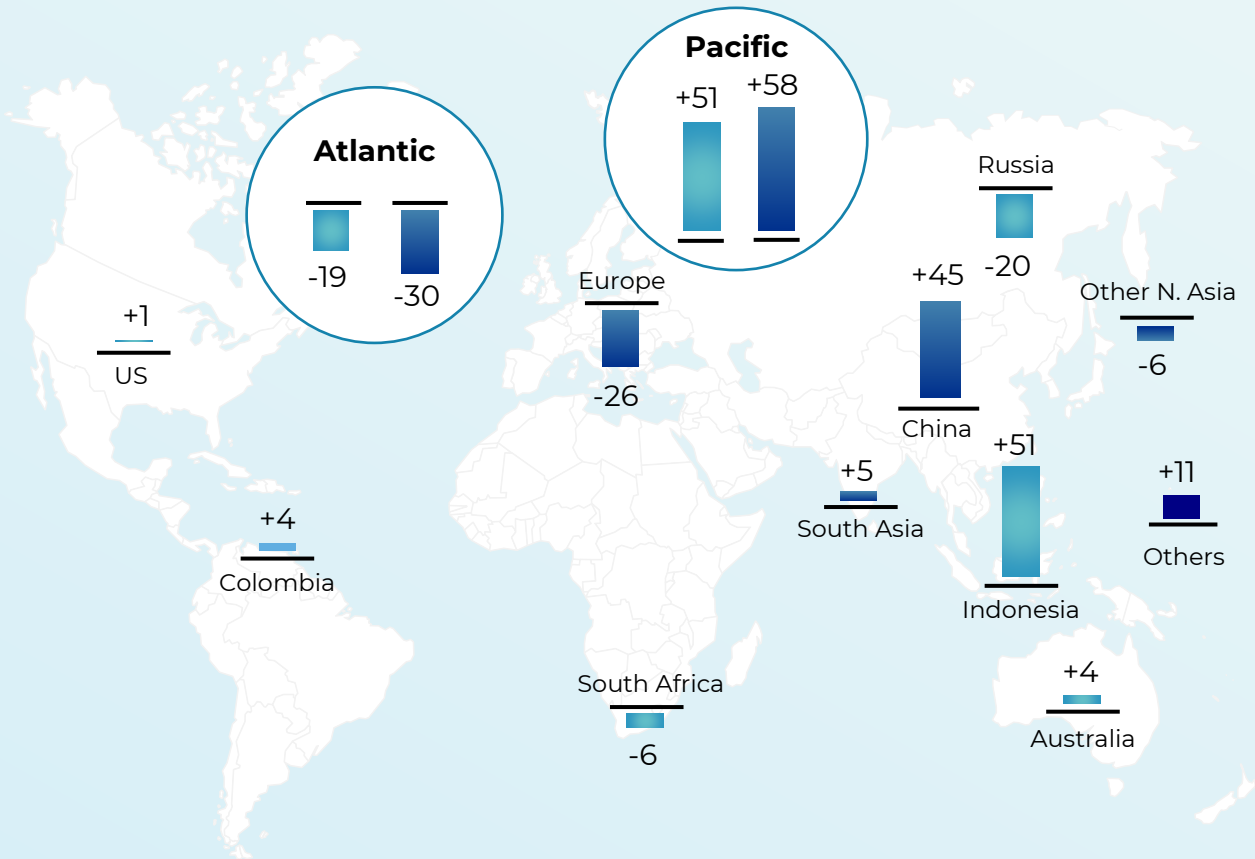
3 Future synergies

- Potential for applying experience of CCUS capabilities to power generation businesses in the future

Global thermal coal market

COAL DEMAND AND SUPPLY CHANGE – 2024e VS 2023

Unit: Mt

■ Demand ■ Supply


Note: (1) JKT stands for Japan, South Korea and Taiwan

Demand trends

HCV thermal coal prices are expected to remain high through the end of the year, supported by geopolitical and seasonal weather risks. The lower-CV market will be boosted by strong China demand.

- **China:** Power demand in Q4 will be supported by economic stimulus, declining hydropower generation, and winter demand. Favorable arbitrage between imported and domestic coal continues to drive imports.
- **India:** Thermal coal imports are expected to remain steady through year-end, driven by strong economic activity and a government directive for all import coal-based power plants to operate at full capacity.
- **JKT ⁽¹⁾:** High nuclear output may reduce coal demand over the winter, and South Korea and Taiwan plan to restrict coal burning to improve air quality.
- **Europe:** Coal-fired capacity in Europe is expected to be 30% lower YoY due to coal plant retirements.

Supply trends

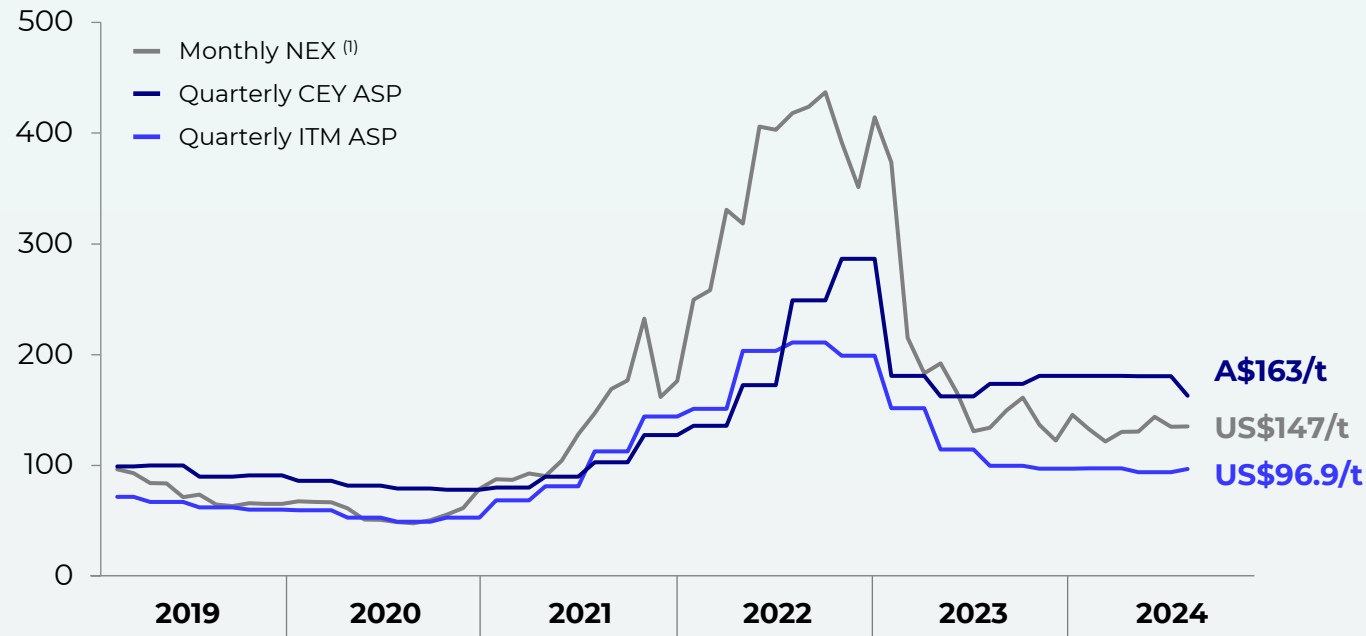
Global thermal coal exports are performing well in most regions, except Russia. La Niña weather could disrupt supply for the rest of the year.

- **Indonesia:** Strong production growth has led to oversupply, though high demand from China is helping to stabilize prices.
- **Australia:** Exports remain steady, supported by increased purchases from China.
- **Others:** Russia's supply is contracting further due to rail capacity constraints, sanctions and rising costs, limiting Russia's ability to meet higher winter demand in the northern hemisphere. South Africa's exports are constrained by sluggish demand and logistical challenges. Colombian supply is optimization-driven, with more coal shifting from Asia back to Atlantic markets.

Banpu coal sales price

Banpu coal ASPs vs. thermal coal benchmark prices

Unit: US\$/t; A\$/t for CEY



ITM ASP ⁽²⁾ (3Q24)

US\$96.9/t

+3% QoQ

CEY ASP (3Q24)

A\$163/t

-10% QoQ

ASP domestic (3Q24)

A\$154.1/t

-13% QoQ

ASP export (3Q24)

A\$195.8/t

-2% QoQ

Note:

(1) The Newcastle Export Index (NEX)

(2) Includes post shipment price adjustments as well as traded coal. CEY sales volume 3Q24 : 79% domestic & 21% export, 2Q24 : 84% domestic & 16% export

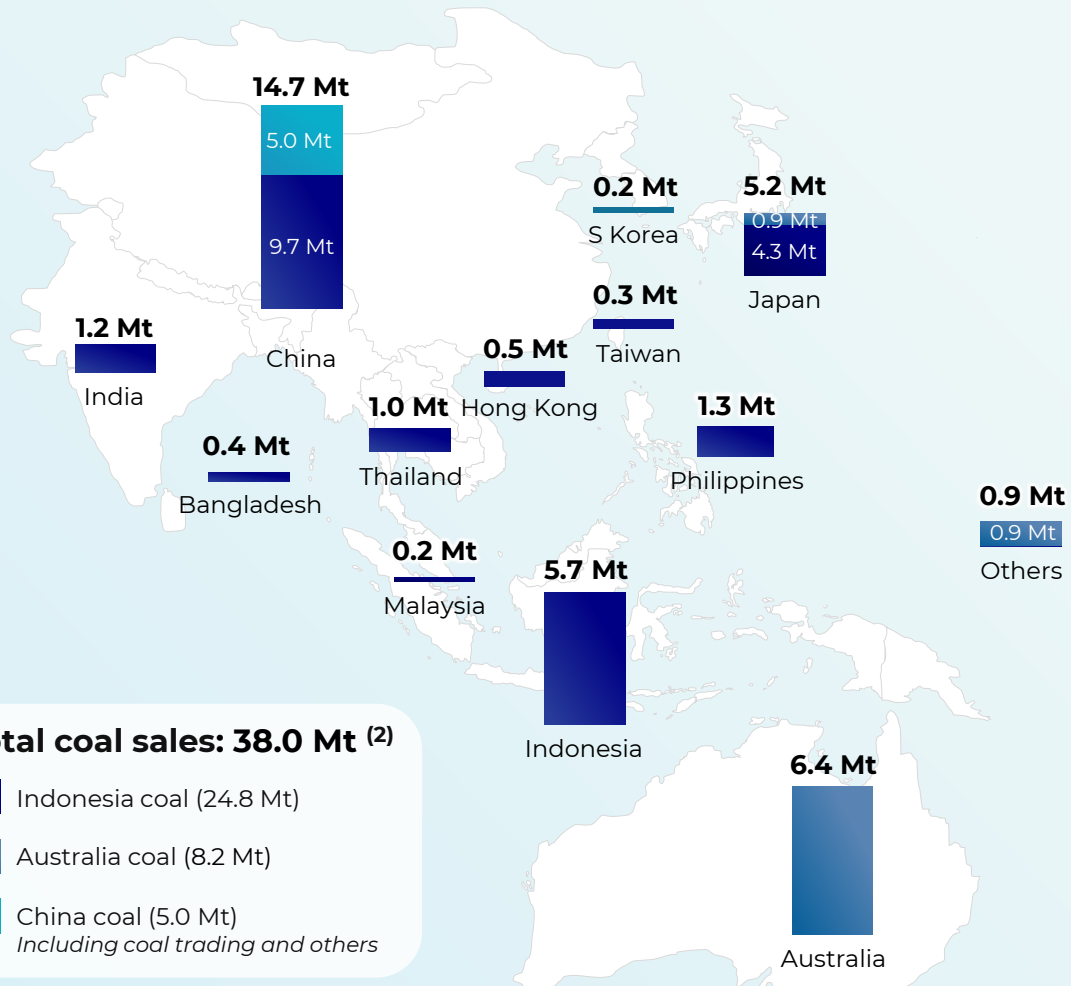
Comments

- The seaborne premium thermal coal market remained stable in 3Q24, with GCNewc prices fluctuating between \$132-150 per ton. Meanwhile, the market for lower-quality thermal coal showed slight weakening from the previous quarter due to increased supply from Indonesia, with ICI2 prices ranging from \$92-94 per ton, ICI3 from \$71-73 per ton, and ICI4 holding between \$50-53 per ton.
- Throughout the quarter, we have been strengthening 3rd party coal blending activity for improving the quality of saleable coal, effectively optimizing the throughput and ASP.
- We anticipate that the global seaborne thermal market will continue to remain stable through 2025, with overall supply and demand dynamics expected to be well balanced. The production increase from Indonesia will be mostly absorbed by strong demand from China, South Asia, and Southeast Asia.



Group coal sales and pricing status

Coal Sales Source ⁽¹⁾ : Destination Analysis, 2024e



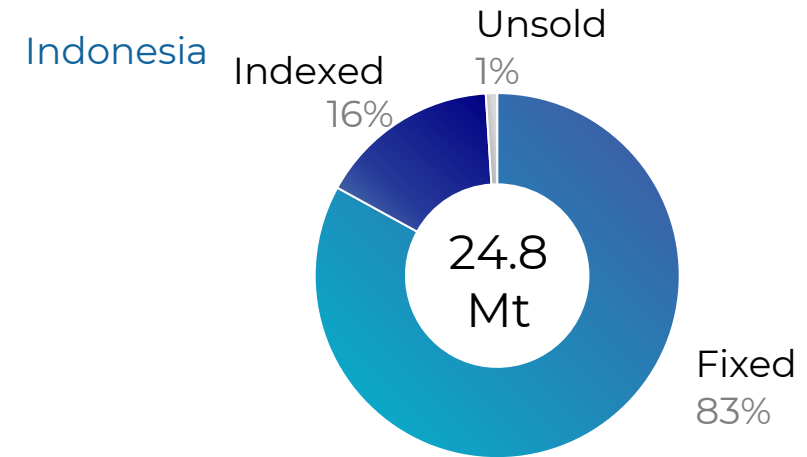
Notes:

(1) Sales from Indonesia are included on 100% basis, sales from Australia and China are included on equity basis. Excluding Mongolia coal;

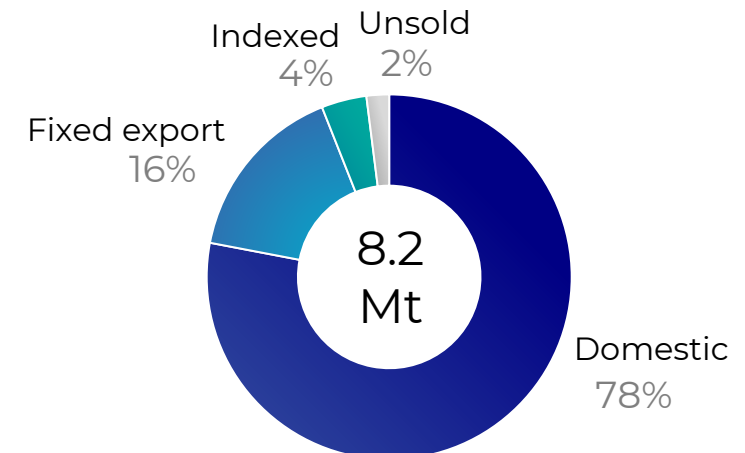
(2) Illustrative target; Includes coal sales from domestic production in China;

(3) Target sales; Coal sales includes third-party sourced coal

Coal Sales ⁽³⁾ Pricing Status, 2024e



Australia



Mining Business: 3Q24 highlights

MINING

MAP OF MINING OPERATIONS⁽¹⁾



Production volume

10.9 Mt

+20% QoQ

Sales volume

11.1 Mt

+3% QoQ

EBITDA

253 M

+13% QoQ

Operational summary

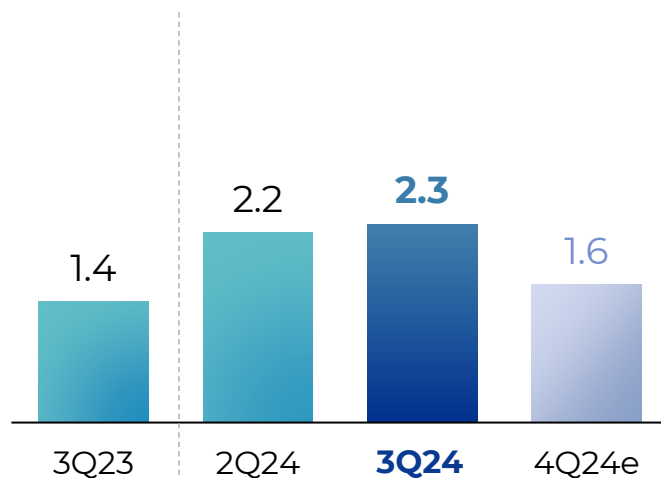
ROM Production and Key Updates

Australia Coal

2024 target: 7.6 Mt

+63%
YoY

+4%
QoQ



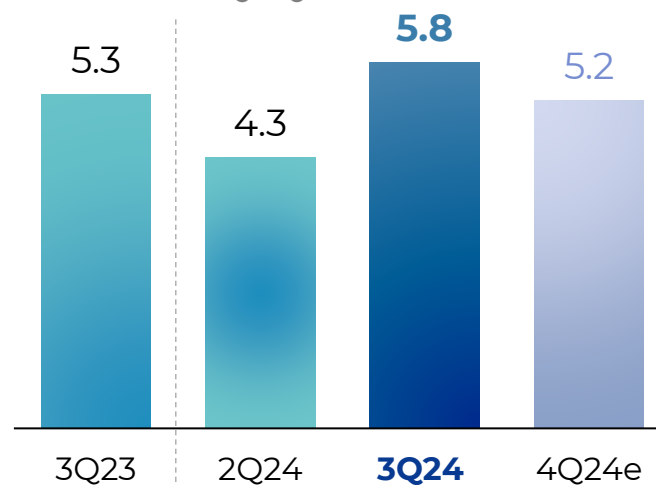
- 3Q24 saw improved operational performance, efficiencies and high safety standards.
- ROM production increased by 4% QoQ and 63% YoY, as Springvale and Mandalong exceeded production targets for the quarter.
- Mandalong set daily development records with 3Q24 development rates up 40% over 2Q24. This supports maximising longwall tonnes in FY24 and FY25.

Indonesia coal

2024 target: 20.2 Mt

+9%
YoY

+33%
QoQ



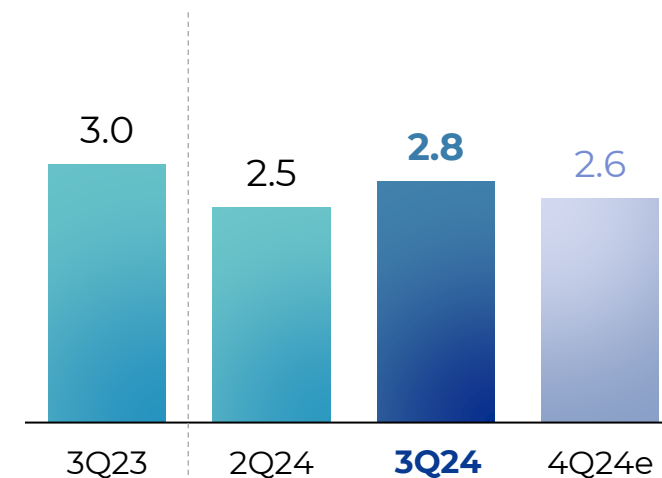
- 3Q24 production exceeded the target by 4% at 5.8 Mt as Bharinto ramped up production while optimizing inventory management in the Melak area.
- 4Q24 production is targeted at 5.2 Mt supported by stronger production at TCM and GPK.

China Coal

2024 target: 8.7 Mt

-7%
YoY

+12%
QoQ



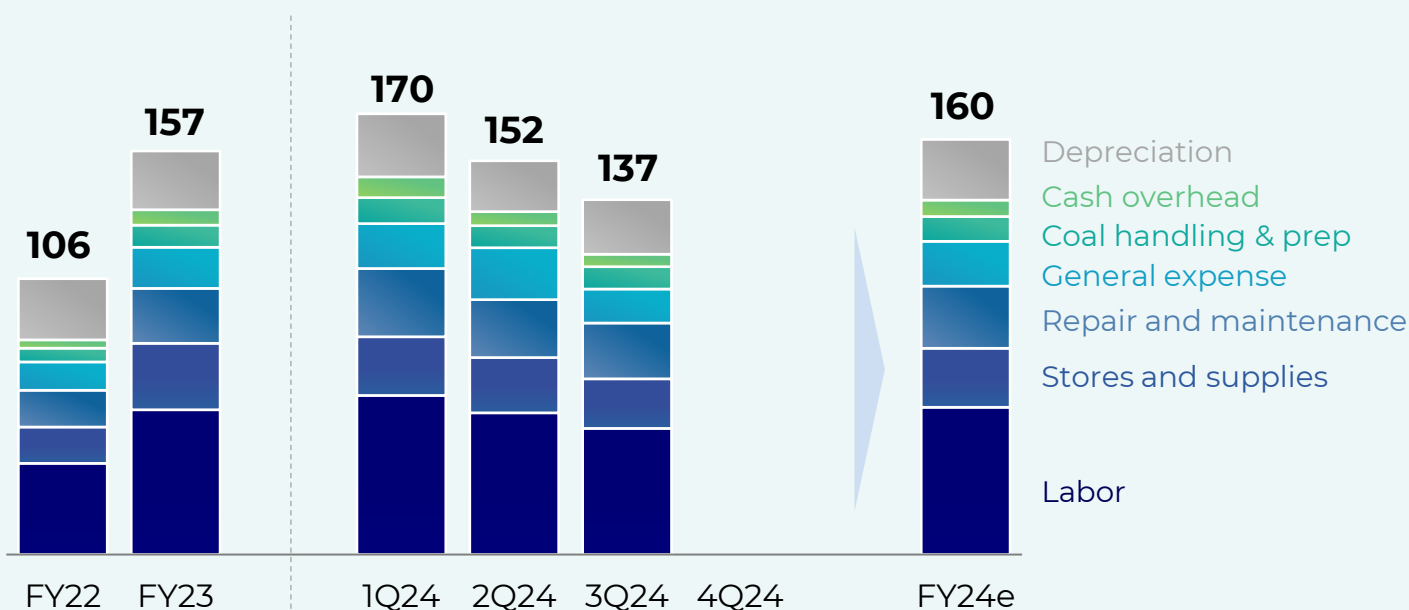
- Gaohe:** Guaranteed coal order from the government rose from 3.8 Mt in 2023 and 5.16 Mt in 2024, making up 59% of total coal sales. The large order has lowered Gaohe's overall ASP in 2024.
- Hebi:** Continued retreat mining at LTCC3205 and development of LTCC3006 in 3Q24, with continued efforts on operational cost control and work efficiency improvements.

Mining Business AUSTRALIA

MINING

Average total cost breakdown

Unit: A\$/t



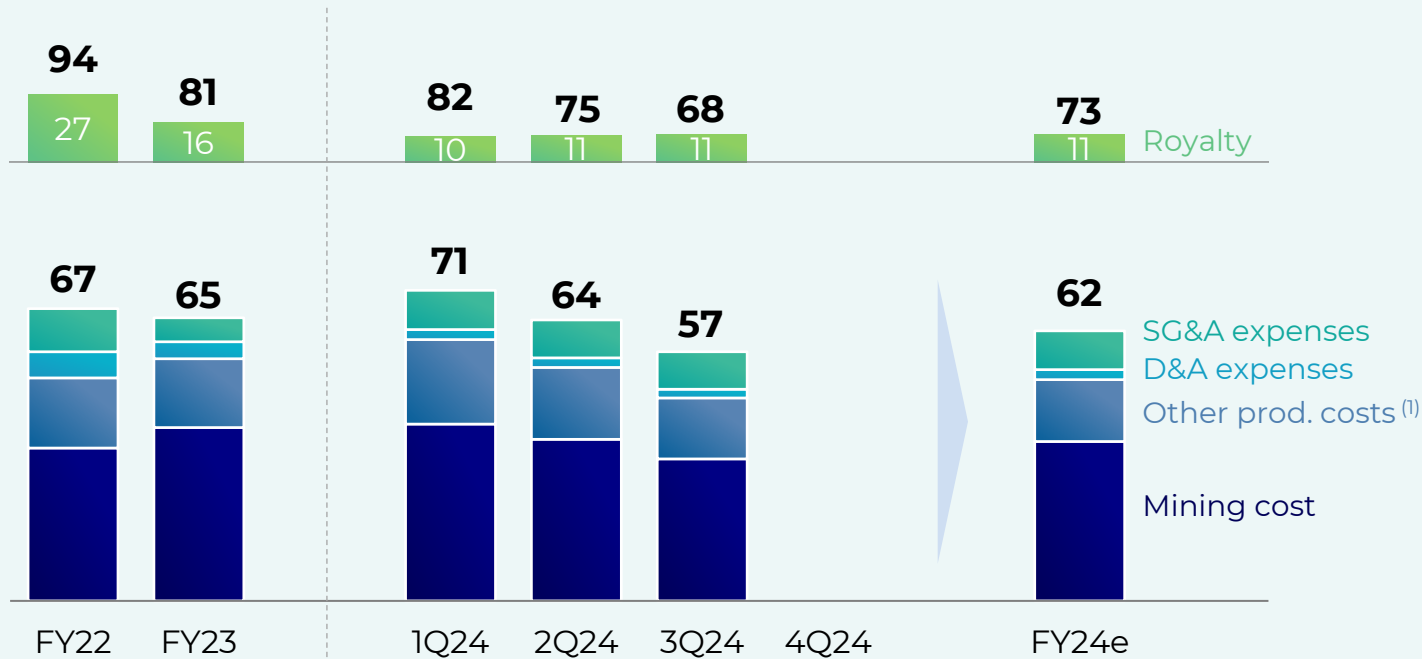
Comments

- Unit costs for 3Q24 decreased by A\$15/t from 2Q24, due to a 9% reduction in operating costs and a 4% increase in production.
- Restructuring of corporate and regional offices in 1Q24 led to a sustained 23% reduction in corporate labor costs in 3Q24.
- The combination of a strong 3Q24 operational performance, disciplined capex management and cost control contributed to improved cashflow.

Note: These figures do not include selling, distribution and royalty costs; based on 'sold' production

Average total cost breakdown

Unit: US\$/t



Comments

- The average total cost excluding royalty in 3Q24 dropped to \$57/t (-11% QoQ) from \$65/t in 2Q24 following the increase of production and sales volume.
- The average total cost for FY24 excluding royalty is expected to be around \$62/t, lower than FY23 (-5% YoY).
- FY24e royalty decreased to \$11/t from \$16/t in FY23 (-31% YoY), while the average total cost for FY24 is estimated to be \$73/t.

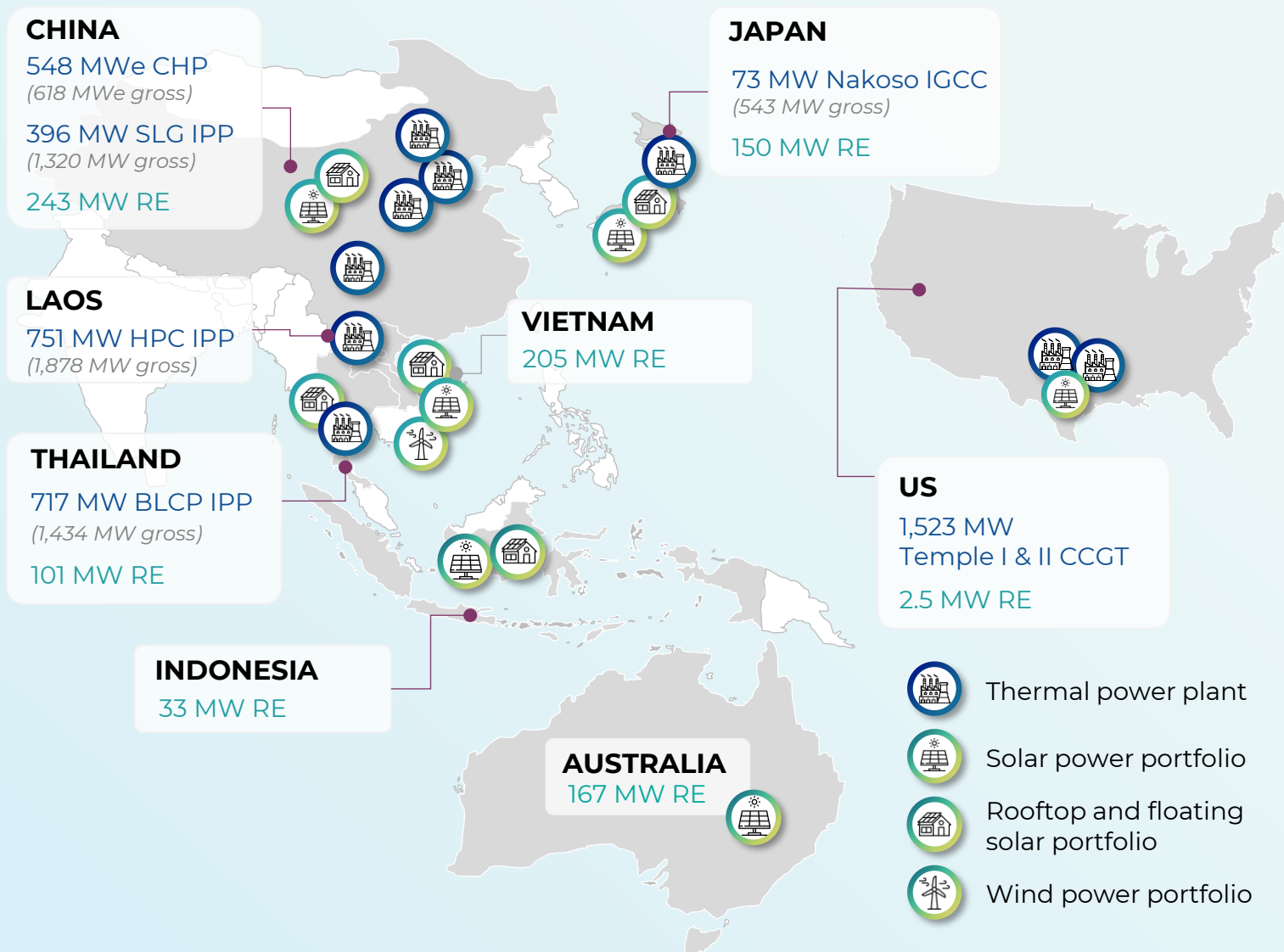
Note: (1) Including repair and maintenance, salaries and allowances, inventory adjustment, others etc.

The background of the slide is a photograph of a wind farm at sunset. Two large wind turbines are visible against a sky with soft orange and blue hues. A construction crane is positioned near the base of one of the turbines.

04

Energy Generation

Energy Generation: 4,910 MW committed capacity



ENERGY GENERATION

4,008 MW

committed thermal equity capacity

902 MW

committed renewables capacity

528 MW solar power

256 MW rooftop and floating solar

118 MW wind power

Thermal Power: 3Q24 updates

ENERGY GENERATION



HPC

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

93%	EAF ⁽¹⁾ (+22% YoY)
THB 5.8 bn	Revenue
THB 3.4 bn	EBITDA
THB 0.8 bn	Share of profit



BLCP

BLCP has achieved high EAF while managing operations without planned maintenance. Foreign exchange gains from the appreciation of THB contributed to increased profit sharing.

99%	EAF (-0.6% YoY)
THB 4.7 bn	Revenue
THB 0.9 bn	EBITDA
THB 0.7 bn	Share of profit



SLG

Reduced power sales due to lower demand from mild temperatures, and increased hydropower supply from heavy rainfall, resulted in decreased revenue and profit sharing.

1,413 GWh	Net power sold (-4% YoY)
RMB 5 M	Share of profit



China CHP

Profits improved following a reduction in coal prices, despite lower electricity sales from lower demand at Zouping and Zhengding.

RMB 221 M	Revenue
RMB 30 M	EBITDA
RMB 4.2 M	Share of profit



Temple I & II

Temple I & II received reduced net profits, from lower power sales and reduced spark spread due to mild weather conditions

99%	EAF (+0% YoY)
2.4 GWh	Net generation
US\$ 118 M	Revenue
US\$ 58 M	Share of profit ⁽²⁾



Nakoso IGCC

Nakoso operated under normal conditions.

70%	EAF
581 GWh	Net generation
THB 23 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\$ 62 M of gain on derivatives

Renewable Power: 3Q24 updates

ENERGY GENERATION



China Solar

Lower power sold due to grid curtailment and lower irradiation.

15% Avg. capacity factor

58 GWha Power sold
(-6% YoY)

RMB 40 M EBITDA

RMB 14 M Profit contribution



Japan Solar

Lower power sold due to unfavorable weather conditions.

14% Avg. capacity factor

64 GWh Power sold
(-7% YoY)

JPY 0.8 bn Cash distribution



Australia Solar

Lower power sold due to curtailment and unfavorable weather conditions.

13% Avg. capacity factor

34 GWh Power sold
(-30% YoY)

(A\$ 13.5 M) Share of loss ⁽¹⁾



Vietnam Solar

Nhon Hai Solar demonstrated consistent capacity factor and power sold.

19% Avg. capacity factor

14 GWh Power sold
(-5% YoY)

US\$ 0.4 M Share of profit



Vietnam Wind

El Wind Mui Dinh

21% Avg. capacity factor

17 GWh Power sold
(-22% YoY)

US\$ 0.4 M Share of profit

Vietnam Wind

Vin Chau project

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

Note: Banpu has 100% shareholding in Banpu NEXT; (1) Includes A\$ 10.0 M of loss on derivatives



Energy Technology

Energy Technology:
Current position and future targets



Energy trading and energy storage project

3Q24
1,769 GWh
Electricity sales (9M24)

In progress
Battery farm

2025 target
2,400 GWh
Annual sales

58 MWh
Storage capacity



Solar: rooftop & floating

256 MW
Committed capacity

500 MW



Smart cities & energy management

36 projects
Energy management, Smart infra, Total solution services, etc.

60 projects



Battery production

3.0 GWh
Production capacity

6.0 GWh



E-Mobility

488 MWh
Electricity sales (MuvMi battery & charger)

861 Units
EVs (Battery + 2-Wheeler)

eMaaS
eMobility-as-a-service

2030 target

**INTEGRATED
CLEAN ENERGY
ECOSYSTEM**



3Q24 energy trading and energy storage project updates

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

1,769 GWh

3Q24 accumulative sales

1,445 clients

Increasing from 1,286 clients in 2Q24

9 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.

IWATE TONO PROJECT (UTILITY-SCALE BATTERY STORAGE)

58 MWh

Capacity

2Q25

Expected COD

99%

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.



3Q24 rooftop and floating solar updates

ACCELERATING DEVELOPMENTS ACROSS BANPU GEOGRAPHIES

THAILAND

101 MW

Total committed capacity

- New contract signing with Siam Amazing Park and Jan Dee Farm with a total capacity of 0.7 MW in 3Q24.

CHINA

66 MW

Total committed capacity

- Committed capacity of solar rooftop project at Zhengding CHP, with a current operating capacity of 18.4 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

44.5 MW

Total committed capacity ⁽¹⁾

- IBP has signed additional solar rooftop PPA of 14.0 MW in 3Q24.
- Current operating capacity is approximately 8.5 MW.



Energy Management Services:

3Q24 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

100%

Construction progress (as of Oct'24)



PROJECT UPDATES



BANPU NEXT BRINGS NET ZERO SOLUTIONS EXPERTISE TO SUPPORT KOH SAMUI'S
LOW-CARBON ENDEAVORS

- Signed an MoU with Koh Samui Municipality to conduct a feasibility study and develop a master plan to transition Koh Samui into a low-carbon destination.
- Aligns with Thailand's commitment towards carbon neutrality by 2050 and Net Zero by 2065.

POTENTIAL BANPU NEXT SOLUTIONS

- Renewable energy
- Energy storage
- E-mobility

ENERGY TECHNOLOGY

Government Center Zone C, DCS Project



MOU Ceremony between Koh Samui Municipality and Banpu NEXT



3Q24 battery production and e-mobility updates

DP NEXT PRODUCTION PLANT (AMATA CITY, CHONBURI)

1.0 GWh

Production capacity

4Q24

Expected COD
(First phase 200 MWh)

92%

Construction progress
(Pending machine installation)

PROJECT UPDATES

- Factory grand opening in November 2024 and SOP in December 2024.
- New battery order received from E-bus and E-truck assembly plants, which is currently in pilot testing phase.

ESTABLISHMENT OF COMMERCIAL EV FLEET LEASING BUSINESS WITH POTENTIAL JAPANESE PARTNERS

70%

JV progress

4Q24

Expected commercial operation

EV FLEET CHARGING STATIONS DEVELOPMENT WITH A SECURED CUSTOMER BASE DRIVEN BY MARKET & POLICY

69%

Construction progress

4Q24

Expected commercial operation

ENERGY TECHNOLOGY



DP NEXT PRODUCTION PLANT



E-MOBILITY

3Q24 investment updates

Banpu NEXT invests in 'Amp Japan'

Amp Japan is the exclusive platform for AMP Energy that develops, acquires, constructs and operates renewable energy assets in Japan



>300 MW

Development and building track-record to date

~800 MW

Additional solar and wind energy pipeline

2 GW

Platform capacity target

PROJECT AMPJP

US\$145 M

Committed investment

Together with Asia-Pacific Sustainable & Decarbonization Infrastructure Equity, LP, a fund sponsored by Aravest and SMBC Group.

ENERGY TRANSITION PLATFORM

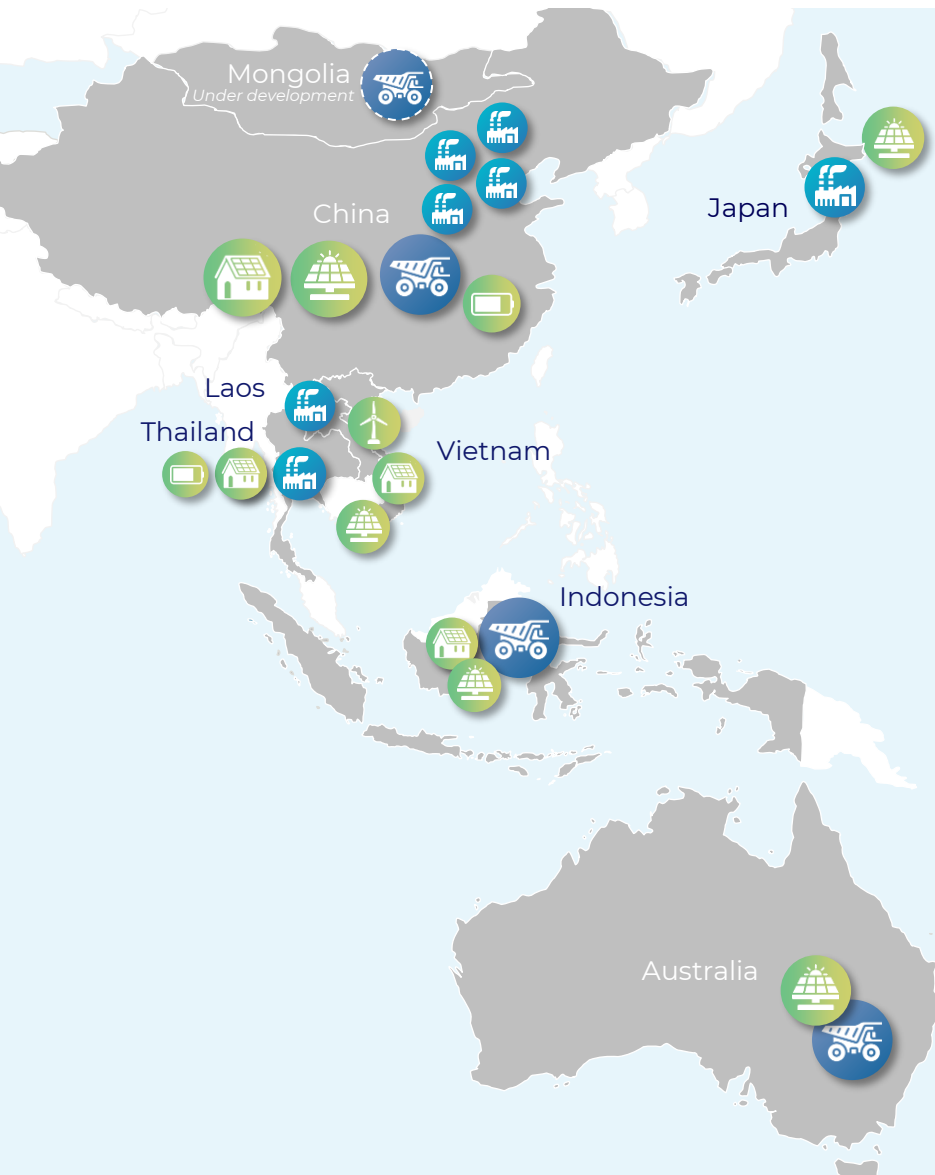


Appendix



BANPU

Banpu group: diversified portfolio across the energy value chain




BANPU

VERSATILE
ENERGY PROVIDER

Building a balanced portfolio for a sustainable energy transition.

ENERGY RESOURCES

Mining

Robust and Responsible Miner



Natural gas

Closed-loop Gas-based Energy Solutions



ENERGY GENERATION

Thermal Power

Unique Baseload Power Portfolio



Renewable

Quality Green Megawatts



Solar



Wind

ENERGY TECHNOLOGY

New S-Curve in Energy & Beyond

E-mobility, EMS, Energy Trading, etc.



Vertically-integrated Battery Player

Battery Production, BESS Deployment, Battery Recycling



CVC

Empowering Innovation, Fueling the Future

ESG leadership and credit rating recognition

BANPU ESG RATINGS



A

rating for three consecutive years for demonstrating resiliency towards long-term ESG risks and excellent risk management and mitigation relative to peers.

Member of
Dow Jones Sustainability Indices
Powered by the S&P Global CSA

Awarded since 2014

Recognized as a constituent of DJSI for conducting business with the highest ESG standards.



Awarded since 2015

Recognized in THSI for sustainable operations and responsible investment principles.



Honor since 2018

Highest distinction in SET's Sustainability Excellence Award for at least 4 consecutive years.



AAA

rating awarded by the SET ESG Ratings 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.



Corporate Excellence Award

for 2024 under the Energy Business Category



ASEAN Asset Class

Awarded in 2021 ASEAN Corporate Governance Scorecard for excellent corporate governance.

CREDIT RATINGS



Best Public Company of the Year 2023 in the SET & Best Company of the Year 2023 in the Resources Industry

Awarded by Money & Banking Magazine for Banpu's exceptional ability to effectively manage business and organization.



A+ Credit rating

with a **'stable'** outlook on the company and senior unsecured debentures reflecting the company's stable business growth.

Banpu: ESG recognition across the subsidiaries



Responsibly Sourced Gas (RSG) Gold Rating Certification

BKV's NEPA wells and facilities were awarded with TrustWell Gold accreditation for operational excellence, safety, and environmental stewardship, allowing BKV to market and sell certified RSG to the market.

Gold accreditation is awarded to top 25% most responsible gas operators by Project Canary, a leading and widely regarded 3rd party certification company.

The certification was awarded to 100% of BKV's NEPA production and a portion of BKV's Barnet production in 2022.



BBB Management Rating

ITM received the "BBB Management" rating for its commitment to implementing ESG and Sustainability Development Reporting.



The Best Energy Sector on the Main Board

Awarded at the CSA Awards 2023 for ITM's positive financial and operational performance, and continuous commitment to growth and adaptability in the energy sector.



Gold Ranking since 2020

Awarded in the Asia Sustainability Reporting Rating (ASSRAT) 2023, reflecting a consistent commitment to sustainability and environmentally friendly business practices



ESG EXCELLENCE

Established ESG Committee in March 2023 to supervise ESG targets and performance



5th Year
Listed on THSI



Commended Sustainability Award
Awarded by SET in 2023



AAA rating
Awarded by SET ESG Ratings



5 Stars & 5 Coins
Awarded by IOD and TIA



ASEAN Asset Class
from 2021 ASEAN Corporate Governance Scorecard

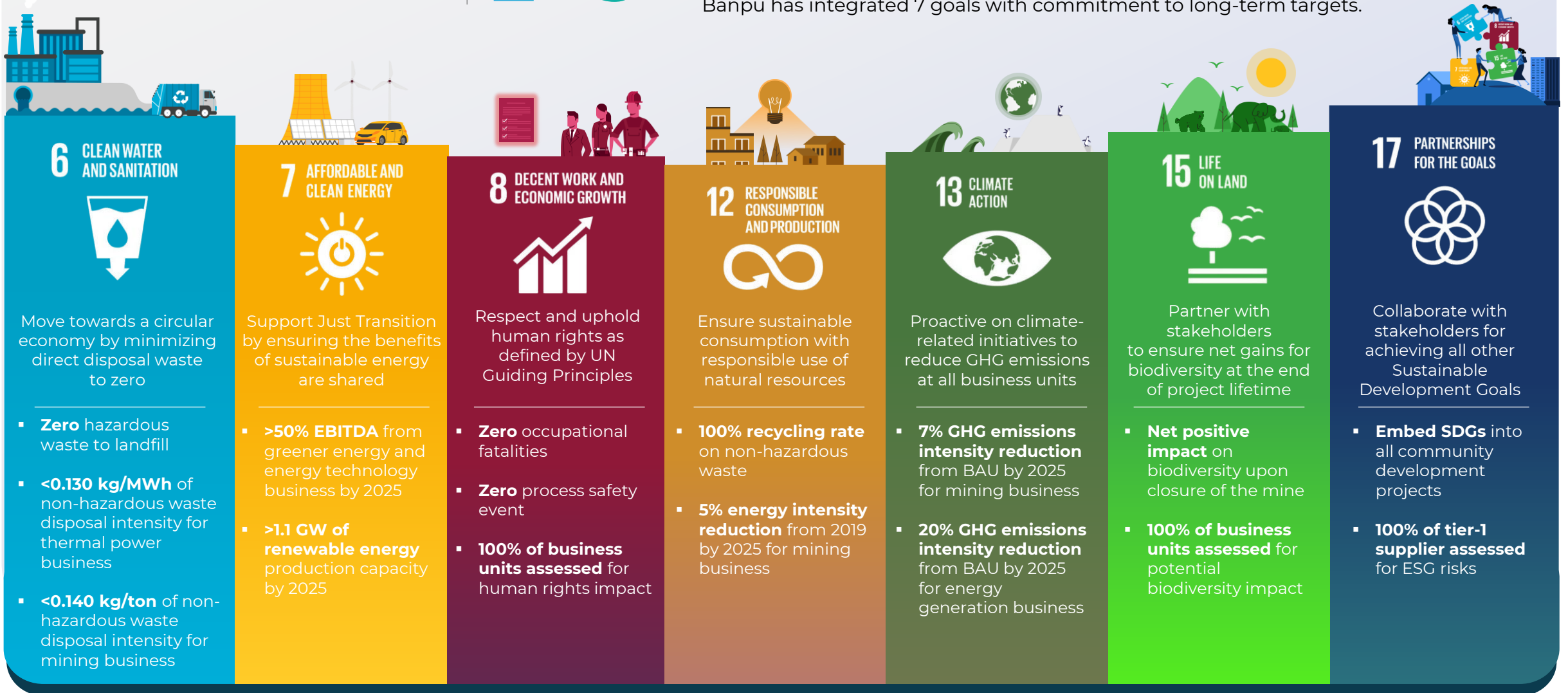
Environmental stewardship and commitment to the SDGs

SUSTAINABLE DEVELOPMENT GOALS

2030

BANPU COMMITMENT

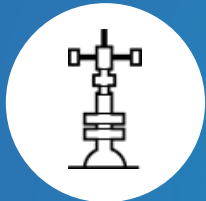
In accordance with the UN Sustainable Development Goals (SDGs), Banpu has integrated 7 goals with commitment to long-term targets.



'Integrated energy solutions' 2024

ENERGY RESOURCES

Shale Gas



830 MMcfed*
Net production

ENERGY GENERATION

Renewable Power



646 MW
Committed capacity

ENERGY TECHNOLOGY

Rooftop & Floating Solar



256 MW
Committed capacity

Mining



38.0 Mt
Coal sales

Thermal Power



4,008 MW
Committed capacity

Clean Energy Tech



3.0 GWh (100% basis)
Li-ion batteries



E-mobility services
E-mobility solutions



Smart Cities &
Energy Management



1,769 GWh*
Electricity trading

Note: *As of September 30, 2024



TARGETING A CLOSED-LOOP NET ZERO STRATEGY



BKV Corp
NYSE: BKV

15 million shares
Initial public offering

US\$18 per share
IPO price

IPO proceeds: Raised \$270 M in gross proceeds for debt repayment and business expansion



Banpu shareholder optimism post-BKV IPO: Strong confidence in the value unlocked by BKV's US gas operations



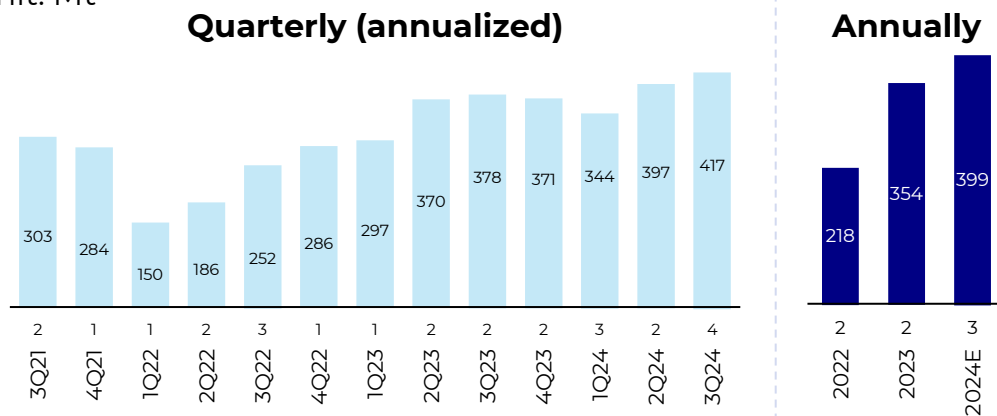
Right business combination: focusing on opportunities with BKV's 'winning formula' of gas, CCUS, and gas-fired power



China: Thermal coal import remains robust

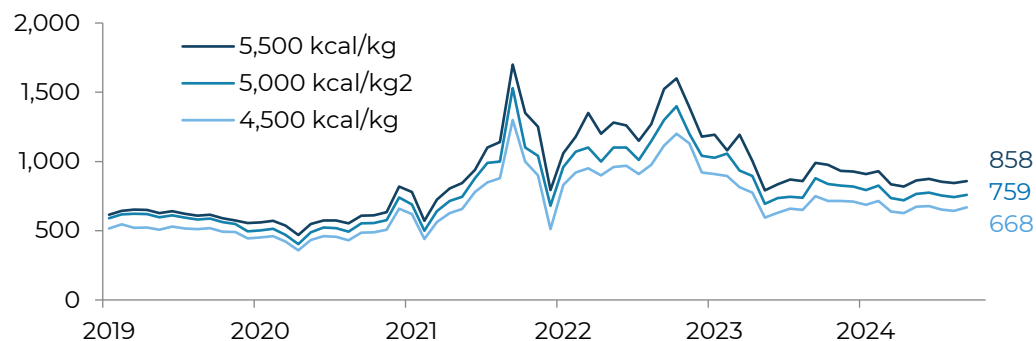
CHINA THERMAL COAL IMPORTS/EXPORTS*

Unit: Mt



CHINA DOMESTIC COAL PRICES

Unit: RMB/t



Note: *Includes lignite but excludes anthracite imports/exports

Source: www.sxcoal.com/cn (16th October 2024), Banpu MS&L

3Q24

- China's GDP grew by 4.6% YoY in 3Q24, down from 4.7% in 2Q24 and 5.3% in 1Q24, bringing growth for the first three quarters to 4.8%.
- Despite strong summer power demand, heavy rainfall boosted hydro generation, reducing coal-fired output in 3Q24.
- High hydro output, strong imports, and weaker economic activity kept domestic prices stable during peak demand despite the extreme heat in most regions.
- Power demand in 3Q24 totaled 2,752.0 TWh, up 7.7% YoY, growing from 6.8% in 2Q24, driven by the service and residential sectors.
- Raw coal production reached 1.2 billion tons in 3Q24, up 3.5% QoQ and up 4.2% YoY, despite weather disruptions. YTD production hit 3.47 billion tons, increasing 0.2% YoY.
- Thermal coal imports totaled 104 Mt in 3Q24, up 5.1% QoQ and 10.4% YoY, bringing YTD imports to 289 Mt, rising 10.9% YoY.
- China announced stimulus package on September 24, aiming to boost the economy.

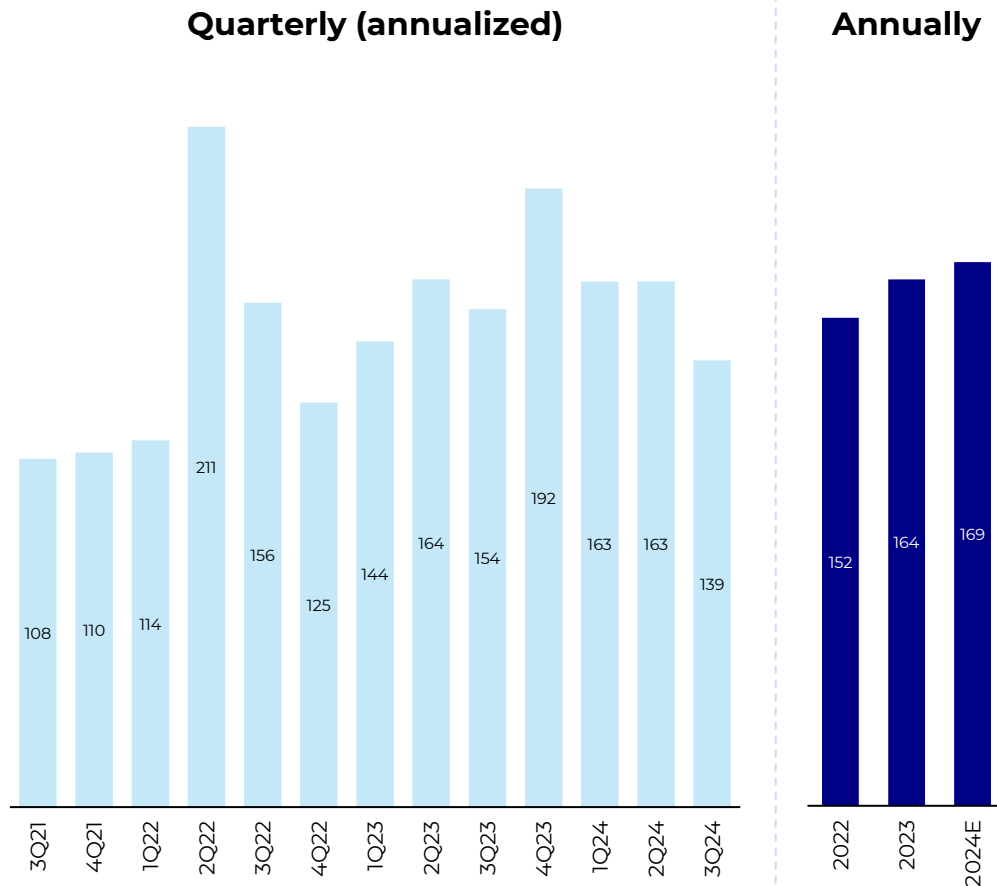
OUTLOOK

- Slower GDP growth over the first nine months prompted the Chinese government to introduce stimulus measures to reach its 5.0% annual growth target.
- This stimulus-driven industrial recovery is expected to drive coal demand, while seasonal reductions in hydro output will further support coal burn.
- Domestic coal production is expected to recover and meet winter demand, while mine safety measures remain in place.
- Winter disruptions in domestic coal supply could arise, with seaborne imports providing a stable source of supply for China.
- Thermal coal import demand is expected to remain strong through-year end and into 2025, as imported coal remains cost-competitive in coastal areas.

Monsoon rains and strong renewable output eased coal burn in 3Q24

INDIA THERMAL COAL IMPORTS*

Unit: Mt



Note: *Includes lignite grade imports

Source: Commodity Insights, Banpu MS&L

3Q24

- India's electricity demand declined in 3Q24 due to monsoon rains, which reduced cooling and industrial needs.
- Total electricity generation was 391.6 TWh, decreasing 6.5% QoQ, while increasing 0.3% YoY.
- Imported coal-fired generation fell by 1.2% YoY to 302 TWh, impacted by a conveyor system outage at Tata's Mundra UMTTP plant, while renewable, nuclear, and hydro generation were strong.
- Monsoon rains boosted hydropower, increasing output by 73.7% QoQ and 5.6% YoY.
- Domestic thermal coal production rose slightly 0.3% YoY to 206 Mt in 3Q24 but dropped from 247 Mt in 2Q24 due to rainfall disruptions in eastern India.
- Thermal coal imports in 3Q24 were 34.6 Mt, decreasing 15% QoQ and 10% YoY.

OUTLOOK

- As winter approaches, cooling-related electricity demand in India is expected to decline in 4Q24, though post-monsoon industrial recovery should support coal demand in the non-power sector.
- Domestic coal production and supply are also expected to improve with the end of the monsoon season.
- Demand for imported coal may increase as India's Federal Ministry has extended its directive for coal-based utilities to maintain high generation through December 31, from the earlier date on October 15.
- Thermal coal imports are expected to rise modestly in 4Q24, supported by economic recovery and winter restocking.
- Additionally, India awarded contracts for 12.8 GW of new coal-based capacity to meet rising electricity demand, with 28.4 GW already under construction.

Quarterly output summary

AUSTRALIA OPERATIONS: COAL OUTPUT (MT) – ROM OUTPUT ON EQUITY BASIS					
Mines	CV (kcal/kg)	1Q24	2Q24	3Q24	4Q24e
Western operations		0.6	1.5	1.5	1.0
Springvale	6,700	0.2	1.1	1.0	0.5
Clarence	6,700	0.2	0.3	0.3	0.2
Airly	6,700	0.2	0.1	0.2	0.3
Northern operations		0.8	0.7	0.8	0.6
Mandalong	6,700	0.6	0.5	0.6	0.3
Myuna	6,700	0.2	0.2	0.2	0.3
Total Australia Coal		1.4	2.2	2.3	1.6

INDONESIA OPERATIONS: COAL OUTPUT (MT) – ROM OUTPUT ON 100% BASIS									
Mines	CV (kcal/kg)	1Q24		2Q24		3Q24		4Q24e	
		Output (Mt)	Strip ratios (bcm/t)	Output (Mt)	Strip ratios (bcm/t)	Output (Mt)	Strip ratios (bcm/t)	Output (Mt)	Strip ratios (bcm/t)
Indominco	5,950 – 6,250	1.8	13.8	1.7	11.9	1.9	11.5	2.0	12.9
Trubaindo	6,550 – 6,700	0.8	13.3	0.6	17.2	0.6	15.4	0.9	11.2
Bharinto		2.2	7.3	1.8	7.1	2.8	6.6	1.8	8.1
Jorong*	5,300	0.1	4.2	0.1	3.9	--	--	--	--
Graha Panca Karsa**	3,600 – 3,800	0.03	16.3	0.2	5.0	0.4	4.6	0.4	3.3
Tepian Indah Sukses**	6,550 – 6,700	0.004	67.4	0.03	43.5	0.1	24.8	0.1	12.8
Total Indonesia Coal		4.9	10.6	4.3	10.5	5.8	9.2	5.2	10.0

CHINA OPERATIONS: COAL OUTPUT (MT) – ROM OUTPUT ON 100% BASIS					
Mines	CV (kcal/kg)	1Q24	2Q24	3Q24	4Q24e
Gaohe	4,500 – 6,800	1.9	2.2	2.5	2.4
Hebi	5,050 – 6,800	0.3	0.3	0.3	0.2
Total China Coal		2.2	2.5	2.8	2.6

Note: CV figures are air-dried basis

Remark: *In the process of preparing new coal mining area for operation by early 2025

**First coal operation in 2024

Banpu:

FX impact analysis guidance on P&L

CURRENCY EXPOSURE	NPAT IMPACT 3Q24 (US\$M)	APPROXIMATE FX EXPOSURE (US\$M)		NPAT 5% SENSITIVITY 4Q24 (US\$M)
		Net liability	Net asset	Assuming 5% depreciation of local currencies against USD
Banpu: AUD asset, THB bond, and others	-260.6	-2,200	400	THB 109
				AUD -21
ITMG: IDR asset and liabilities	14.3		120	IDR -6
BPA: USD asset and liabilities	-1.6	-4		AUD 0.1
Net	-247.8			Net 82

▪ BOT forecast 2024 GDP at 2.7% and 2025 GDP at 2.9%

▪ BI forecast 2024 GDP to 4.7-5.5%

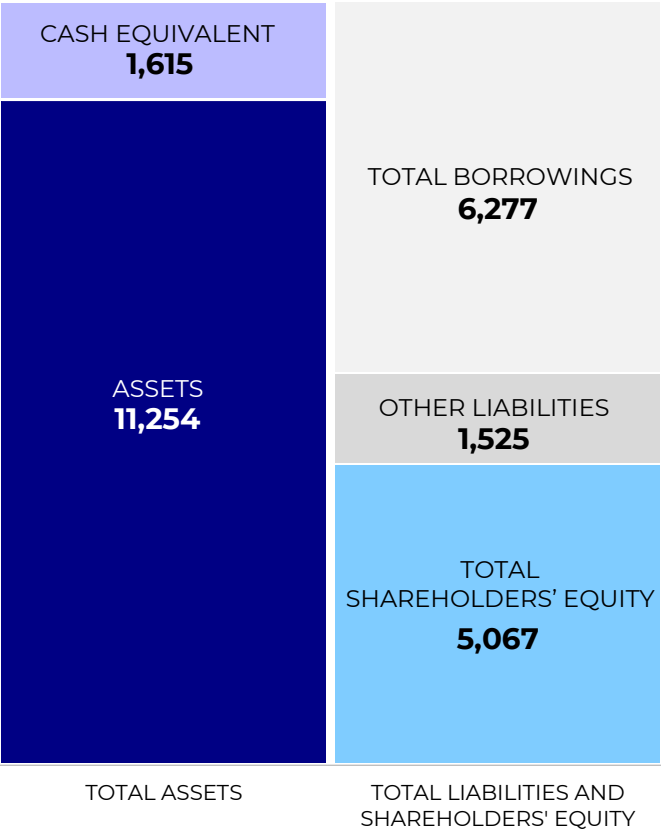
▪ RBA forecast 2024 GDP at 1.3% and 2025 GDP at 2.3%

Banpu consolidated financials:

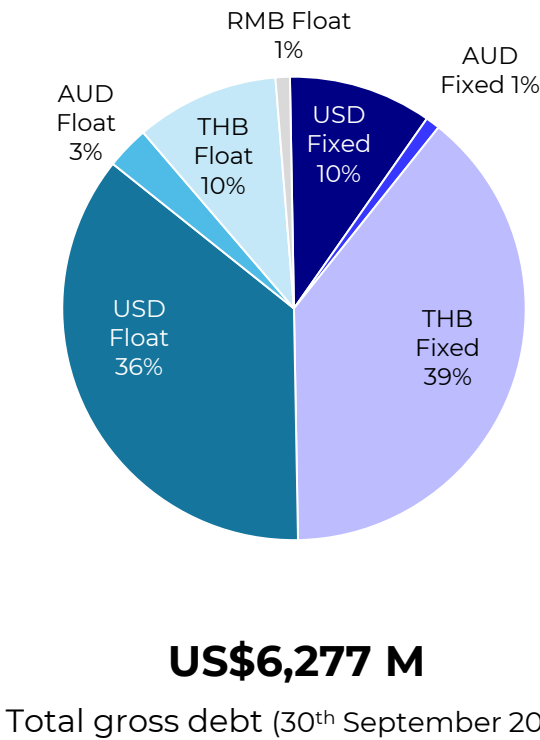
Balance sheet – 3Q24

3Q24 CONSOLIDATED FINANCIAL POSITION

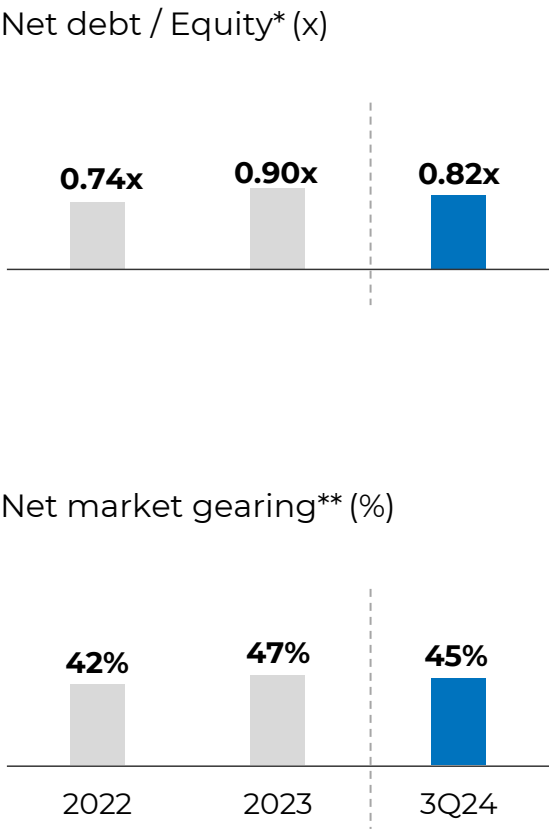
US\$ M



DEBT FX STRUCTURE



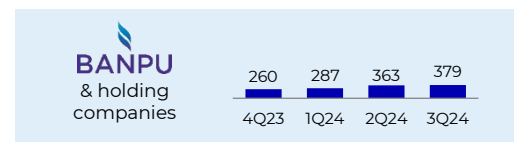
GEARING RATIOS



Note: *Net debt to book value of shareholders' equity; **Net debt to enterprise value (enterprise value = net debt + book value of shareholders' equity)

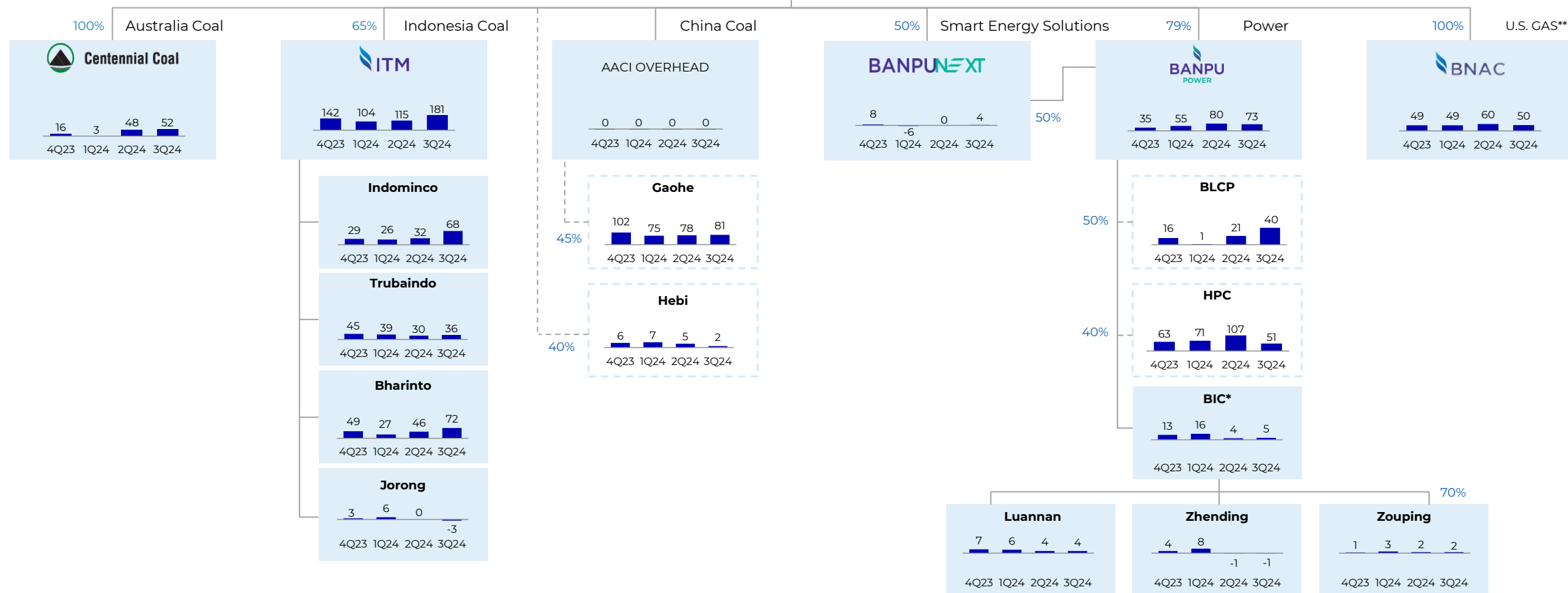
Banpu group: EBITDA breakdown

Unit: US\$ M



Consolidated

Not consolidated



Note: all ownership 100% unless otherwise shown

*Banpu Investment China

**IFRS EBITDA. Significant differences between IFRS and BKV US GAAP EBITDAX include treatment of derivative gains and losses, depletion expense, accretion expense, stock compensation expense, BNAC expenses, equity income, and contingent consideration gains and losses of asset acquisitions

Banpu group: Net debt breakdown

Unit: US\$ M



Note: All ownership 100% unless otherwise shown; *Banpu Investment China

Operating profit

US\$ M	3Q24	2Q24	3Q23	QoQ%	YoY%
Total sales revenues*	1,339	1,308	1,468	+2%	-11%
Sales revenue – Coal**	844	856	753	-2%	+11%
Sales revenue – Gas	178	178	181	0%	+4%
Sales revenue – Power	208	204	469	+2%	-58%
Sales revenue – Energy Technology	14	19	33	-26%	-59%
Cost of sales	(1,000)	(981)	(998)		
Gross profit*	338	326	470	+4%	-33%
Gross profit – Coal**	276	254	246	+9%	+8%
Gross profit – Gas	29	31	9	n.a.	+4775%
Gross profit – Power	22	29	203	-22%	-91%
Gross profit – Energy Technology	3	6	8	-43%	-60%
Gross profit margin (GPM)	25%	25%	32%		
<i>GPM – Coal</i>	<i>33%</i>	<i>30%</i>	<i>33%</i>		
<i>GPM – Gas</i>	<i>16%</i>	<i>17%</i>	<i>5%</i>		
<i>GPM – Power</i>	<i>11%</i>	<i>14%</i>	<i>43%</i>		
<i>GPM – Energy Technology</i>	<i>25%</i>	<i>32%</i>	<i>25%</i>		

Note: *Including other businesses; **Including coal trading

Operating profit

US\$ M	3Q24	2Q24	3Q23	QoQ%	YoY%
Gross profit	338	326	470	+4%	-33%
GPM	25%	25%	32%		
SG&A	(140)	(120)	(123)		
Royalty	(91)	(82)	(83)		
Income from associates	69	58	53		
Other income and Dividend	35	26	26		
Mining property	(11)	(10)	(8)		
EBIT	201	199	335	+1%	-45%
EBIT – Coal	140	123	133	+14%	-2%
EBIT – Gas	4	17	(15)	-77%	n.a.
EBIT – Power	59	63	217	-7%	-76%
EBIT – Energy Technology	(2)	(4)	(1)	-53%	135%
EBITDA	379	363	462	+5%	-23%
EBITDA – Coal	253	223	188	+13%	28%
EBITDA – Gas	50	60	39	-17%	+67%
EBITDA – Power	73	80	234	-8%	-72%
EBITDA – Energy Technology	4	(0)	3	n.a.	+40%

Net profit

US\$ M	3Q24	2Q24	3Q23	QoQ%	YoY%
EBIT	201	199	335	+1%	-45%
Interest expenses	(90)	(110)	(99)		
Financial expenses	(2)	(6)	(2)		
Income tax (core business)	(47)	(22)	(22)		
Minorities	(55)	(26)	(49)		
Net profit before extra items	6	35	163	-82%	-97%
Non-recurring items*	(8)	6	(16)		
Gain (Loss) on Derivatives Transactions	69	(11)	(66)		
Income tax (non - core business)	(9)	(9)	(15)		
Deferred tax income (expenses)	165	(14)	(45)		
Net profit before FX	224	8	21	n.a.	n.a.
FX translation	(248)	18	38		
Net Profit	(24)	26	59	n.a.	n.a.
EPS (US\$/share)	(0.002)	0.003	0.007		

Note: *Income from non-core assets and other non-operating expenses

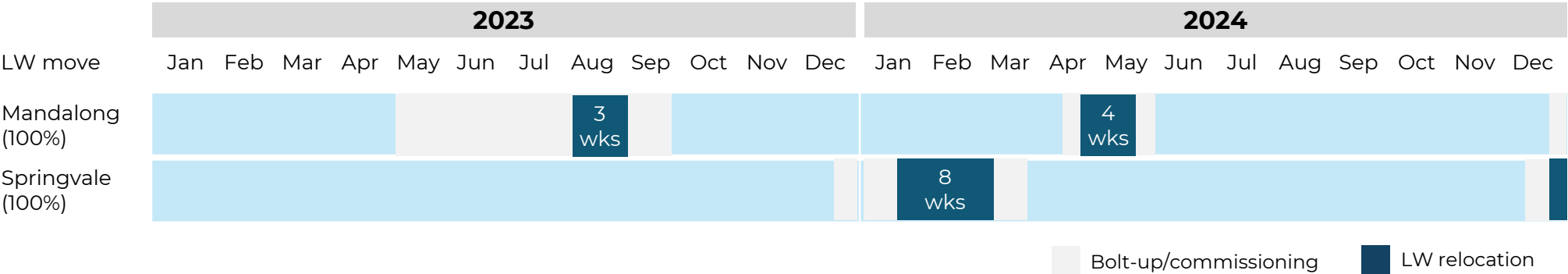
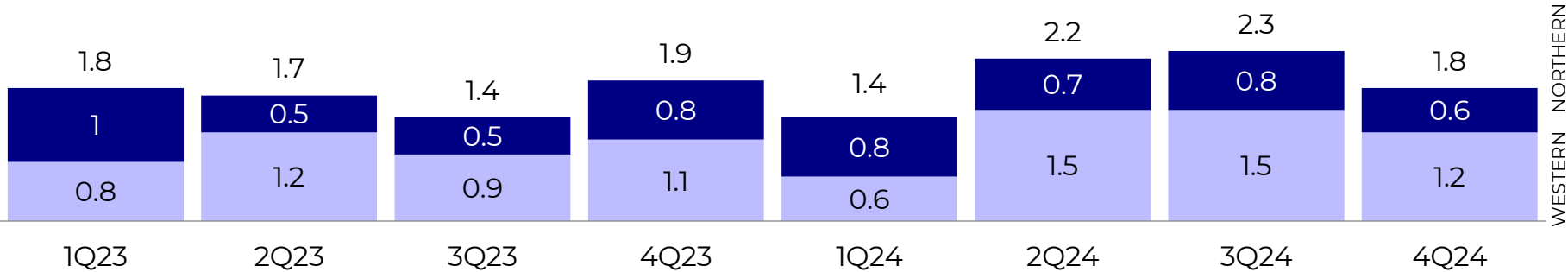
Income statement

US\$ M	3Q24	2Q24	3Q23	QoQ%	YoY%
Sales volume (Mt)	2.0	2.4	1.8	-15%	+12%
Sales revenue	220.7	284.9	195.1	-23%	+13%
Cost of Sales	(218.1)	(246.6)	(182.6)		
Gross profit	2.6	38.3	12.5	-93%	-79%
GPM	1%	13%	6%		
SG&A	(25.5)	(21.7)	(21.2)		
Royalty	(20.0)	(18.1)	(10.8)		
Other income	1.3	6.5	0.6		
Other expenses	-	-	-		
EBIT	(41.7)	5.0	(18.9)	n.a.	n.a.
Interest expenses	(11.0)	(11.1)	(8.3)		
Financial expenses	(1.7)	(1.7)	(1.7)		
Gain (loss) on exchange rate	(1.5)	(0.2)	(2.6)		
Gain (loss) on derivative	0.8	(0.4)	(7.0)		
Corporate income tax	-	-	-		
Deferred tax income	16.4	2.6	11.4		
Net Profit	(38.6)	(5.9)	(27.1)	n.a.	n.a.

Australia coal:

Quarterly equity rom output

Total equity ROM (Mt)



Note: Production generally responds to the timing of longwall changeovers (i.e., lower production results during a longwall changeover period)



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