BANPU

3Q22 results

Investor and analyst update

16th November 2022

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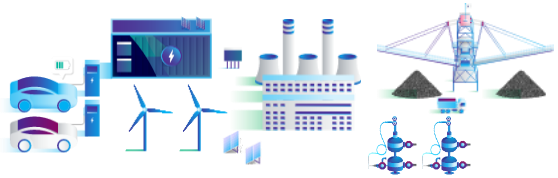
3Q22 highlights



Accelerating Banpu's Sustainability Transformation

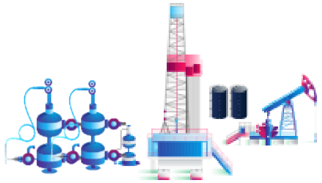
Significant progress in Greener, Smarter businesses through developments in:

China Solar Rooftops

Selected by Zhengding government to develop 58 MW solar rooftop with the potential to increase to 167 MW by 2023

Smart Cities & EMS

25% acquisition in Altotech Global, an IoT platform developer for EMS, and investment in Eurazeo Smart City Fund II, a CVC fund focusing on new energy, industrial tech, etc.

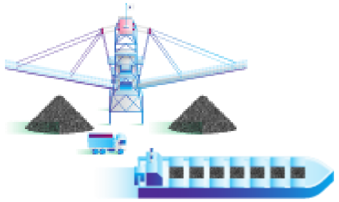


Robust Cash Flow Generation

EBITDA for the quarter was **$1,350 M** with strong contribution from Coal and Gas businesses and incremental contribution from Greener assets

ESG Leadership Recognition

ESG leadership recognition across the Banpu group, showcased by recently being awarded '**Honor' Sustainability Excellence from SET Awards 2022**



Energy Prices Strong

Gas price averages at **$8.0/MMBtu** and coal price averages at **$426/t** in 3Q22, due to continued strong demand amidst tight supply levels

Capital Raising for *Greener, Smarter* Transition

Capital raising from warrant exercise and debenture issuance to accelerate the Banpu group transition

Banpu: ESG leadership and credit rating recognition

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BANPU ESG RATING

MSCI ESG RATINGS

CCC	B	BB	BBB	A	AA	AAA

A

rating for third consecutive year for demonstrating resiliency towards long-term ESG risks and excellent risk management and mitigation relative to peers

Sustainability Award
Gold Class 2022
S&P Global

Gold

class distinction, the only company in the industry out of 29 companies being assessed to achieve the award

V.E PART OF Moody's ESG Solutions
BEST EMERGING MARKET PERFORMERS

Best Performer

Recognized as one of the top 100 Best Emerging Market Performers, out of a universe of 843 companies from 31 different countries

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

THSI
THAILAND SUSTAINABILITY INVESTMENT 2022

Awarded since 2015

Recognized in THSI for sustainable operations and responsible investment principles

HONOR
Sustainability Excellence
2022

Honor since 2018

Highest distinction in SET's Sustainability Excellence Award for being awarded the Best Sustainability Award for at least 4 consecutive years

SUBSIDIARIES

ESG EXCELLENCE — BANPU POWER

In 2021, BPP demonstrated high ESG standards through sustainable and responsible operations

Sustainability Yearbook Member 2022 S&P Global — S&P SUSTAINABILITY YEARBOOK MEMBER

SET AWARDS 2022 — COMMENDED SUSTAINABILITY AWARD

THSI THAILAND SUSTAINABILITY INVESTMENT 2021 — 5TH YEAR LISTED ON THSI

RESPONSIBLY SOURCED GAS — BKV

TRUSTWELL PROJECT CANARY 2022 GOLD — AWARDED RESPONSIBLY SOURCED GAS (RSG) CERTIFICATION WITH GOLD RATING *by Project Canary TrustWell, a 3rd party certification company*

CREDIT RATING

TRIS RATING
A Strategic Partner of S&P Global

A+

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


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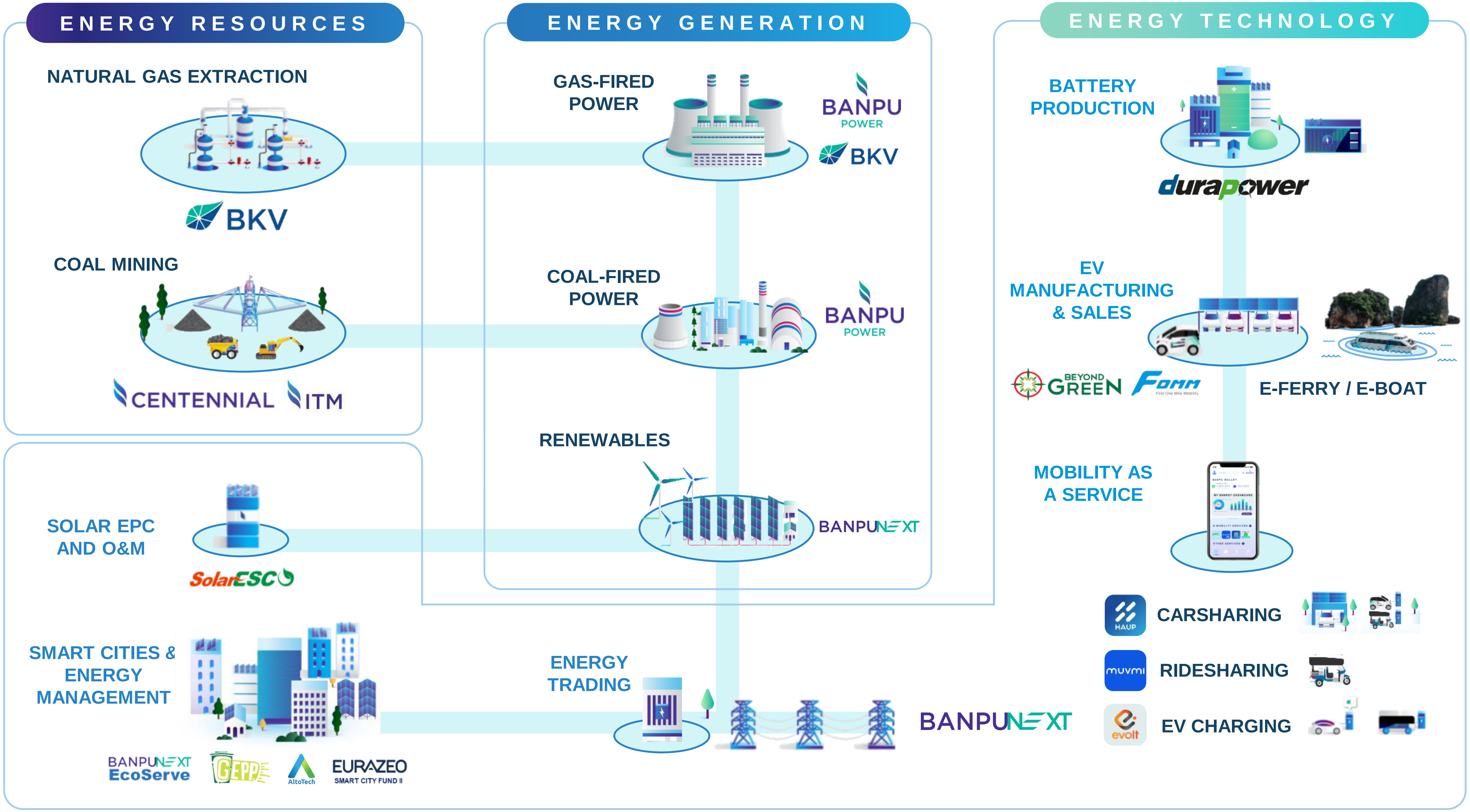
Banpu: international versatile energy provider



Banpu: driving the Greener, Smarter growth through Banpu NEXT

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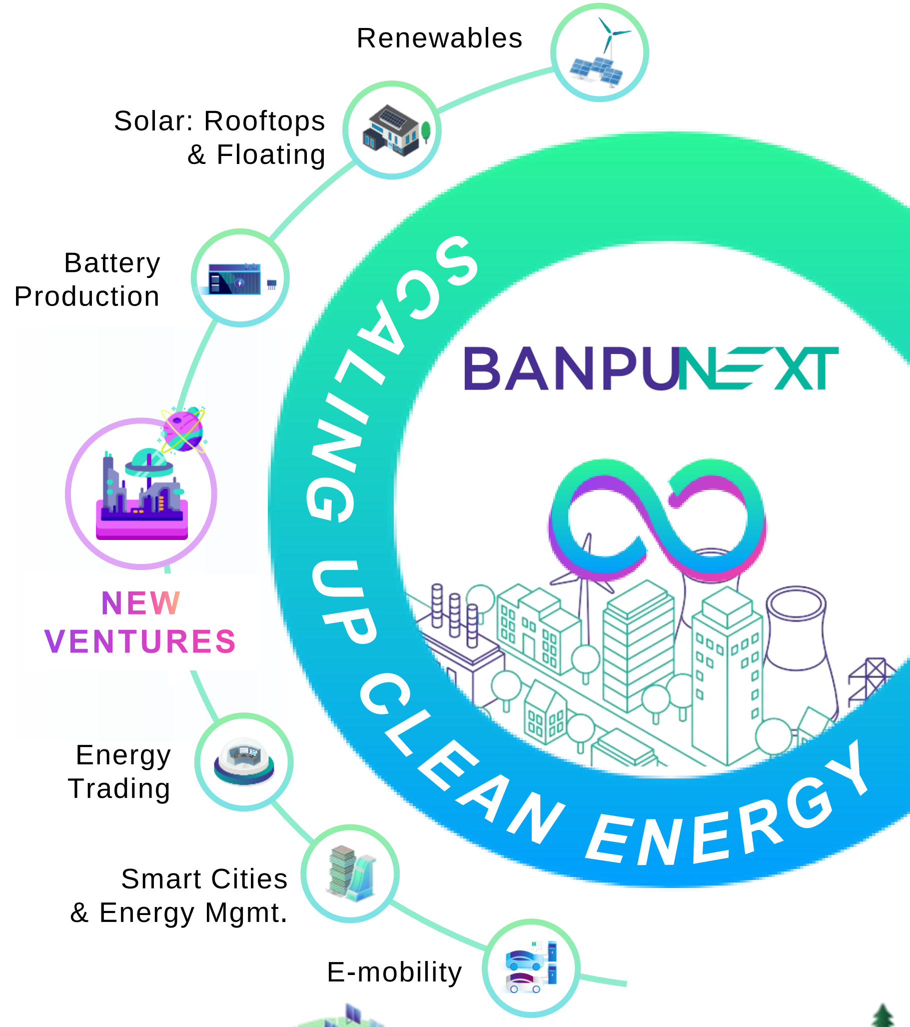
Leveraging price upside from energy resources business and steady cash flow generation from power business to…

…ACCELERATE
GREENER, SMARTER
GROWTH

- STRONG CASH FLOW GENERATION FROM OPERATIONS
- CORE COMPETENCIES
- TRANSFERABLE SKILLS
- SYNERGIES



INNOVATING INFINITE ENERGY SOLUTIONS TO ALL

Clean energy technology: catalyst for a sustainable future

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Significant growth in the area of clean energy technology, in alignment with Banpu NEXT's strategy to **accelerate the Greener, Smarter transition**

BANPUNEXT

Source: IEA Renewables 2021, IHS Markit, Bloomberg NEF

CLEAN ENERGY

Global installed renewables capacity

Solar in 2025

1.6 - 1.8 TW — 2.5x

From 0.7 TW in 2020

Wind in 2025

1.2 - 1.3 TW — 1.9x

From 0.7 TW in 2020

ENERGY STORAGE

Global demand for Li-ion battery for EV
in 2025

680 GWh — 3.2x

From 215 GWh in 2020

Installed VRFB utility-scale & commercial battery
in 2025

8 GWh — 4.0x

From 2 GWh in 2020

EV & MOBILITY

Global EV sales
in 2025

21 M cars — 3.0x

From 7 M cars in 2020

Thailand EV sales
in 2025

402 K cars — 9.8x

From 41 k cars in 2020

Banpu NEXT: Banpu's Greener, Smarter transformation

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GREENER, SMARTER TRANSFORMATION INITIATED

2017

BANPU INFINERGY establishment

- **Singapore Solar Platform** — *via investment in Sunseap Group* (SUNSEAP)
- **First battery investment** — *Li-ion production* (durapower)
- **First step into Vietnam Wind** — *80 MW wind project*

ACCELERATED GROWTH SINCE ESTABLISHMENT TO TODAY

2019

BANPU NEXT establishment

- **E-mobility in Thailand** — First steps into EVs including launch of e-ferry for tourism (HAUP, muvmi, Fomm)
- **Energy Trading in Japan** — Gaining know-how in liberalized markets
- **Solar rooftops in Thailand**
- **End-to-end waste management platform** (GEPP)
- **Expanding the Energy Tech Ecosystem** — Continued investments into e-mobility and energy management businesses (BANPU NEXT EcoServe, Beyond GREEN, evolt)
- **Australia & Vietnam Solar**

2019-2022

GROWTH IN 2022

3Q22 — Smart cities & EMS

- **Altotech acquisition:** (AltoTech, THAILAND) Acquired 25% of Altotech for IoT space and data analytics development in energy management systems
- **Smart city fund investment:** (EURAZEO SMART CITY FUND II, GLOBAL) Invested US$15 M into Eurazeo's Smart City Fund II, a CVC fund focusing on new energy, smart mobility, etc.

2Q22

- **Solar rooftop**
  - **Signed PPA:** INDONESIA — PT. CPI signs solar rooftop PPAs with 7.3 MW total capacity (CPI, ITM)
  - **Solar ESCO Acquisition:** VIETNAM — solar rooftop platform in Vietnam with 6 MW of equity capacity (SolarESCO)
- **Stationary batteries: LiV Energy Venture** — SINGAPORE — Joint Venture for Lithium-Vanadium hybrid ESS (BIV, FLOW TECH)

1Q22

- **Energy management: BNSP Joint Venture** — SINGAPORE — **JV with SP Group** to expand capabilities in district cooling systems (SPgroup)
- **Li-ion battery production:** THAILAND — **Strategic partner with Cherdchai Motor Sales** for 1 GWh battery plant by 2026 (BANPU NEXT, durapower, CHERDCHAI)

Banpu NEXT: scale-up strategy for future positioning

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STRATEGY AND DIRECTION

1 Value creation through meaningful megawatts

Invest into high-quality renewable assets with potential growth pipeline and high cash flow generation potential

2 Scale-up targeted ecosystem portfolio

Expansion of portfolio on focused business areas and effective opportunity pipeline management

Energy Storage | Energy Efficiency & Management | E-Mobility | RE (Solar RT, Microgrid) | Energy Trading

3 Manage invested partners to maximize synergies and returns

Enhance synergy value with partners and rationalize portfolio with carefully executed growth and exit strategy

4 Penetrate new S-curve business and technology

- Explore and acquire new focused energy tech businesses
- Enhance and expand collaboration with expertise networks and partners

Energy-related ventures | **Beyond energy** | **Tech enablers**

Current position and future targets

BANPU

	2019	Current	2025 target
RENEWABLES	307 MW	805 MW	1.1 GW
SOLAR: ROOFTOPS & FLOATING	109 MW	198 MW	500 MW
BATTERY PRODUCTION *100% basis*	1.0 GWh	1.0 GWh	3.0 GWh *Durapower* 0.75 GWh *Cherdchai Motor JV*
SMART CITIES & ENERGY MGMT *including Ecoserve*	4 projects	21 projects	30 projects
ENERGY TRADING	-	428 GWh	2,000 GWh
E-MOBILITY	muvmi: Ridesharing; FOMM: EV	HAUP: Carsharing; BEYOND GREEN: EV; evolt: EV charging	MaaS *Mobility-as-a-service*

2030 target

Integrated clean energy ecosystem

Note: Current and target capacity are based on Banpu group's 100% basis

Banpu NEXT: our purpose and aspirations

BANPU

the Vision

Innovating infinite energy solutions to all

To provide innovative energy technology solutions ranging from smart data analytics to energy generation and storage for sustainability

the ambition.

Net Zero Solutions Provider & One-Stop Solution for Smart Energy

Just transition for not only Banpu, but to support other companies’ transition towards **Carbon Neutrality** and **Net Zero** for a sustainable future

the Mission

To become a global energy solutions provider that innovates betterment for all and generations to come

01 Highlights 3Q22

02 Greener, Smarter … Faster !

03 **Financial Summary**

04 Energy Resources

05 Energy Generation

06 Energy Technology

Banpu consolidated financial summary 3Q22

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KEY FIGURES

EBITDA **$1,350 M**

Strong result driven by Coal and Gas business contribution, supported by commodity price levels. Stable contribution from Power and other businesses.

NPAT **$487 M**

Strong performance, with strong EBITDA generation and improved operational results

ND/E **0.88 x**

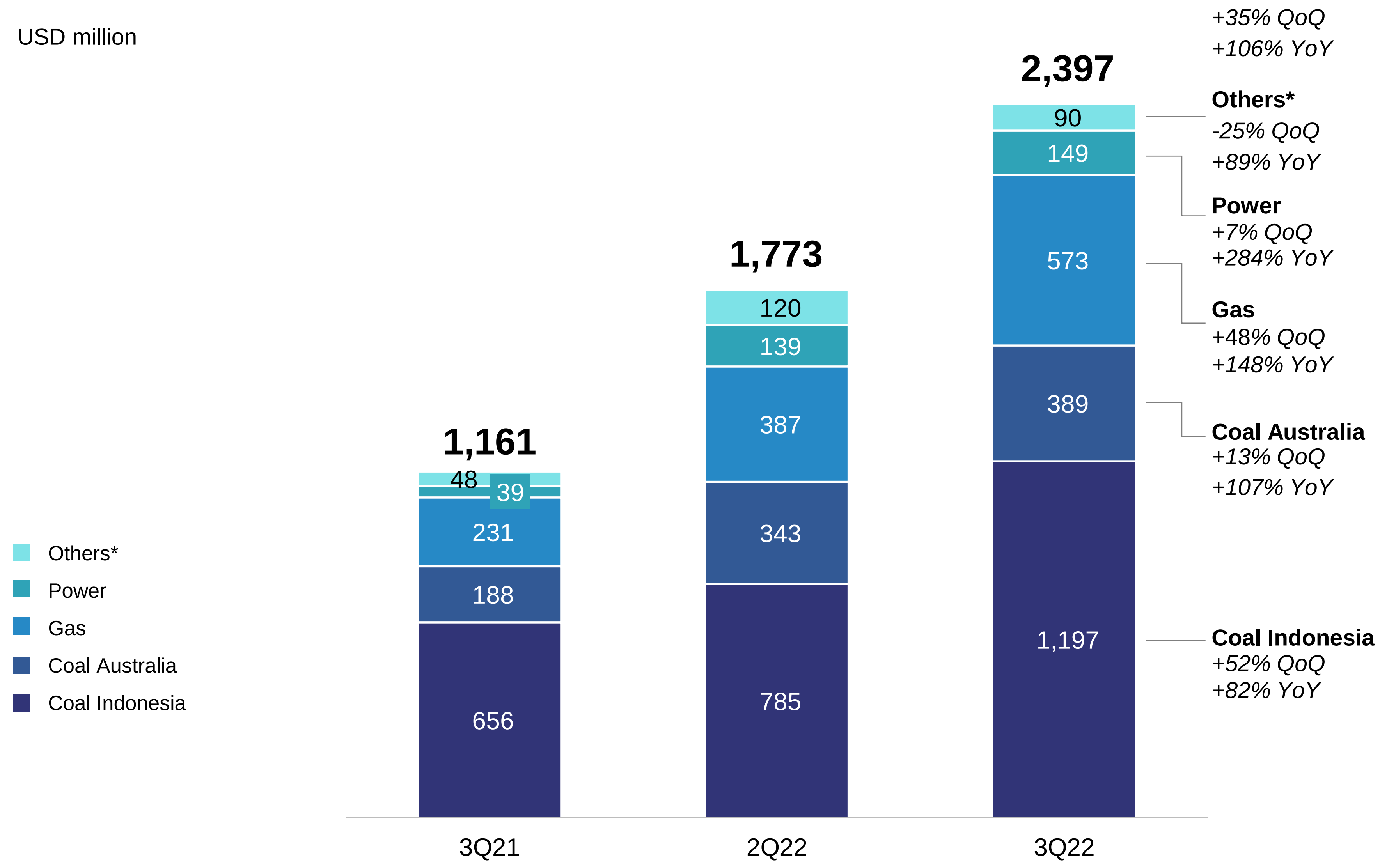
ND/E decreased from 1.13 x in the previous quarter following a strong performance in 3Q22

KEY TAKEAWAYS

1. **Continuous strong Coal business performance:** from solid production volume and higher ASP, compared to relatively strong levels of 2Q22, driven by strong coal prices, demand and supply tightness
2. **Strong contributions from Gas business:** supported by higher average local price* levels and higher production volumes
3. **Strategic positioning:** Coal and Gas businesses well-positioned to benefit from current commodity price levels and demand upside
4. **Greener, Smarter investments:** cash flow generation captured from Greener Investments including: Nakoso IGCC, Australia Solar, Temple I CCGT, Japan Solar, Vietnam Wind, Vietnam Solar and North Texas

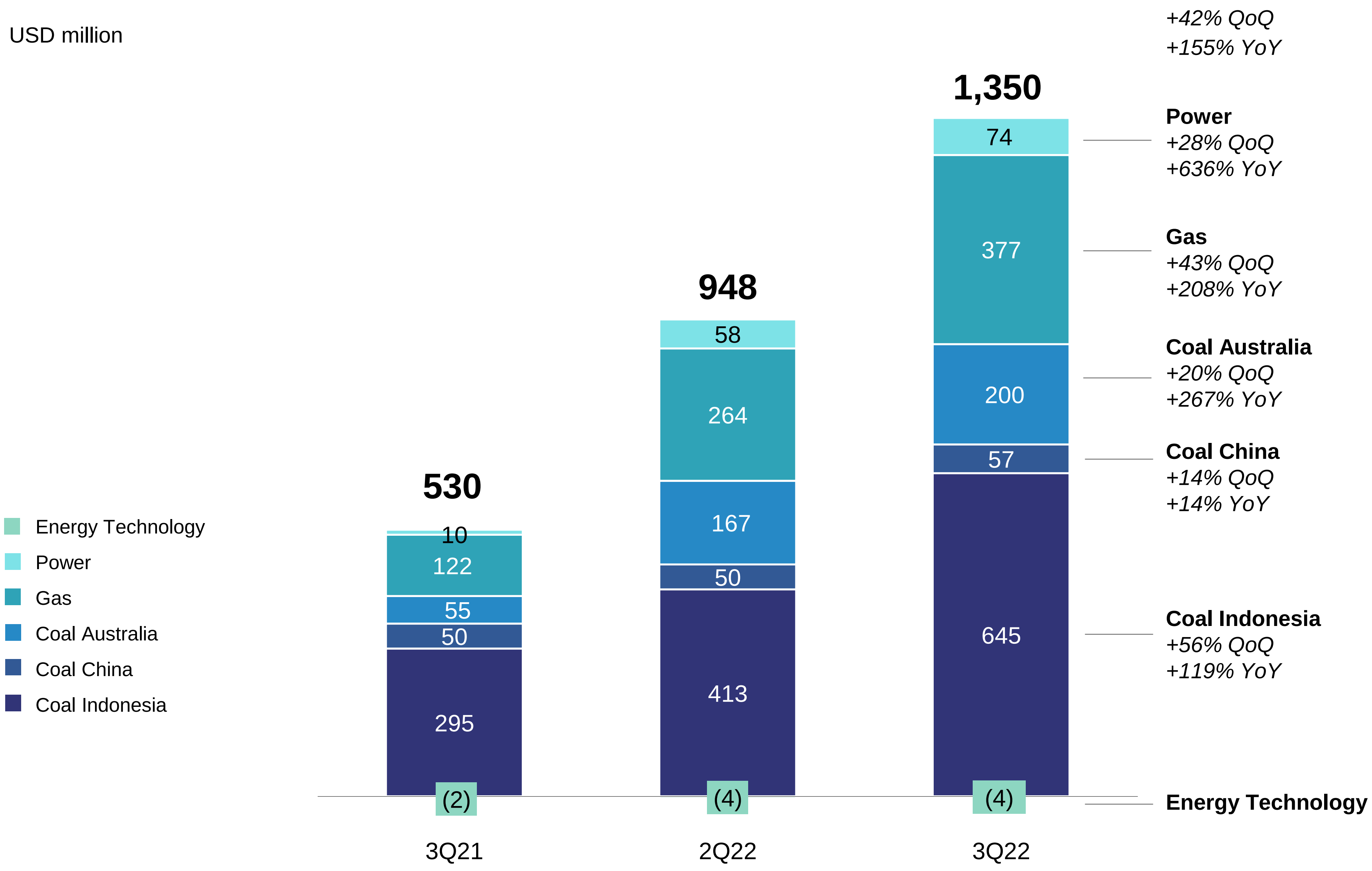
Note: *Average local price = Henry Hub - basis differential

Banpu consolidated sales revenues – 3Q22



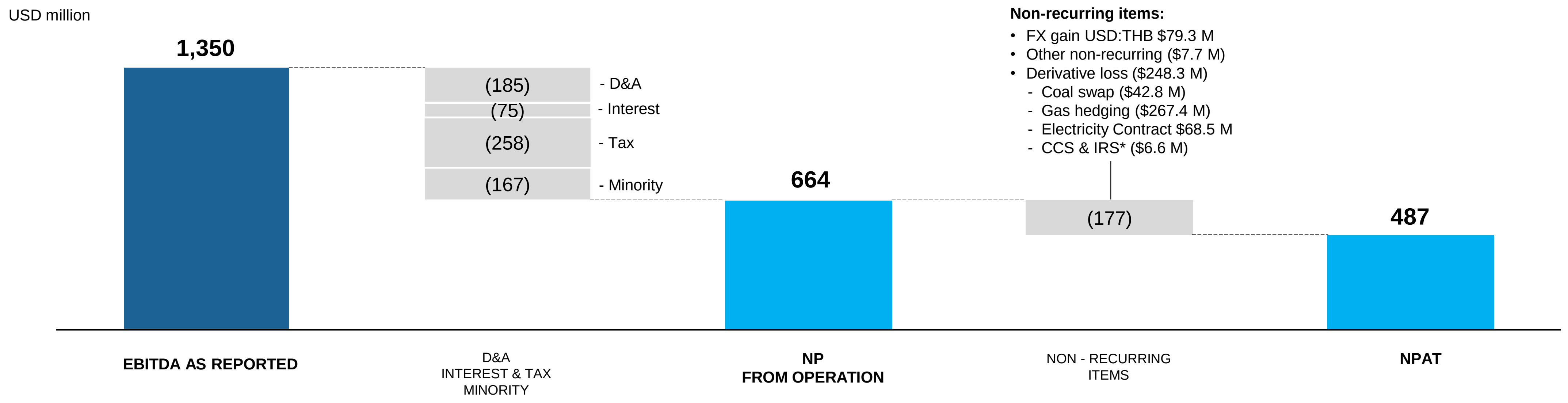
Note: *Revenue from others includes coal trading, and other businesses

Banpu consolidated EBITDA – 3Q22

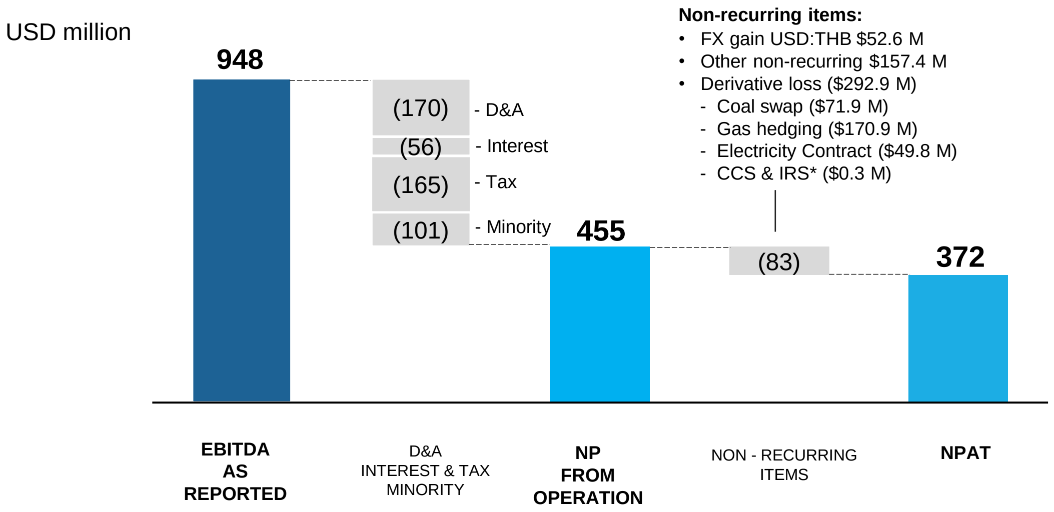


Banpu consolidated NPAT – 3Q22

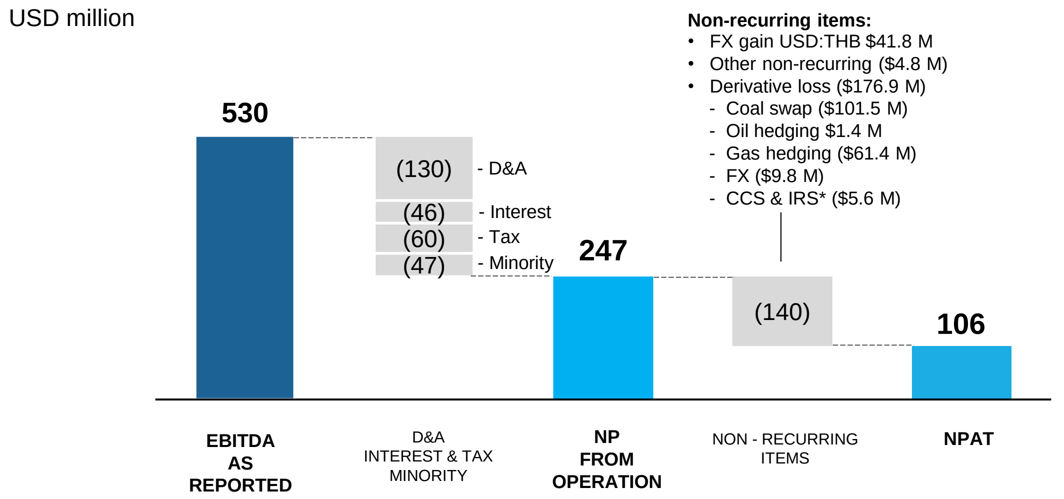
3Q22 NET PROFIT AFTER TAX



2Q22 NET PROFIT AFTER TAX



3Q21 NET PROFIT AFTER TAX



Note: *cross currency swap, interest rate swap


HD785
KOMATSU
746
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U.S. gas market update

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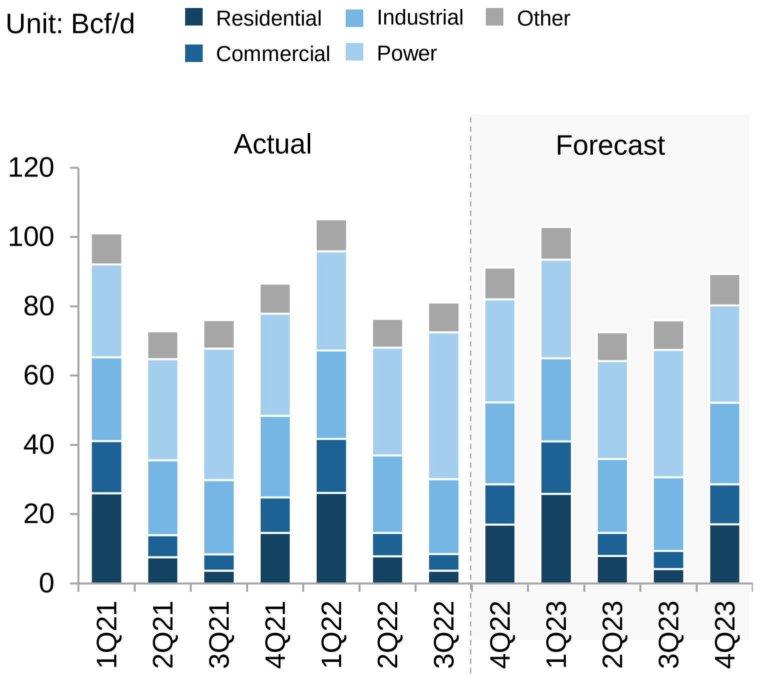
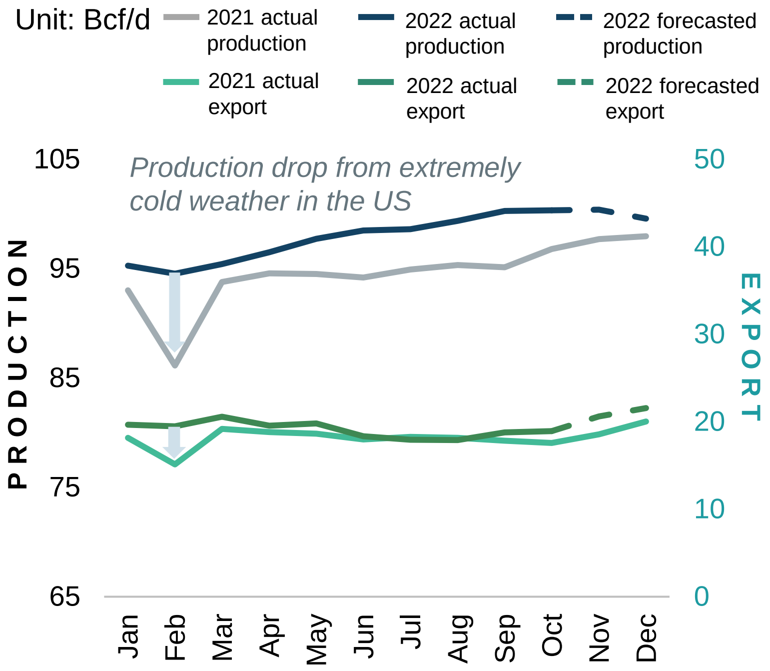
US CONSUMPTION & PROJECTION



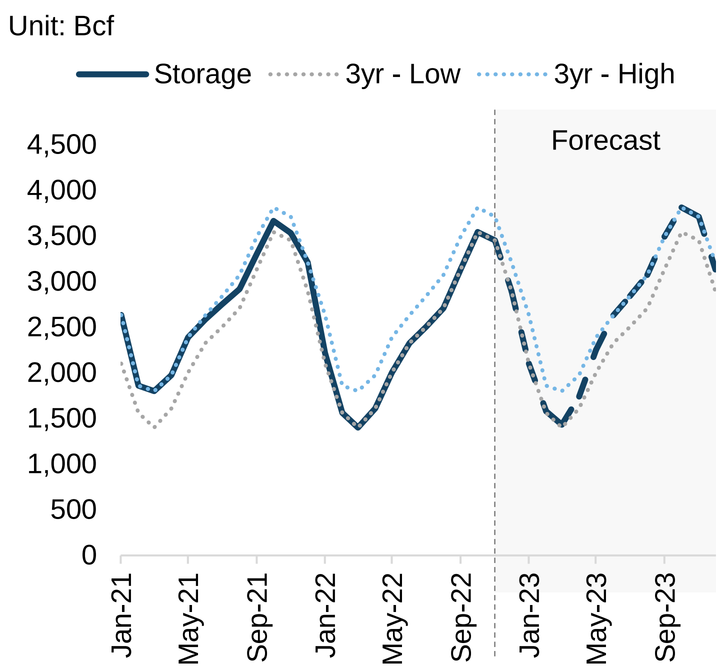
- Majority of US gas demand is domestic consumption. Price is largely determined by local demand and supply with indirect linkage to oil via associated gas production.
- Consumption in the US averaged at 81.1 Bcf/d in 3Q22, up 6% from 2Q22, mainly due to higher consumption from power sector.
- Consumption is forecasted to average at around 88.4 Bcf/d in 2022, up 5% from 2021.

US NATURAL GAS PRODUCTION



- US gas production is forecasted to increase to 100.1 Bcf/d in 4Q22 and average at 98.1 Bcf/d in 2022, up 4% from 2021.
- US LNG exports are expected to increase to 11.3 Bcf/d in 4Q22, up 15% from 3Q22, and average at 10.9 Bcf/d in 2022, up 11% from 2021. The increase is mainly due to the restart of Freeport LNG following the fire incident in June.

U.S. STORAGE LEVEL

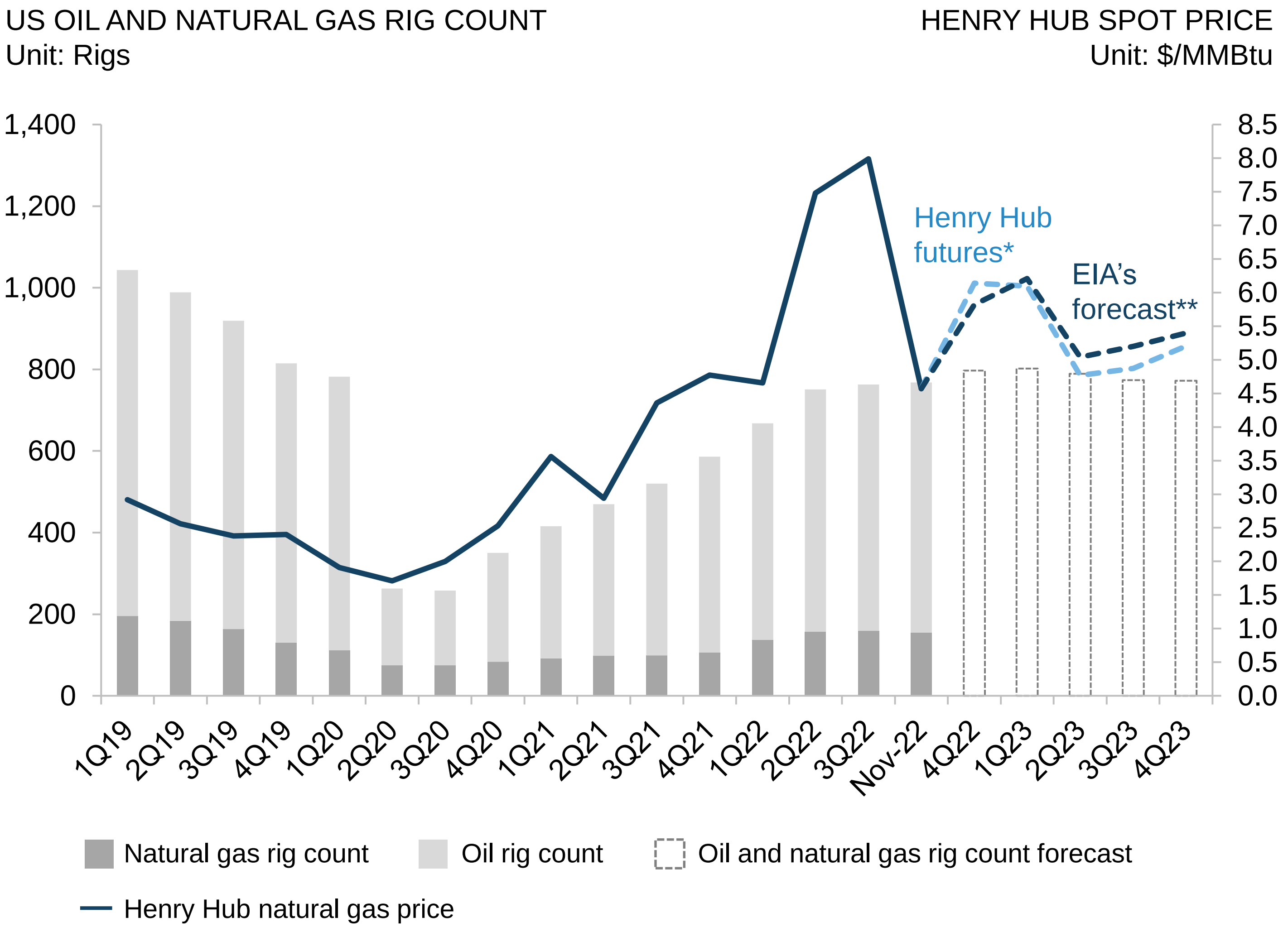


- Natural gas inventories in October 2022 ended at 3.5 Tcf, 4% below the 5-year average. Stocks were 0.1 Tcf less than the same period last year and the 5-year average of 3.6 Tcf.
- Higher-than-average injections into storage in September and October reduced the deficit of natural gas inventories to the 5-year average.

Source: EIA Short-Term Energy Outlook (November 2022)

U.S. gas: gas prices expected to remain high amid winter season

US RIG COUNT VS HENRY HUB PRICE



Note: *As of November 8th, 2022, **Short-Term Energy Outlook (November 2022)
Source: IHS Markit report (July 2022) and Baker Hughes US natural gas rotary rig count (November 2022)

COMMENT

- Natural gas prices in 3Q22 increased from the previous quarter driven by continued surge in gas demand in Europe and supply disruptions globally.
- Capital spending is expected to slow down towards the end of 2022 due to the lack of completion crews to bring wells to production and increasing dividend distribution by rig operators.
- Oil and gas rigs are expected to increase slightly in 4Q22, up 4% from 3Q22 but remain at levels 24% lower than 1Q19.
- Henry Hub futures signal to increase from the current spot price to around $6.1/MMBtu in 1Q23 and decline to around $4.7-4.9/MMBtu levels in the following quarters.

Banpu Gas: 3Q22 highlights

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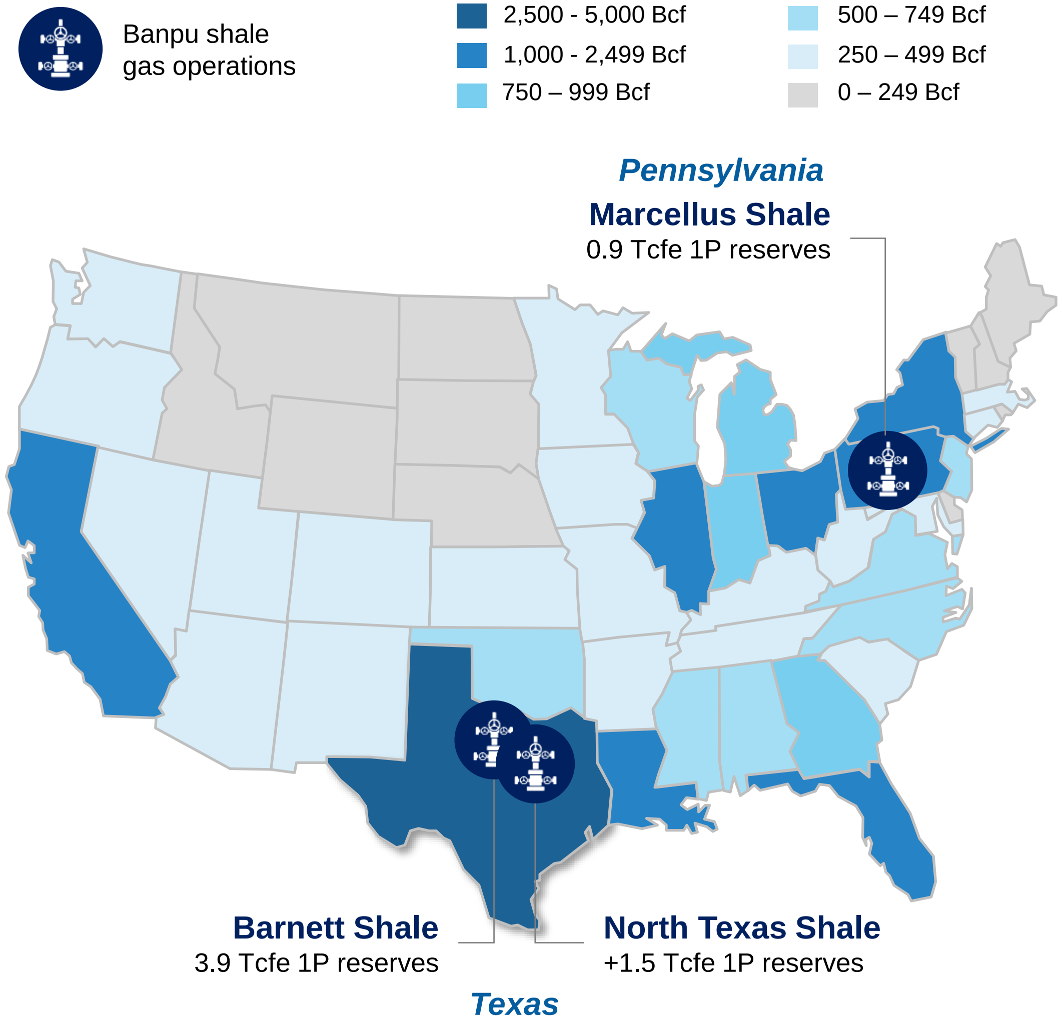
US DRY GAS CONSUMPTION 2021 BY STATE*



Average local price**

$7.61/Mcfe

+15% QoQ

Sales volume

78 Bcfe

+32% QoQ

EBITDA***

$377 M

+43% QoQ

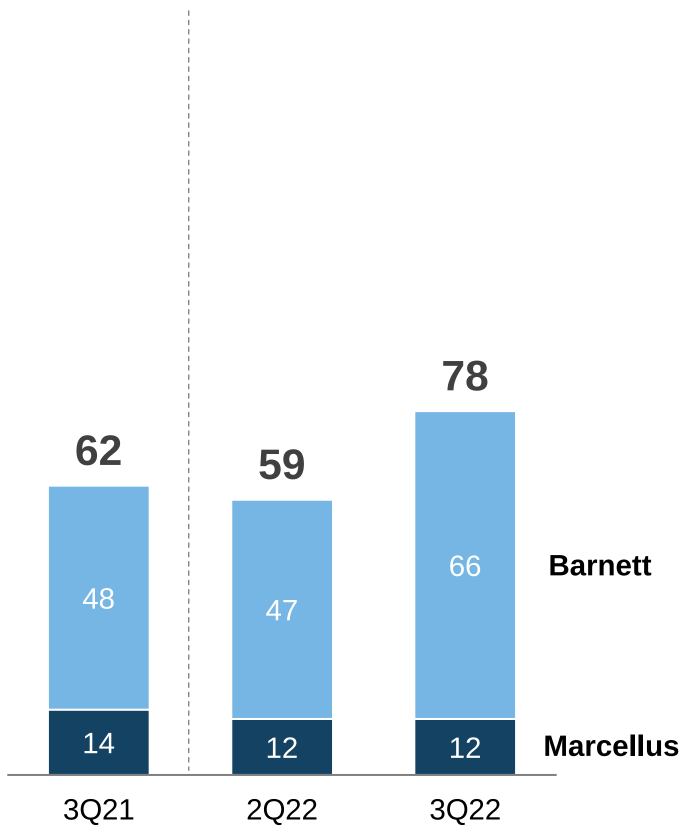
Notes:
* Source: EIA
** Average local price = Henry Hub - basis differential
*** IFRS EBITDA. Significant differences between IFRS and BKV US GAAP EBITDAX include treatment of derivative gains and losses, depletion expense, accretion expense, stock compensation expense, BNAC expenses, equity income, and contingent consideration gains and losses for asset acquisitions

Banpu Gas: 3Q22 performance

3Q22 EBITDA of $377M reflected strong underlying performance post-North Texas integration, higher average local price, and additional production from the new asset and ongoing initiatives in the legacy assets.

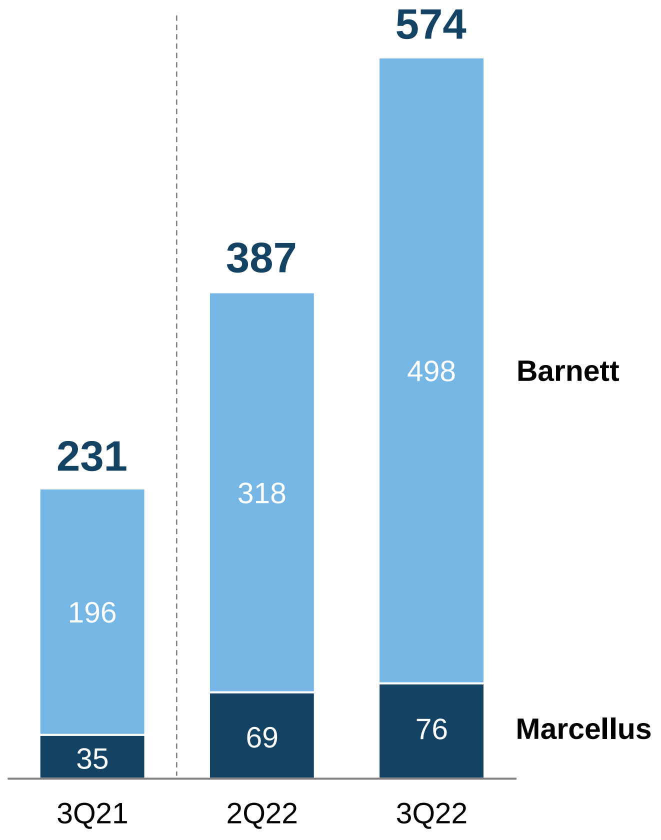
SALES VOLUMES

Unit: Bcf*



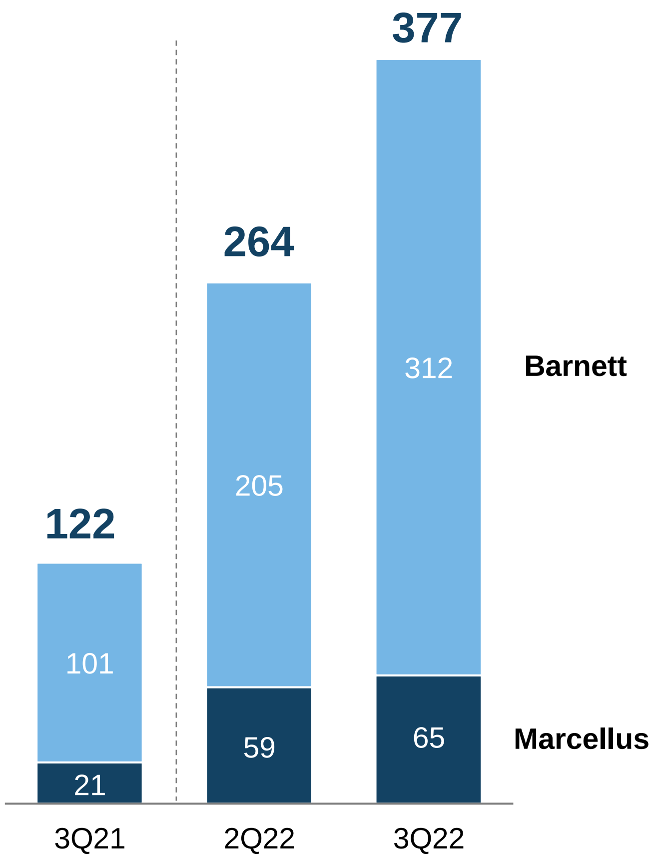
TOTAL REALIZED REVENUE**

Unit: US$M



EBITDA***

Unit: US$M



Notes:
* Bcf = Billion cubic feet
** 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
*** 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

Global thermal coal market

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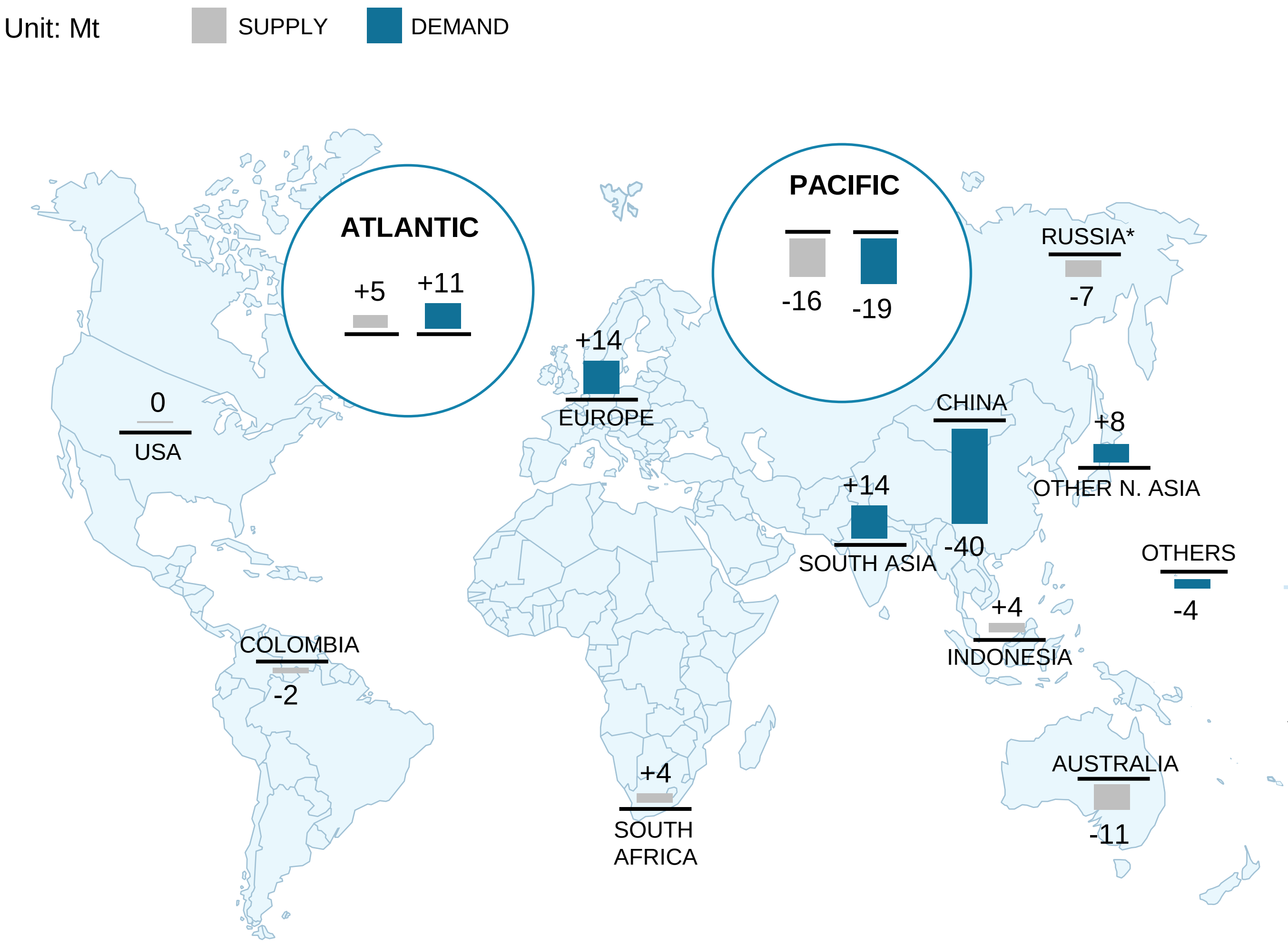
COAL DEMAND AND SUPPLY CHANGE – 2022E VS 2021



Note:*Russia exports to non-CIS countries only, JKT = Japan, South Korea and Taiwan

TRENDS

DEMAND

*Mild weather conditions helped ease the global thermal coal market ahead of winter. However, HCV demand is expected to remain strong **due to** the ban on Russian coal and expected colder-than-normal winter in the northern hemisphere. LCV market is weaker as China's imports have plummeted and are facing high competition from Russian coal.*

- **China:** Covid-19 and safety restrictions impacted coal supply chains and drove domestic coal prices up. Supply concerns encouraged buyers to keep sourcing imported coal. China is still the main market driver for mid- to low-CV market.
- **India:** Coal demand is expected to remain strong in Q4 due to the season of festivities when contributions from hydro and renewables generally remain subdued. High discount of Russian coal remains attractive for Indian buyers.
- **JKT:** Most utilities have secured enough stocks of HCV coal for winter. However, coal demand is expected to grow as South Korea lifted restrictions on coal burn while La Nina weather condition is expected to persist through winter.
- **Europe:** Coal burn remains strong as governments seek to preserve European gas supplies for the upcoming winter to help fuel heating demand. While sanctions on Russian coal came into force on 10th August. The EU's plan to cut gas consumption, intervene power market and cap energy prices helped to push coal prices down.

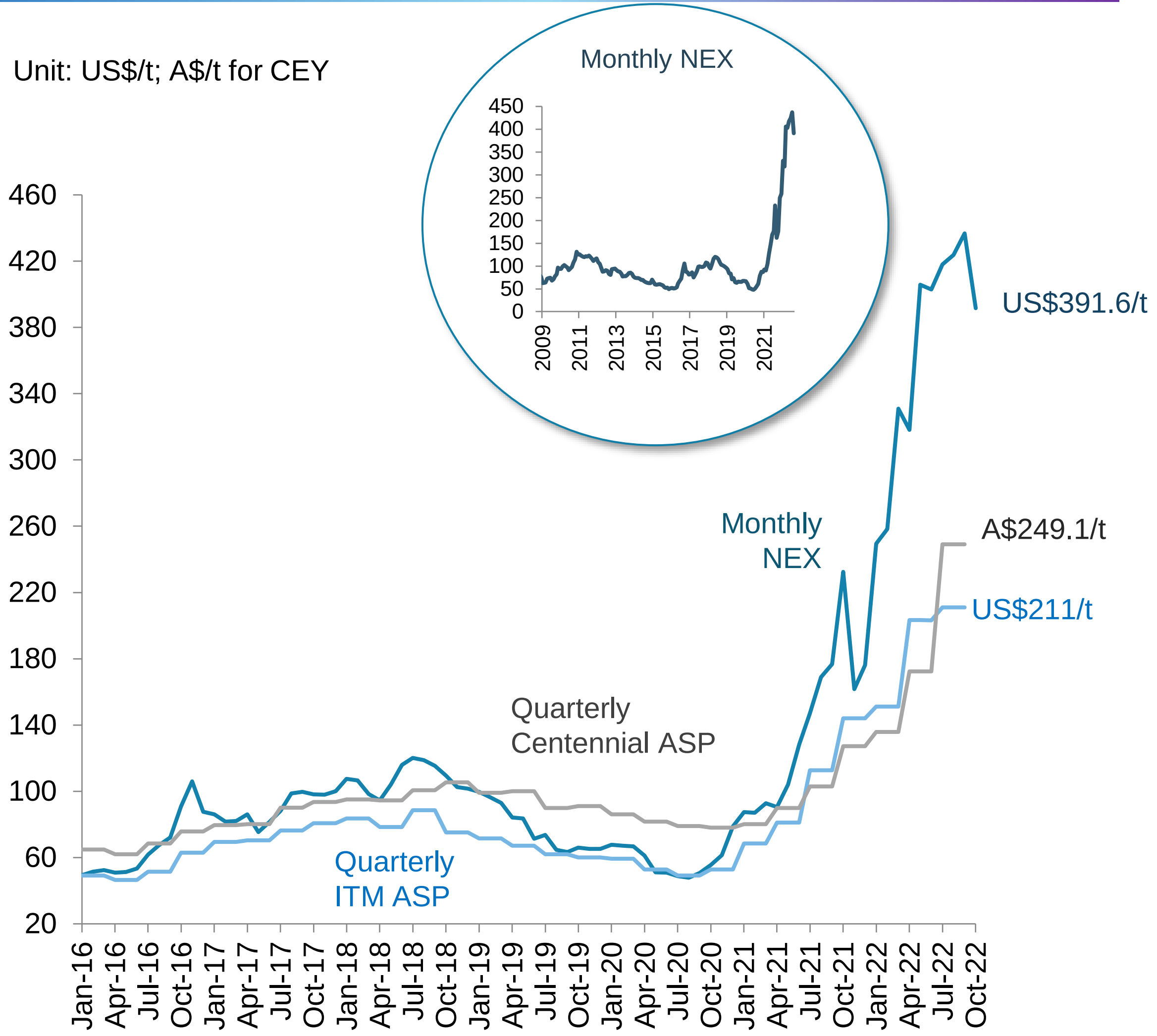
SUPPLY

HCV supply remains tight due to continued rainfall in Australia and limited upside from other origins. Mid-to-low CV supply is expected to remain healthy from steady Indonesian production and ample supply of Russian coal into Asia.

- **Indonesia:** Coal production remains strong, but more rainfall and high domestic demand are likely to limit availability of spot cargoes for exports, while more Indonesian coal are heading to Europe.
- **Australia:** Supply still struggling due to continued rainfall. La Nina weather condition is likely to stay until March 2023.
- **Others:** Russian exporters divert coal to Asia as the sanction came into effect while spot availability at far east port is limited for the near term. South African exports continue to be capped by logistical constraints. Colombia's exports to Europe soar but there is little scope for a production improvement.

Banpu ASPs vs thermal coal benchmark prices

BANPU ASP VS BENCHMARK PRICES



Note: *Includes post shipment price adjustments as well as traded coal
**The Newcastle Export Index (NEX)

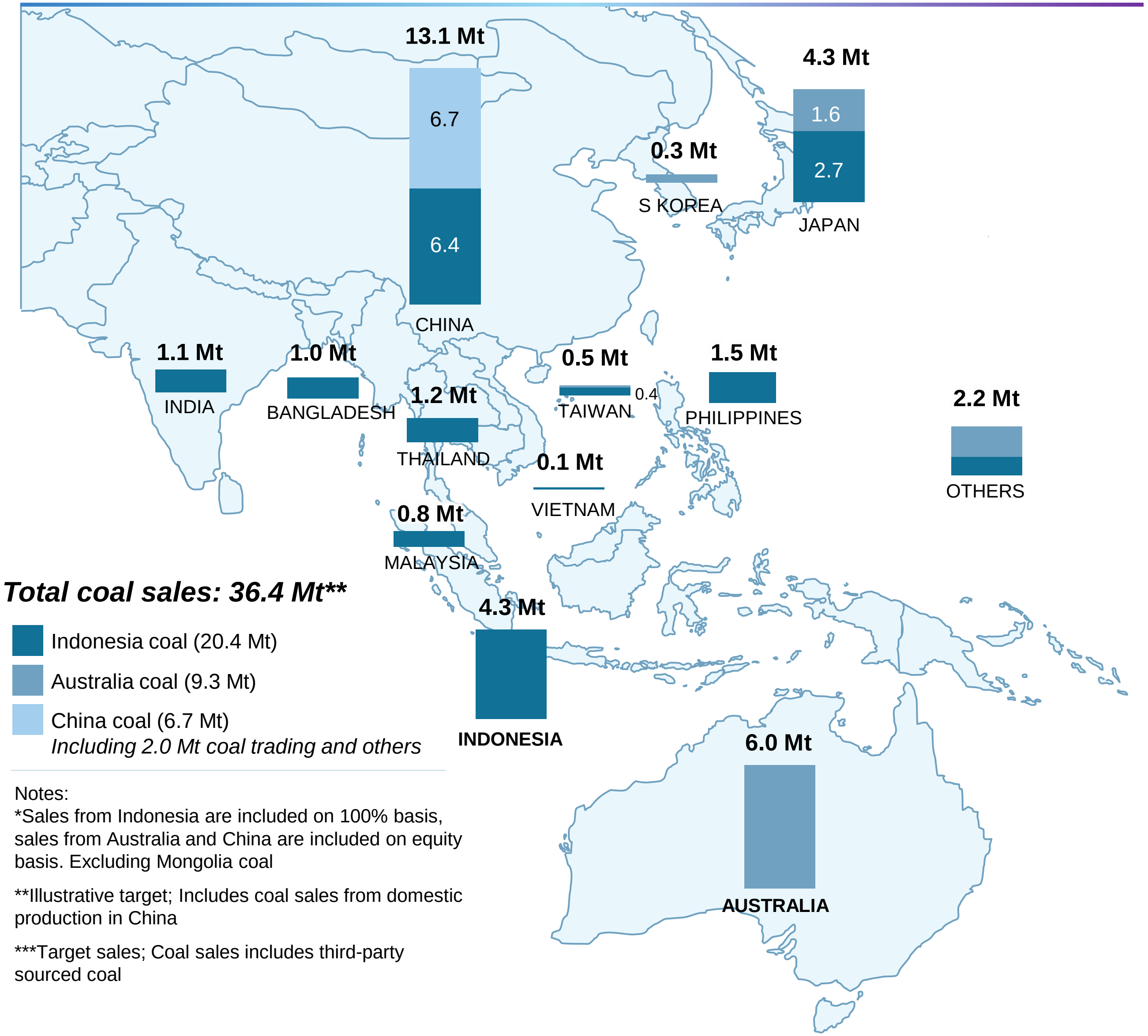
COMMENTS

- The overall seaborne premium thermal coal market remained extremely strong through 3Q22, mainly due to the strong gas market, as well as the wet weather in major coal fields in Australia.
- On 6 September, GCNewc hit US$466/t, breaking the previous record (US$463/t in May). Since early September, the coal market started weakening until the end of Q3. As a result, GCNewc monthly average price has continuously rewritten historical records through Q3 (US$410.83/t for July, US$417.39/t for Aug., and US$434.02/t for Sep.)
- The lower quality thermal coal market has been relatively volatile during Q3. ICI hit the bottom in late August, then gradually recovered through September, mainly due to the hot, dry prolonged summer in major industrial areas of China prompting strong Chinese import demand. Despite the mild recovery, the average price level of mid-low CV Indo coal market in 3Q22 was lower than 2Q22 level.
- We see 3Q22 could be the peak of premium specification thermal coal in a foreseeable future, while the fundamentals of the thermal coal market is still relatively strong, considering the geopolitical environment.
- Demand for off specification thermal coal has become relatively strong due to stronger-than-expected Chinese demand and new demand from traditional premium coal buyers.
- Banpu Group ASP in Q3 continued to increase, especially for export portions.
- Key price metrics:
  - ITM ASP 3Q22 : US$211/t* (+4% QoQ)
  - CEY ASP 3Q22 : A$249.1/t* (+45% QoQ)

    ASP Domestic A$102.7/t (+28% QoQ), ASP Export A$575.5/t (+63% QoQ)
  - NEX (November 4, 2022)**: US$375.5/t

Banpu Mining: group coal sales and pricing status 2022e

2022e COAL SALES* SOURCE – DESTINATION ANALYSIS



Total coal sales: 36.4 Mt*

- Indonesia coal (20.4 Mt)
- Australia coal (9.3 Mt)
- China coal (6.7 Mt)
  Including 2.0 Mt coal trading and others

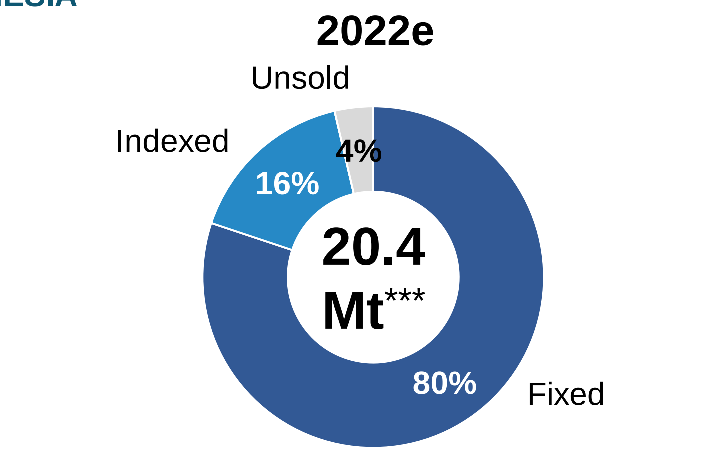
Notes:
*Sales from Indonesia are included on 100% basis, sales from Australia and China are included on equity basis. Excluding Mongolia coal

**Illustrative target; Includes coal sales from domestic production in China

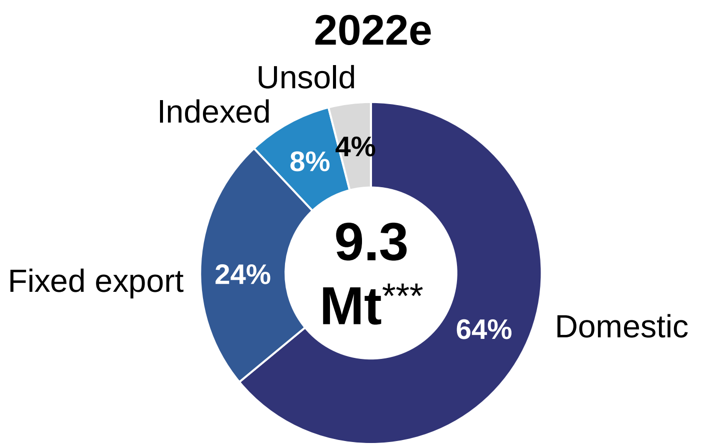
***Target sales; Coal sales includes third-party sourced coal

COAL SALES PRICING STATUS

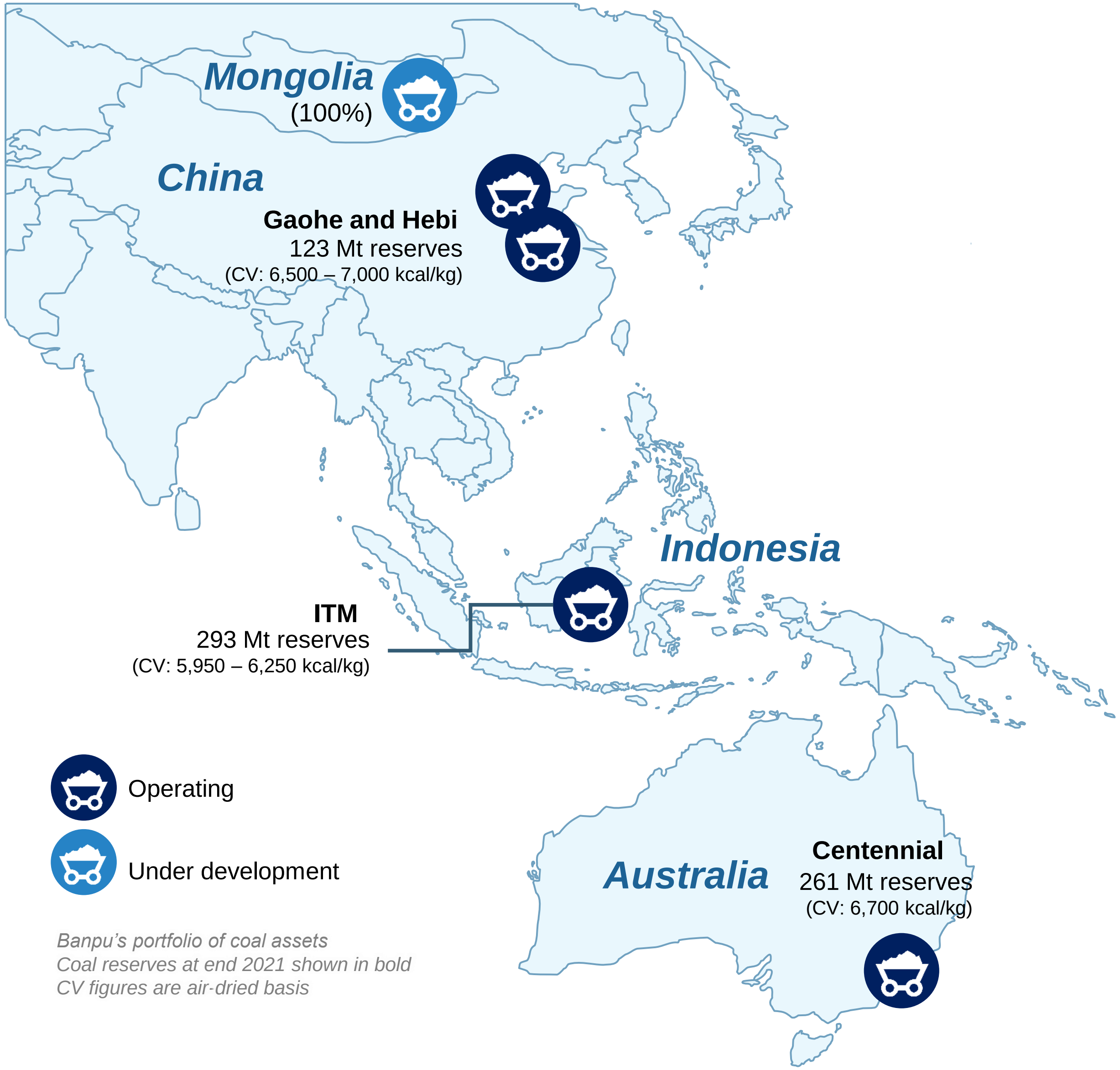
INDONESIA



AUSTRALIA



Banpu Mining: 3Q22 highlights



Banpu's portfolio of coal assets
Coal reserves at end 2021 shown in bold
CV figures are air-dried basis

Production volume*

9.5 Mt

+3% QoQ

Sales volume*

11.1 Mt

+10% QoQ

EBITDA

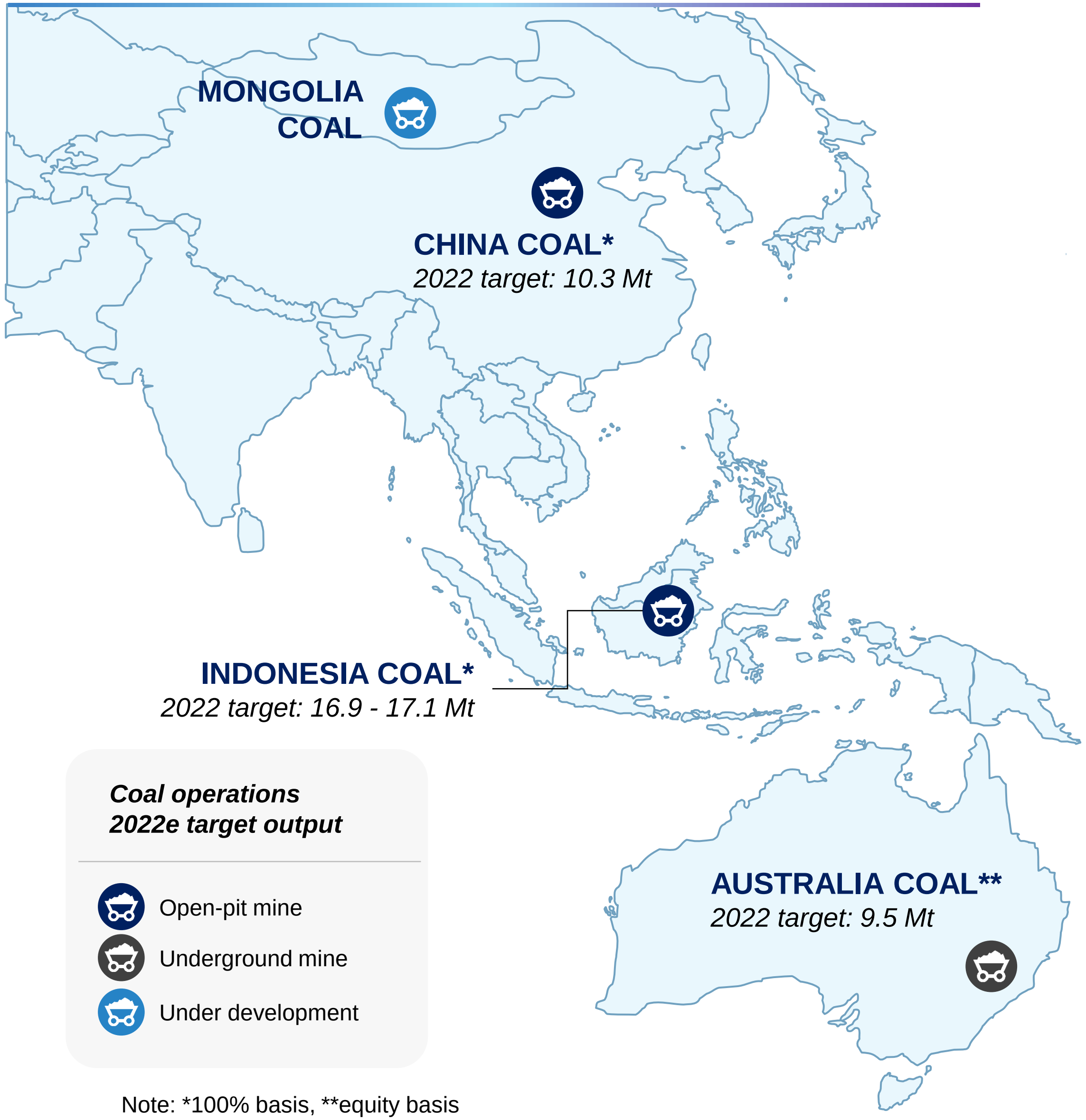
$902 M

+43% QoQ

Note: *Based on 100% basis

Banpu Mining: operational summary

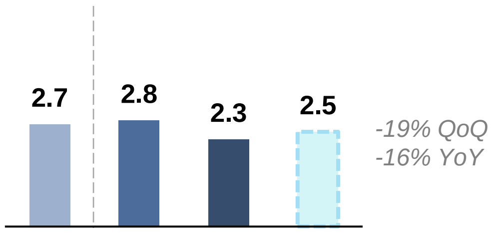
2022E COAL OUTPUT



Note: *100% basis, **equity basis

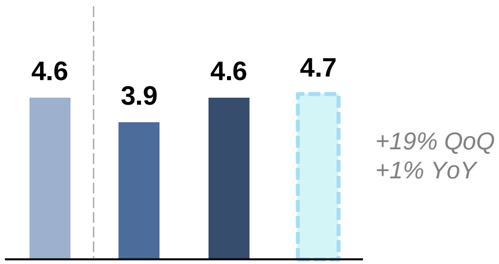
ROM PRODUCTION AND KEY UPDATES

AUSTRALIA COAL**



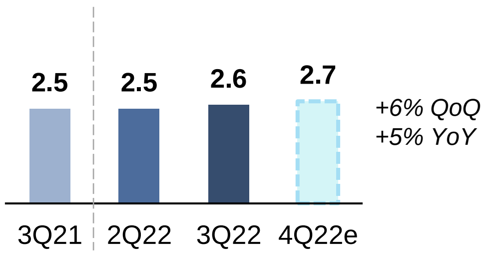
- Q3 production was slightly behind prior quarter forecast.
- Mandalong production was impacted by an Aboriginal cave step-around.
- Clarence and Airly continued to incur Covid-19 absenteeism in Q3, impacting production volumes. We expect Covid-19 impacts to reduce in Q4.

INDONESIA COAL*



- Achieved the 3Q22 production target at 4.6 Mt despite challenging weather caused by higher rainfalls and slippery conditions.
- 4Q22 target is maintained at 4.7 Mt while we anticipate unconducive weather with the onset of rainy season in Indonesia.

CHINA & MONGOLIA COAL*

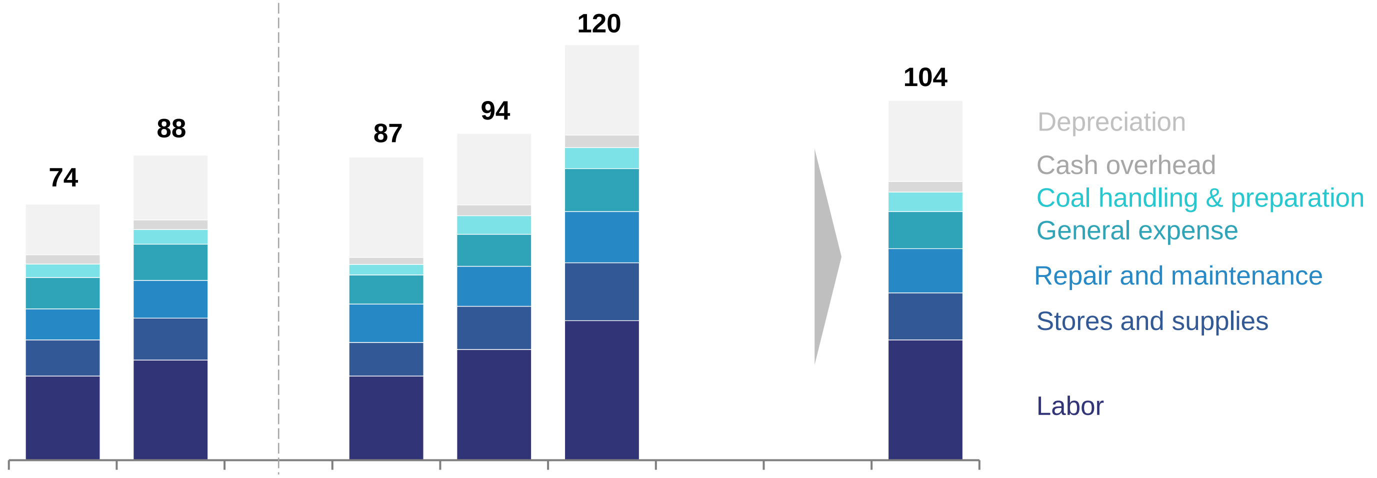


- Gaohe: Stable production and sales in 3Q22 supported by strong demand during the summer season. Increased coal volume from energy guarantee policy.
- Hebi: Higher production and sales in 3Q22 due to smooth operations of new LW panel 3309 with preparation for LW panel 3310 to ensure strong future performance

Banpu Mining: average production cost breakdown

AUSTRALIA COAL – AVERAGE PRODUCTION COST[1]

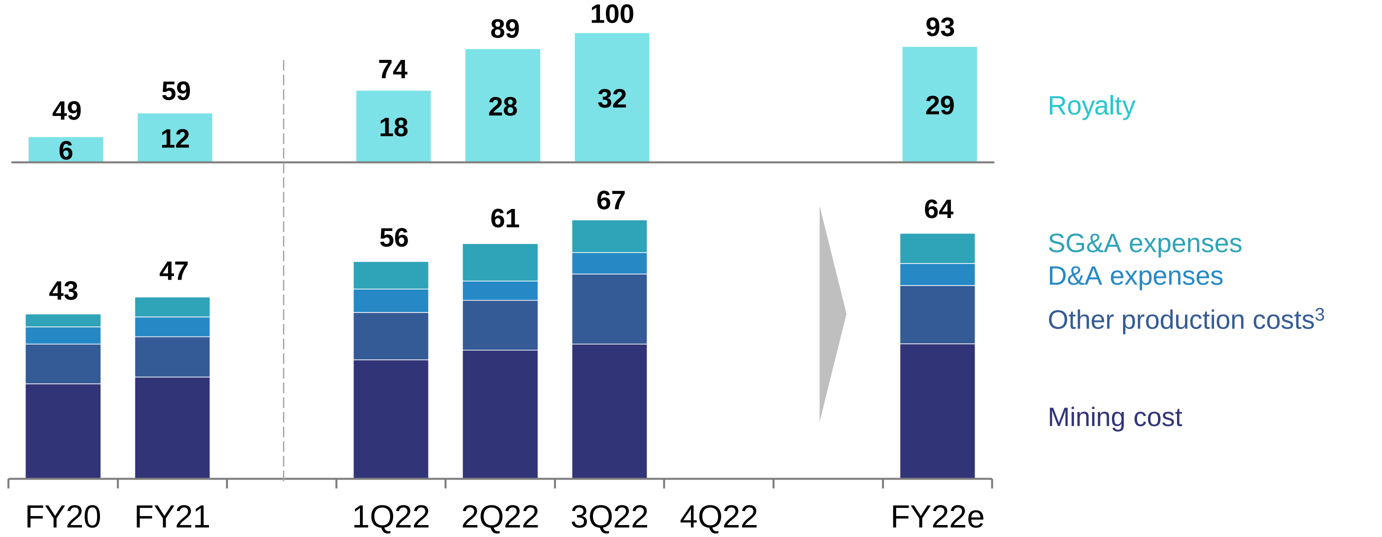
Unit: A$/t



- Achieved a record quarter profit in Q3 driven by a renewed focus on maximizing high-grade thermal coal exports
- 3Q22 volume dropped 19% QoQ, driving up unit costs. The Mandalong step around also increased depreciation by A$10/t.
- Global environment continues to drive costs up (i.e., steel, fuel and electricity). Mines have also continued to incur Covid-19 absenteeism.
- Mine site teams are implementing strict capex control measures to manage performance within budget.

INDONESIA COAL – AVERAGE TOTAL COST[2]

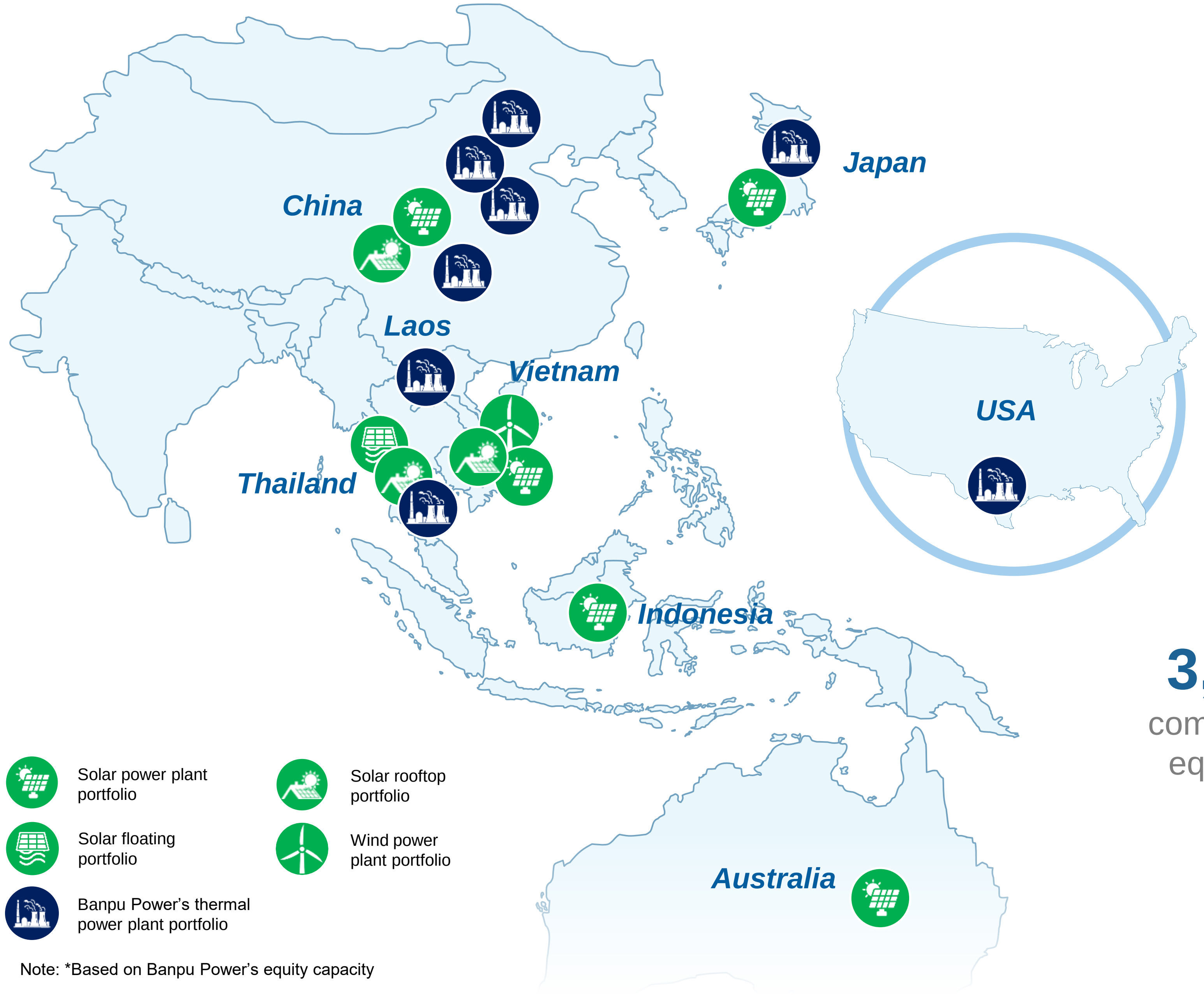
Unit: US$/t



- Average total cost per ton (excl. royalty) rose to $67/t in 3Q22 due to increase in mining cost as an impact of higher fuel price.
- Total cost is impacted by higher royalty cost of $4/t QoQ, which reflects stronger ASP trend is continued until 3Q22.

Note: 1 These figures do not include selling, distribution and royalty costs; based on 'sold' production, 2 Coal business only, 3 including repair and maintenance, salaries and allowances, inventory adjustment, others etc.

Banpu Energy Generation: 4,256 MW committed capacity



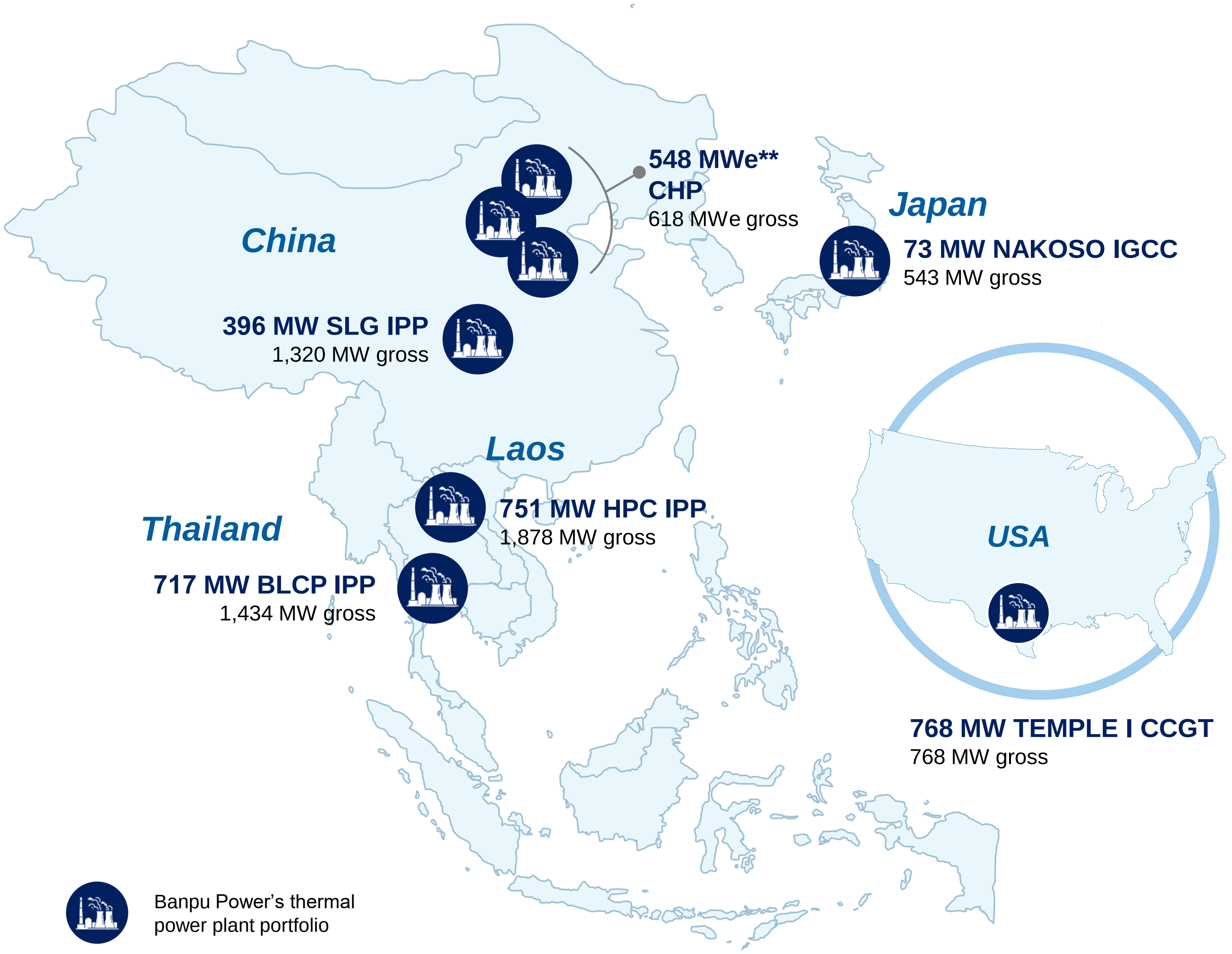
8 countries
operations across the Pacific Rim

3,253 MW
committed thermal equity capacity*

1,003 MW
committed renewables equity capacity

Note: *Based on Banpu Power's equity capacity

Banpu Thermal Power: 3Q22 highlights



EBITDA

$74 M

+28% QoQ

Achieved EAF

95% at HPC	**100%** at BLCP
23% at Nakoso	**97%** at Temple I

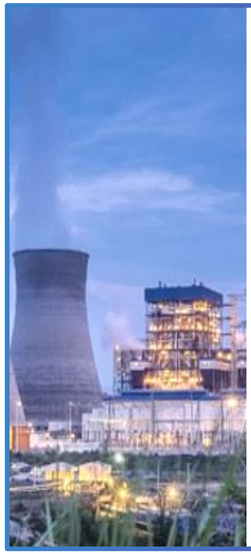
Note: *Based on Banpu Power's equity capacity, **MW equivalent

Thermal Power: 3Q22 updates

BLCP

The plant's improved EAF at 99.9% led to higher net generation QoQ, resulting in better EBITDA in 3Q22.

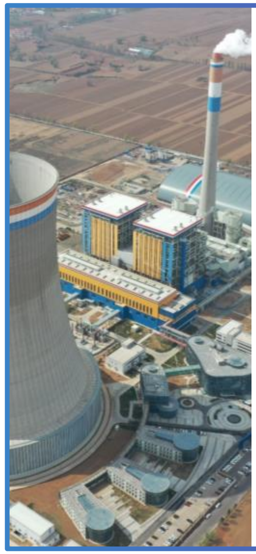
- Reported EAF of 99.9%
- Total revenue reported at THB 4,864 M, EBITDA at THB 1,066 M
- Reported share of profit at THB 9 M



HPC

While continuing to enhance its EAF, the plant operated without a hitch and generated strong financial results for this quarter.

- Reported EAF of 95.1%
- Total revenue reported at THB 6,331 M, EBITDA at THB 3,955 M
- Reported share of profit at THB 1,405 M



SLG

SLG achieved higher power sold in 3Q22. After joining power trading market to raise power tariffs and signing a coal supply contract at a lower coal cost, its financial performance was significantly improved.

- Reported net power sold of 1,328 GWh
- Reported share of loss at RMB 0.2 M

China CHP

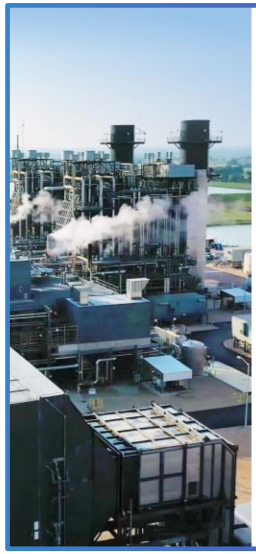
CHP has less steam demand, which is primarily from the LN plant. After it entered the power trading market, its tariff increased YoY. However, its financial performance declined due to the high cost of coal and the seasonally weak demand.

- Reported revenue of RMB 213 M
- Total EBITDA of RMB -12 M
- Reported share of loss at RMB 27 M

Nakoso IGCC

As the plant is still in its early stage of operation, maintenance may occasionally be required to increase the plant's long-term reliability.

- Reported EAF of 23%
- Reported net generation of 251 GWh
- Reported share of profit at THB 2 M



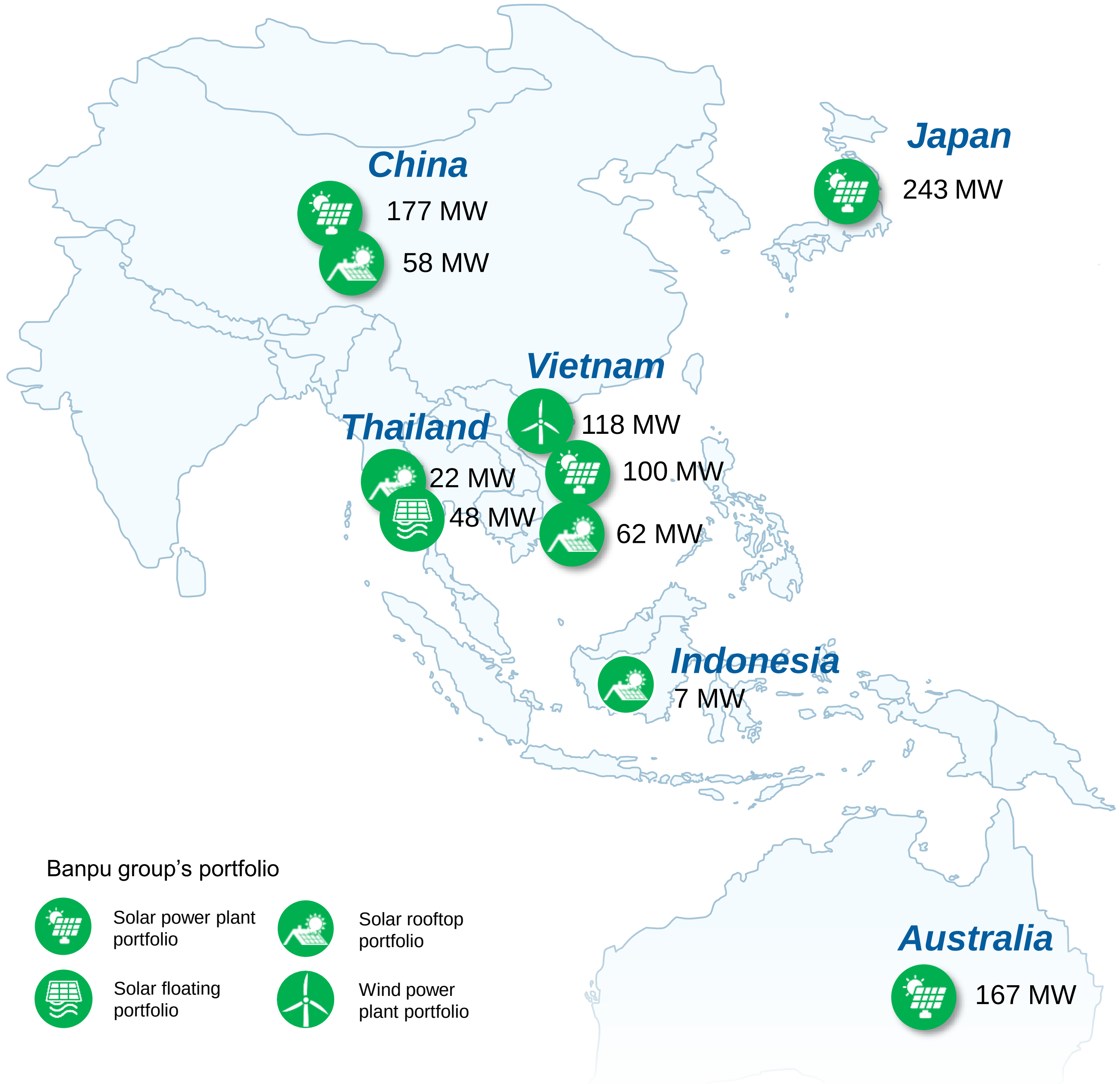
Temple I

Maintain its EAF at high level with higher capacity factor due to peak season. It consequently reported higher net generation and successful operational results.

- Report EAF of 97% with net generation of 1,315 GWh
- Revenue reported at USD 106 M, EBITDA at USD 21 M
- Reported share of profit at USD 77 M (Net gain from derivative USD 66 M)

Note: *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

Banpu Renewable Power: diversified Asia-Pacific portfolio*



1,003 MW
committed renewables capacity across Asia-Pacific

687 MW
committed solar power capacity

198 MW
committed solar rooftop and floating solar capacity

118 MW
committed wind capacity

Renewable Power: 3Q22 updates

BANPU

China Solar

Due to better irradiation conditions, the capacity factor increased YoY, resulting in higher power sold.

- Average capacity factor was 16.0%
- Power sold was 63 GWh, +9%YoY
- Reported revenue of RMB 54 M with profit contribution of RMB 18 M

Japan Solar

Due to unfavourable weather, the capacity factor has decreased QoQ. Due to the increase in COD projects over the previous 12 months, power sold increased.

- Average capacity factor was 14.0%
- Power sold was 62 GWh, +29% YoY
- Reported TK distribution of JPY 532 M

Australia Solar

A higher QoQ capacity factor as summer approached.

- Average capacity factor was reported at 15.4%
- Power sold was 43 GWh
- Reported share of profit at AUD 0.6 M (gain from derivative AUD 4.8 M)

Vietnam Solar

Nhon Hai solar capacity factor dropped by 3% from unfavourable weather. The 65 MW combined capacity of Ha Tinh and Chu Ngoc Solar transaction is anticipated to close in 4Q22.

- Average capacity factor was 17.3%
- Power sold was 13.8 GWh
- Reported share of profit at USD 0.2 M

Vietnam Wind

El Wind Mui Dinh

- Average capacity factor was 15.2%
- Power sold was 12.6 GWh
- Reported share of loss at USD 1.5 M

Vinh Chau project

- Completed construction and pre-commissioning activities
- On process of COD documentation with the Vietnam government


EV
BANPU

Banpu Energy Technology: growth targets 2025

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SOLAR: ROOFTOP & FLOATING

Including **49%** in Solar ESCO

3Q22: **198** MW committed capacity

2025 target: **500** MW

ENERGY STORAGE SYSTEMS

47.7% in Durapower	**30.0%** in New JV
3Q22: **1.0** GWh (0.5 GWh on equity basis)	In progress
2025 target: **3.0** GWh	**0.75** GWh*

Li-ion battery production capacity

(Total 1.76 GWh on equity basis)

E-MOBILITY

39.7% in UMT, **30%** Beyond Green, **21.5%** in FOMM, **20%** in eVolt, **18.47%** in Haupcar

3Q22:

Ridesharing	muvmi
EV	FOMM, BEYOND GREEN
Carsharing	HAUP
EV charging	evolt

2025 target: MaaS – Mobility-as-a-service

SMART CITIES & ENERGY MGMT.

100% ownership

3Q22: **21** projects – Includes energy management, smart infrastructure, etc.

2025 target: **30** projects

ENERGY TRADING

100% ownership

3Q22: **428** GWh Electricity sales

2025 target: **2,000** GWh

Note: *Year 2026 full capacity 1 GWh

Banpu Energy Technology: 3Q22 updates

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SOLAR: ROOFTOP & FLOATING

ENERGY STORAGE SYSTEMS

E-MOBILITY

SMART CITIES & ENERGY MGMT.

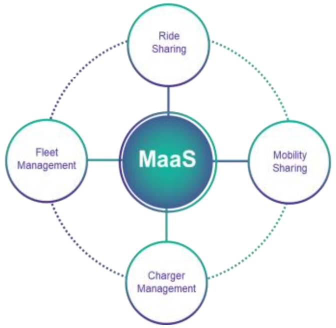
ENERGY TRADING

SOLAR ROOFTOPS

ZHENGDING SOLAR ROOFTOP PROJECT DEVELOPMENT
Zhengding CHP was selected by Zhengding Government to develop solar rooftops under the 'whole-county rooftop solar PV' policy. It currently has a committed capacity of 58 MW with the potential to increase to 167 MW by 2023

NEW CONTRACT SIGNING
Expansion of Betagen project for Phase II of rooftop installation (on new warehouse) with capacity of 131 kWp, bringing the total capacity of the project (Phases I & II) to 1.3 MWp

E-MOBILITY EXPANSION



muvmi

HAUP

evolt

BEYOND GREEN

MUVMI NEW AREA EXPANSION
Increasing its operation from 11 to 12 areas with the latest expansion to Silom – Sathorn. Fleet expansion to 251 E-tuktuks in operation and 115 E-tuktuk under registration process

EVOLT AWARDED CHARGER INSTALATION FOR CPN
eVolt has been awarded to install 94 EV chargers at 25 Central department stores

ELECTRICITY SALES

SECURED ELECTRICITY SUPPLY AND ENHANCED MARKETING AND SALES THROUGH MARKET-LINKED PRICE OFFERING

- Secured electricity supply in total of 8 MW with KEPCO through Baseload Auction for the period of April 2023 to March 2024
- Engaged with 21 small- to medium-sized clients with annual total sales volume of 5 GWh. The electricity supply to these clients is based on market-linked price

Banpu Energy Technology: 3Q22 updates (cont'd)

BANPU

SOLAR: ROOFTOP & FLOATING | ENERGY STORAGE SYSTEMS | E-MOBILITY | SMART CITIES & ENERGY MGMT. | ENERGY TRADING

ALTOTECH GLOBAL

BANPU NEXT AQUIRES 25% INTEREST IN ALTOTECH GLOBAL TO STRENGTHEN EMS BUSINESSES

Altotech Global is a Thai-based company established in 2011. It developed automatic IoT platform called "Alto Energy Edge" to support energy management and optimization in the office buildings and hotels. Altotech have 3 core businesses which are **IoT platform, energy analysis and automatic controlling system with AI algorithms developed by the company.** Energy savings are created through Altotech's proprietary system and software which can also be integrated with solar rooftops.

Banpu NEXT acquired 25% shares in Altotech to build on capabilities in IoT space and data analytics and support the growth of Banpu NEXT's energy management system businesses.

BANPUNEXT

25% acquisition

AltoTech

- **Iot Platform**
- **Energy analysis**
- **Automatic controlling**

STRATEGIC RATIONALE:

- **Strengthen Banpu NEXT's EMS business**
- **Enhance leadership position in energy technology solutions**
- **Synergy in market approach and expansion**
- **Enhance capabilities in IoT platform development**

EURAZEO

EURAZEO

SMART CITY FUND II

INVESTMENT IN EURAZEO SMART CITY FUND II

Eurazeo is a leading global private equity company with AUM of US$32.4 bn and 530 portfolio companies. Banpu NEXT has invested US$15 M in its Smart City Fund II, a CVC fund with the investment strategy aligning with Banpu NEXT's strategy including the focus on new energy, smart mobility, and industrial technology.

APPENDIX

Banpu: 'integrated energy solutions' 2022

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ENERGY RESOURCES

Shale Gas

865 MMcfed
Net production

Mining

36.4 Mt
Coal sales

ENERGY GENERATION

Renewable Power

805 MW
Committed capacity

Thermal Power

3,253 MW
Committed capacity

ENERGY TECHNOLOGY

Solar: Rooftop & Floating

198 MW
Committed capacity

Clean Energy Tech

1.0 GWh (100% basis)
Li-ion batteries

E-mobility services
E-mobility solutions

Smart Cities & Energy Management

428 GWh
Electricity trading

Natural gas: reserve and production term

BANPU

Reserve

DEFINITION

- Natural Gas Reserve Definitions in the US are defined by the SEC and are the same as used for oil:
    - Proved Developed Producing (PDP)
    - Proved Developed Not Producing (PDNP)
    - Proved Undeveloped (adjacent to a producing well) (PUD)
    - Probable (in the same area as production but not adjacent) (PROB)
    - Possible (contingent on additional drilling) (POSS)
- Reserves have to be economically viable.

Production

PRODUCTION UNIT

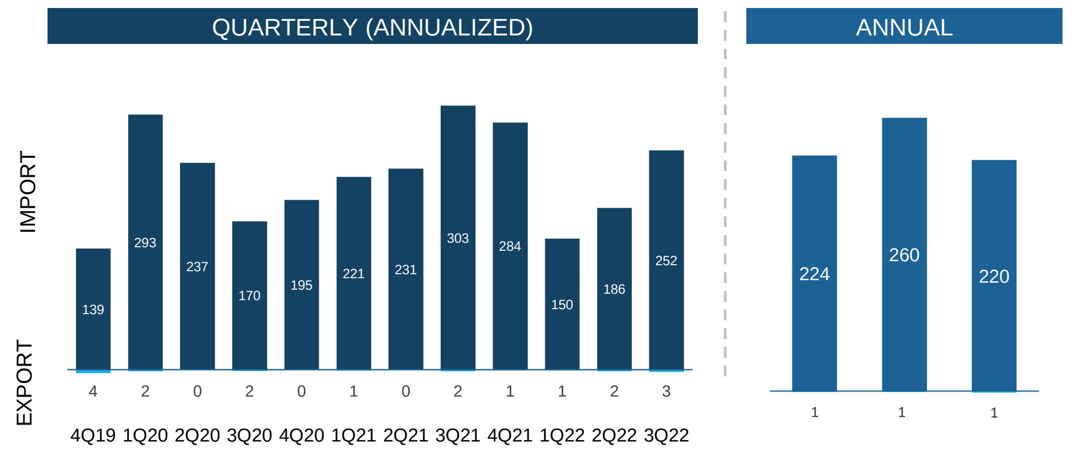
- In the US, production is measured in 1000 cubic feet (MCF)
    - 1000 MCF = 1 MMCF
    - 1,000,000 MCF = 1 BCF
    - 1000 BCF = 1 TCF
    - 1 MCF = 28.3 Meters^3
    - 1 MCF = 1.0 Million BTU (MMBTU) or Decatherms (dry gas)
    - 1 BCF = 1.0 Trillion BTU
    - 1 Meter^3 = 35.3 MCF
    - 1 Billion Meters^3 = 35.3 BCF

China: domestic supply constraints support imports

BANPU

CHINA THERMAL COAL IMPORTS/EXPORTS*

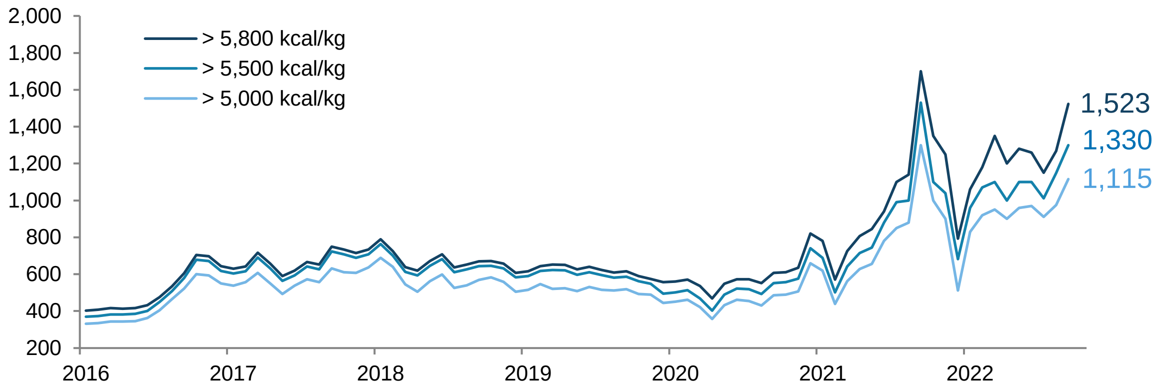
Unit: Mt



Sources: Banpu MS&L

CHINA DOMESTIC COAL PRICES

Unit: RMB/t



3Q22

- Lockdown due to the pandemic continued to impact the economic growth in Q3.
- Heat waves in July-August drove coal burn by utilities, but most Chinese utilities were well supplied under term contracts and showed little demand for spot coal.
- Heavy rains in the north affected coal production and logistics however coal production remained solid.
- Drought in southwest, central and eastern regions curtailed hydropower generation and raising coal-fired generation to meet the rise in the country's power demand.
- Domestic thermal coal prices were bullish as supply is curtailed by several issues, such as heavy rainstorms, the Covid-19 pandemic, mine accidents, safety checks and maintenance activities on the Daqin rail line.
- The uptick in domestic coal prices has prompted National Development and Reform Commission (NDRC) to step up its monitoring of the spot coal market, asking sellers to keep coal prices within a reasonable range.
- Supply concerns encouraged buyers to keep sourcing mid- to high-CV imported coal, especially for utilities in south China.
- Increased imports of Russian coal due to low cost and more coal availability in Asia.

OUTLOOK

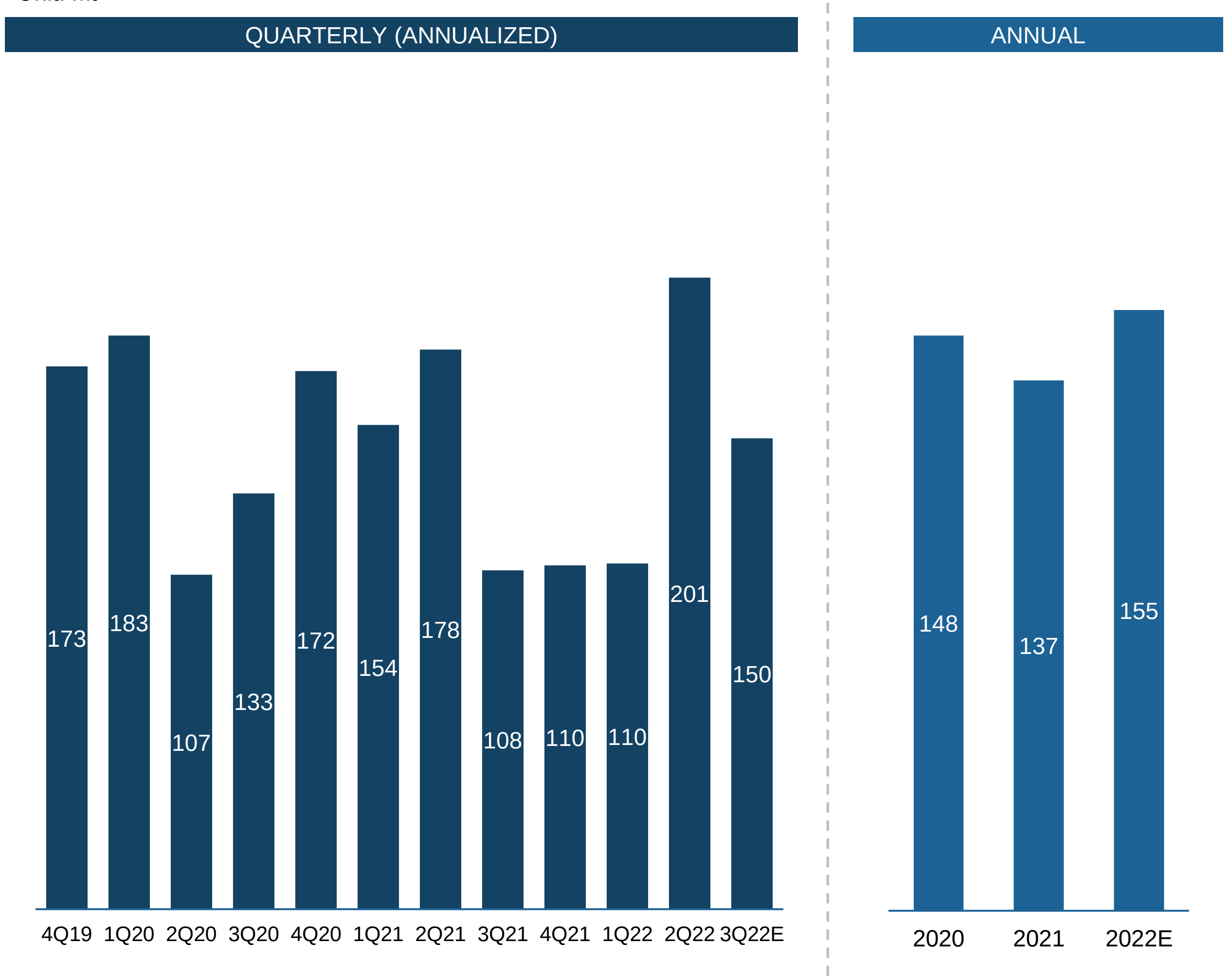
- Uncertainty on economic outlook and concerns over renewed Covid-19 restriction will continue to curb power demand growth.
- Domestic coal production is expected to remain high although intensified safety checks due to the government's efforts to maintain coal supply.
- Uncertainty surrounding domestic industrial production amid fears of a global recession and potential for further devaluation of the yuan against the US dollar are expected to weigh on import in the next few months.
- However, increasing domestic coal price has caused coal users to switch to cheaper imported coal.
- We estimate seaborne imports will remain strong in Q4.

Note: *Includes lignite but excludes anthracite imports/exports
Source: www.sxcoal.com/cn 10 October 2022

India: coal demand to remain strong in Q4

INDIA THERMAL COAL IMPORTS*

Unit: Mt



Note: *Includes lignite grade imports
Source: Commodity Insights, Banpu MS&L

3Q22

- Power demand grew moderately by about 4.7% year-on-year in Q3 due to subdued industrial activities and cooling requirement decline during the rainy season.
- Coal-fired generation rose by 4.6% year-on-year in Q3 due to strong hydro and nuclear generation while gas-based generation fell by 46% year-on-year on high gas price.
- Domestic coal production increased by 10% year-on-year to 176 Mt in Q3, driven by Coal India and captive/commercial miners. Coal dispatches was 196 Mt, grew by 4.7% year-on-year.
- In Q3, domestic coal supplies to the power sector increased by 10%, whereas supplies to non-power sector declined by about 15%.
- The industrial sector continued dependence on imports owing to the priority in domestic coal supply allocation to the power sector.
- India has been increasing imports of discounted Russian coal at the expense of South African imports.
- However, depreciation in local currency against the US dollar curbed import demand especially in general industry.

Outlook

- Power demand is forecasted to increase in Q4 due to a season of festivities.
- Contributions from hydro and renewables generally remain subdued during Q4, the burden to meet demand will fall back on coal.
- With end of the monsoon, growth in domestic coal production is expected to accelerate in Q4.
- However, we expect imports to continue rising as demand growth continues to outpace domestic supply.
- Power plants were seen less active in the seaborne market due to high domestic coal production and devalue of local currency.
- The availability of high energy and highly discounted Russian coal will add to the growth in imports, particularly by the industrial sector.

Coal quarterly output summary

BANPU

AUSTRALIA OPERATIONS: COAL OUTPUT (MT) – ROM OUTPUT ON EQUITY BASIS					
Mines	**CV (kcal/kg)***	**1Q22**	**2Q22**	**3Q22**	**4Q22e**
Western operations		**0.8**	**1.6**	**1.2**	**1.6**
Springvale	6,700	0.1	1.1	0.7	0.7
Clarence	6,700	0.4	0.3	0.3	0.5
Airly	6,700	0.3	0.2	0.2	0.4
Northern operations		**0.9**	**1.2**	**1.1**	**0.9**
Mandalong	6,700	0.7	1.0	0.8	0.5
Myuna	6,700	0.2	0.2	0.3	0.4
Total Australia coal		**1.7**	**2.8**	**2.3**	**2.5**

INDONESIA OPERATIONS: COAL OUTPUT (MT) – ROM OUTPUT ON 100% BASIS									
Mines	**CV (kcal/kg)***	**1Q22**		**2Q22**		**3Q22**		**4Q22e**	
		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	1.5	9.8	1.7	10.3	2.0	8.9	1.6	11.0
Trubaindo	6,550 – 6,700	0.7	15.5	0.7	14.7	0.9	10.8	0.7	12.7
Bharinto		1.1	8.8	1.2	7.9	1.6	10.6	2.0	8.8
Kitadin-Embalut**	5,800	0.2	17.9	-	-	-	-	-	-
Jorong	5,300	0.3	11.5	0.2	16.2	0.2	17.4	0.3	17.3
Total Indonesia coal		**3.8**	**11.1**	**3.9**	**10.6**	**4.6**	**10.2**	**4.7**	**10.6**

CHINA OPERATIONS: COAL OUTPUT (MT) – ROM OUTPUT ON 100% BASIS					
Mines	**CV (kcal/kg)***	**1Q22**	**2Q22**	**3Q22**	**4Q22e**
Gaohe		2.5	2.3	2.3	2.4
Hebi		0.1	0.2	0.3	0.3
Total China coal		**2.6**	**2.5**	**2.6**	**2.7**

Note: *CV figures are air-dried basis ** Kitadin-Embalut has ceased its operation and entered mine closure period in February 2022

Key external and corporate events

BANPU

EXTERNAL EVENTS

INDIRECT

Federal Reserve raised the policy rate by 0.50%

First cases of monkeypox reported from 12 countries across the world

Federal Reserve raised the policy rate by 0.75%, the biggest rate hike since 1994

Federal Reserve raised the policy rate by 0.75% for the second consecutive time

Bank of Thailand raised policy rate by 0.25% to 0.75%

Federal Reserve raised the policy rate by 0.75% for the third consecutive time

Bank of Thailand raised policy rate by 0.25% to 1.00%

DIRECT

EU announced the plan to ban Russian coal import

Henry Hub price surpasses to $7.0/MMBtu

Newcastle coal price index surpasses to $400/t

Freeport LNG facility explosion

Indonesia HBA coal price benchmark rises to $322/t

EU enforces ban on coal imports from Russia

Henry Hub price surpasses $9.8/MMBtu level

Newcastle coal price index surpasses $450/t level

2Q22

3Q22

CORPORATE EVENTS

1Q22 results presentation

Announced acquisition of North Texas Shale

Announced appointment of new Banpu NEXT CEO

Announced US$150M investment in US Healthcare fund

Signed MoU with Cherdchai and Durapower to set up lithium battery plant in Thailand

Completion of North Texas acquisition

Announcement of US healthcare fund investment

2Q22 results presentation

Announcement of BANPU interim dividend at Bt. 0.45 /share

Expiration to exercise the BANPU-W4 warrant

FX impact analysis guidance on P&L

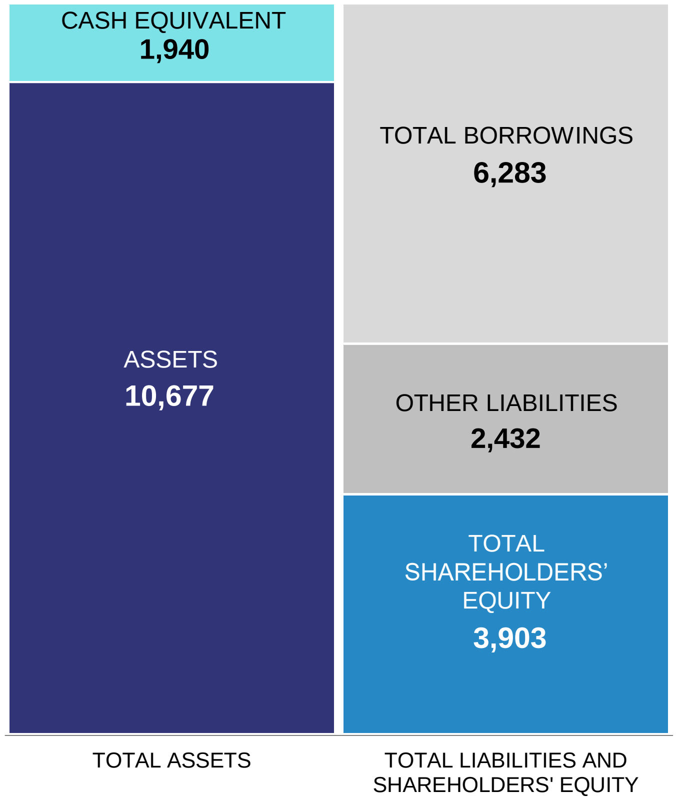
BANPU

CURRENCY EXPOSURE	NPAT IMPACT 3Q22 (US$M)	APPROXIMATE FX EXPOSURE (US$M) NET LIABILITY	APPROXIMATE FX EXPOSURE (US$M) NET ASSET	NPAT 5% SENSITIVITY 4Q22 (US$M) *Assuming 5% depreciation of local currencies against USD*	
Banpu: AUD asset, THB bond, and Other	91.5	-1,500		THB 74	▪ *BOT maintained forecast growth 2022 to 3.3% and cut growth 2023 to 3.8%*
			280	AUD -13	
ITMG: IDR asset and liabilities	-9.7		270	IDR -5	▪ *BI maintained forecast 2022 GDP to 4.5%-5.3%*
CEY: USD asset and liabilities	-2.5	-80		AUD -4	▪ *RBA cut forecasted growth for 2022 to 3% and 2023, 2024 to 1.5%*
Net	79.3			NET 52	

Banpu consolidated balance sheet – 3Q22

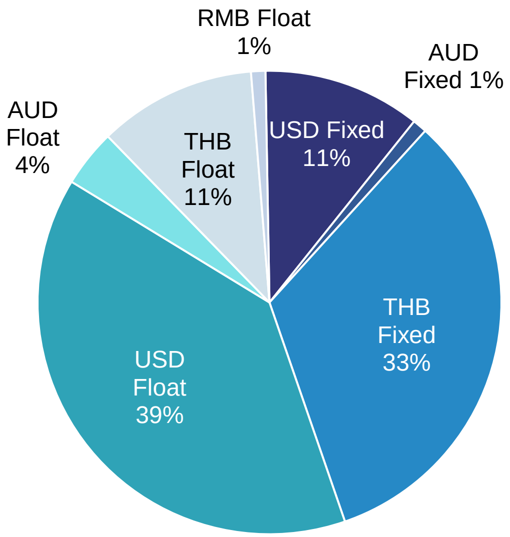
3Q22 CONSOLIDATED FINANCIAL POSITION

USD million



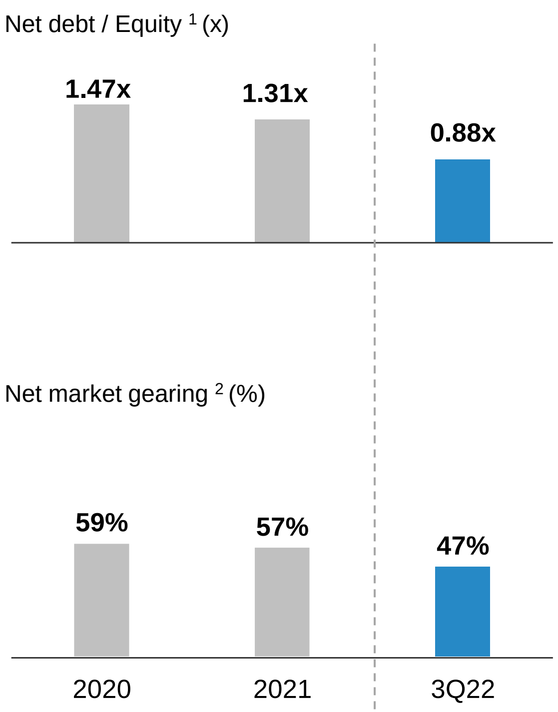
Note:
1 Net debt to book value of shareholders' equity
2 Net debt to enterprise value (enterprise value
= net debt + book value of shareholders' equity)

DEBT FX STRUCTURE



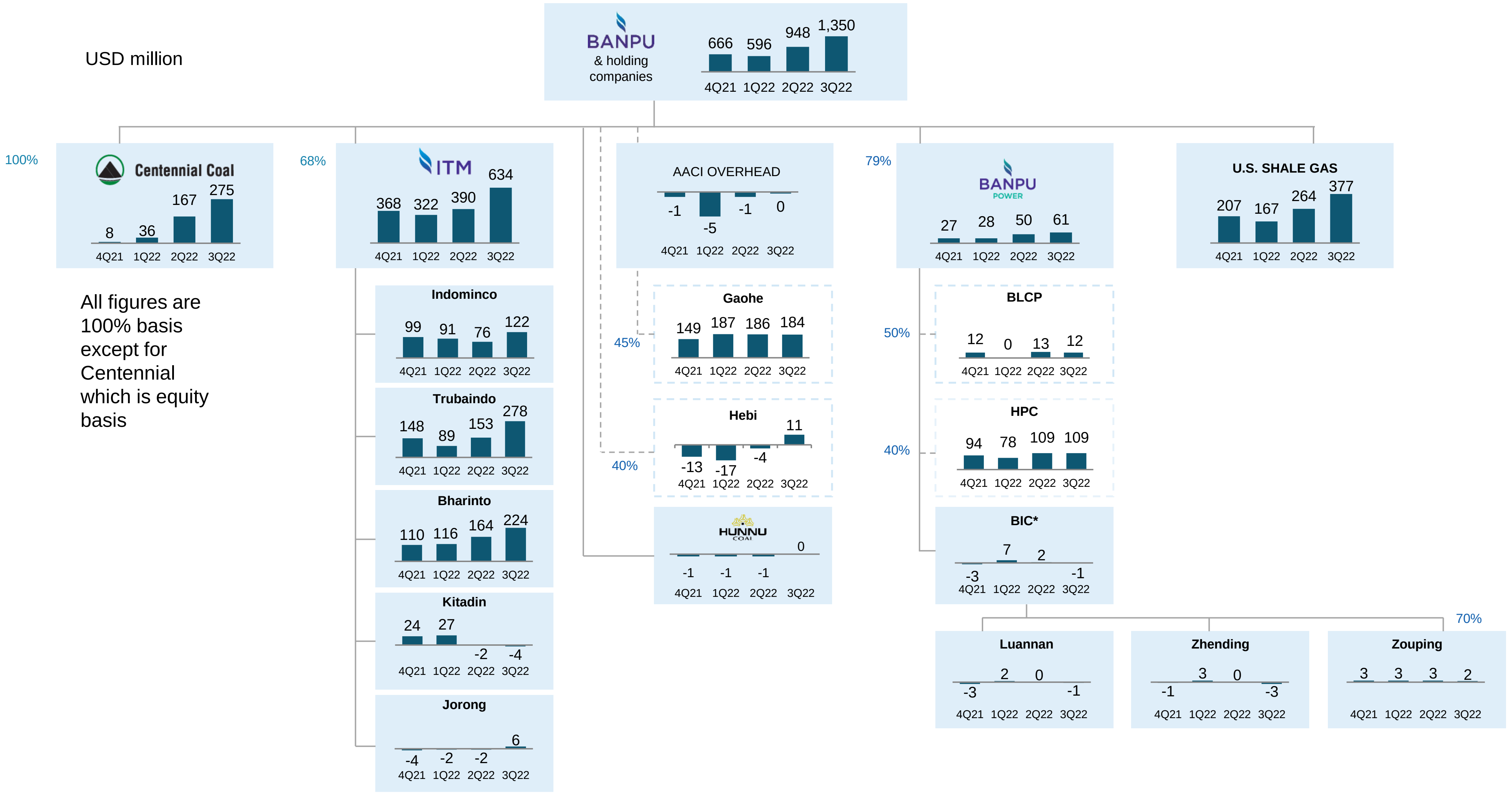
Total gross debt: US$6.28 billion
As of 30 September 2022

GEARING RATIOS



Banpu group EBITDA breakdown

USD million



All figures are 100% basis except for Centennial which is equity basis

Note: all ownership 100% unless otherwise shown
*BIC = Banpu Investment China

Banpu group net debt breakdown

Note: all ownership 100% unless otherwise shown
*BIC = Banpu Investment China

Banpu consolidated: operating profit

BANPU

USD million	**3Q22**	**2Q22**	**3Q21**	QoQ%	YoY%
Total sales revenues*	**2,397**	**1,773**	**1,161**	+35%	+106%
Sales revenue – Coal**	1,659	1238	870	+34%	+91%
Sales revenue – Gas	573	387	231	+48%	+148%
Sales revenue – Power	149	139	39	+7%	+281%
Cost of sales	(964)	(842)	(619)		
Gross Profit*	**1,433**	**931**	**542**	+54%	+164%
Gross profit – Coal**	1,026	661	417	+55%	+146%
Gross profit – Gas	380	254	121	+49%	+214%
Gross profit – Power	22	19	0	+17%	+4405%
GPM	***60%***	***53%***	***47%***		
GPM – Coal	*62%*	*53%*	*48%*		
GPM – Gas	*66%*	*66%*	*53%*		
GPM – Power	*15%*	*14%*	*1%*		

Note: * including other businesses ** including coal trading

Banpu consolidated: operating profit

USD million	**3Q22**	**2Q22**	**3Q21**	QoQ%	YoY%
Gross Profit	**1,433**	**931**	**542**	+54%	+164%
GPM	***60%***	***53%***	***47%***		
SG&A	(157)	(117)	(124)		
Royalty	(208)	(131)	(87)		
Income from associates	92	81	64		
Other income and Dividend	14	21	14		
Mining property	(9)	(9)	(9)		
EBIT	**1,165**	**777**	**400**	+50%	+191%
EBIT – Coal	783	509	305	+54%	+157%
EBIT – Gas	326	228	95	+43%	+243%
EBIT – Power	61	46	12	+32%	+415%
EBIT – Energy Technology	(6)	(7)	(13)	n.a.	n.a.
EBITDA	**1,350**	**948**	**530**	+42%	+155%
EBITDA – Coal	902	630	399	+43%	+126%
EBITDA – Gas	377	264	122	+43%	+209%
EBITDA – Power	74	58	10	+28%	+636%
EBITDA – Energy Technology	(4)	(4)	(2)	n.a.	n.a.

Banpu consolidated: net profit

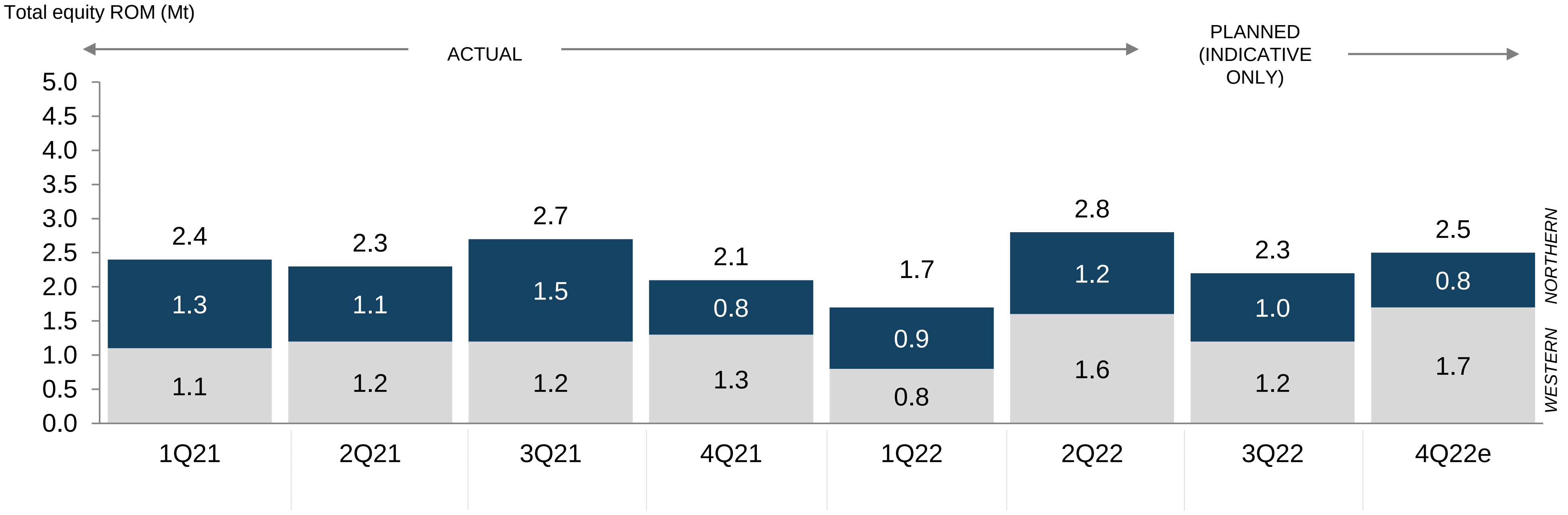
USD million	3Q22	2Q22	3Q21	QoQ%	YoY%
EBIT	**1,165**	**777**	**400**	+50%	+191%
Interest expenses	(73)	(54)	(43)		
Financial expenses	(2)	(2)	(3)		
Income tax (core business)	(124)	(73)	(46)		
Minorities	(167)	(101)	(47)		
Net profit before extra items	**798**	**547**	**261**	+46%	+206%
Non-recurring items*	(8)	157	(5)		
Gain (Loss) on Derivatives Transactions	(248)	(293)	(177)		
Income tax (non - core business)	(2)	(16)	0		
Deferred tax income (expenses)	(133)	(76)	(14)		
Net profit before FX	**408**	**319**	**65**	+28%	+528%
FX translation	79	53	42		
Net Profit	**487**	**372**	**106**	+31%	+358%
EPS (US$/share)	0.072	0.055	0.021		

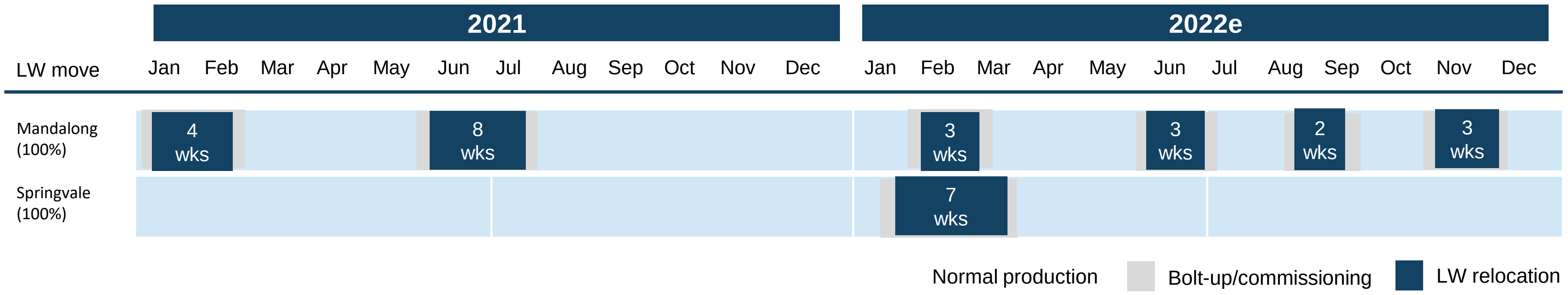
Note: * income from non-core assets and other non-operating expenses

Centennial: income statement

USD million	3Q22	2Q22	3Q21	QoQ%	YoY%
Sales volume (Mt)	**2.3**	**2.8**	**2.7**	-19%	-16%
Sales revenue	388.5	342.8	187.7	+13%	+107%
Cost of Sales	(221.3)	(221.1)	(160.8)		
Gross Profit	**167.2**	**121.8**	**26.9**	+37%	+522%
GPM	43%	36%	14%		
SG&A	(28.2)	(26.9)	(23.1)		
Royalty	(24.7)	(21.9)	(12.4)		
Other income	1.2	1.8	1.0		
Other expenses	-	-	-		
EBIT	**115.5**	**74.7**	**(7.6)**	+55%	n.a.
Interest expenses	(10.9)	(9.2)	(6.0)		
Financial expenses	(0.6)	(0.6)	(2.1)		
Gain (loss) on exchange rate	(2.5)	(8.6)	(13.4)		
Gain (loss) on derivative	(8.0)	(35.7)	(40.0)		
Corporate income tax	-	-	-		
Deferred tax income	(27.9)	(6.4)	20.8		
Net Profit	**65.7**	**14.1**	**(48.3)**	+365%	n.a.

Australia coal: quarterly equity rom output





Note: 1 Production generally responds to the timing of longwall changeovers (i.e., lower production results during a longwall changeover period)
2 As of 1 December 2019, Centennial's economic interest in each of Angus Place and Springvale became 100%.

BANPU