3Q21 results

Opportunity Day

25th November 2021

DISCLAIMER

The information contained in this presentation is intended solely for your reference.

This presentation contains “forward-looking” statements that relate to future events, which are, by their nature, subject to significant risks and uncertainties. All statements, other than statements of historical fact contained in this presentation including, without limitation, those regarding Banpu’s future financial position and results of operations, strategy, plans, objectives, goals and targets, future developments in the markets where Banpu participates or is seeking to participate and any statements preceded by, followed by or that include the words “believe”, “expect”, “aim”, “intend”, “will”, “may”, “project”, “estimate”, “anticipate”, “predict”, “seek”, “should” or similar words or expressions, are forward-looking statements.

The future events referred to in these forward-looking statements involve known and unknown risks, uncertainties and other factors, some of which are beyond our control, which may cause the actual results, performance or achievements, or industry results to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

These forward-looking statements are based on numerous assumptions regarding our present and future business strategies and the environment in which Banpu will operate in the future and are not a guarantee of future performance. Such forward-looking statements speak only as of the date on which they are made. Banpu does not undertake any obligation to update or revise any of them, whether as a result of new information, future events or otherwise. The information set out herein is subject to change without notice, its accuracy is not guaranteed, has not been independently verified and it may not contain all material information concerning the Company.

Banpu makes no representation, warranty or prediction that the results anticipated by such forward-looking statements will be achieved, and such forward-looking statements represent, in each case, only one if many possible scenarios and should not be viewed as the most likely or standard scenario. No assurance given that future events will occur or our assumptions are correct. Actual results may materially differ from those provided in the forward-looking statements and indications of past performance are not indications of future performance. In no event shall Banpu be responsible or liable for the correctness of any such material or for any damage or lost opportunities resulting from use of this material. Banpu makes no representation whatsoever about the opinion or statements of any analyst or other third party. Banpu does not monitor or control the content of third party opinions or statements and does not endorse or accept any responsibility for the content or use of any such opinion or statement.

Banpu’s securities have not been and will not be registered under the U.S. Securities Act of 1933, as amended, or the securities laws of any state of the United States, and may not be offered or sold within the United States, except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of such act or such laws.

This presentation does not constitute an offer to sell or a solicitation of an offer to buy or sell Banpu’s securities in any jurisdiction.

3Q21 highlights

Accelerating the Banpu Transformation

Significant progress in Greener, Smarter businesses through developments in:

US Power
Acquisition completion of Temple I CCGT with total capacity of **768 MW**

Energy Management*
Acquisition of ENGIE's Thai energy management services C&I business

Mobility as a Service
Investment in Beyond Green, authorized Club Car distributor and EVolt, smart charging solution

Strong Cash Flow

EBITDA for the quarter increased to **$530 M**, improving **72%** from last quarter with higher contribution from Coal and Gas businesses

Rationalization, Capital Reallocation

Divestment of Sunseap shareholding with significant realization on return on investment*

Energy Prices Strong

Gas price increased to **$4.36/MMBtu** and coal price increased to **$164/t** for the quarter, driven by increasing demand and supply tightness

Establishment of ESG Committee

To enhance sustainability development practices and reinforce commitment to deliver "Smarter Energy for Sustainability" to all stakeholders

Note: *signed Share Purchase Agreement, transactions are subject to customary approvals, certain conditions precedent and potential adjustments, expected deal closing in 4Q21 for Energy Management and 1Q22 for Sunseap

Banpu: ESG leadership and credit rating recognition

BANPU

ESG RATING

MSCI ESG RATINGS A

CCC | B | BB | BBB | A | AA | AAA

The MSCI ESG Ratings is managed by MSCI, one of the most experienced ESG performance measuring agencies

A
ratings for having a track record of managing the most significant ESG risks and opportunities relative to peers

Sustainability Award
Gold Class 2021
S&P Global

The Sustainability Yearbook 2021, published by S&P Global, showcases the sustainability performance of top companies

Gold
Class distinction, achieving an ESG score within 1% of the industry's top-performing company's score

Asia Sustainability Reporting Awards
Asia's Best SDG Reporting
SILVER 2020
asra

The ASRA, organized by CSRWorks International, is one of the most prestigious awards for corporate reporting in Asia

Silver
Class in Asia's Best SDG Reporting in 2020 for implementing strategy to support and achieve UN Sustainable Development Goals

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

Ranking assessment by V.E, part of Moody's ESG Solutions, that recognizes companies in Emerging Markets for their ESG performance

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

The DJSI, managed by S&P Global, is the leading international standard for corporate sustainability

8th
consecutive year included as a constituent of DJSI for conducting business with the highest ESG standards

THSI
THAILAND SUSTAINABILITY INVESTMENT 2021

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

6th
consecutive year included in the THSI for sustainable operations in-line with responsible investment principles

HONOR
Sustainability Excellence
2021

The SET Awards, hosted annually by SET, recognizes Thai companies for different areas of business excellence

Honor
Highest distinction in SET's Sustainability Excellence Award; recognized for being awarded the Best Sustainability Award for at least 3 consecutive years.

CREDIT RATING

TRIS RATING
A Strategic Partner of S&P Global

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

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


BANPU

BANPU

International Versatile Energy Provider

Banpu operates across the energy value chain with the mission to provide sustainable energy that is **affordable, reliable, and eco-friendly** by harnessing the 3Ds trend and adopting ESG as our core value.

MISSION: RESPONSIBLE TRANSITION

- **Affordable:** To provide affordable energy solutions with growing energy demand
- **Reliable:** To ensure security of energy supply by delivering integrated energy solutions
- **Eco-friendly:** To supply energy in a way that maximizes stakeholder value and minimize environmental impact

>35 years experience
across 10 countries worldwide

ENERGY RESOURCES
GAS | COAL

ENERGY GENERATION
RENEWABLES | HELE POWER
THERMAL POWER

INTERNATIONAL VERSATILE ENERGY PROVIDER

ENERGY TECHNOLOGY
ENERGY STORAGE | ENERGY TRADING
ENERGY MANAGEMENT | E-MOBILITY

Banpu: strategic roadmap aligned with global initiatives

BANPU

GLASGOW COP26

KEY OBJECTIVES

01 Global net zero by 2050, keeping 1.5-degree limit in reach

02 Adapt to protect communities and natural habitats

03 Mobilise climate finance of at least $100 bn per year

NEARLY 200 COUNTRIES AGREED TO ADOPT THE GLASGOW CLIMATE PACT !

GLOBAL PLEDGES:

'UNABATED' COAL TO CLEAN POWER TRANSITION BY 2040 (2030 FOR ADVANCED ECONOMIES)

>45 countries, including Indonesia, Vietnam pledged. Major coal countries incl. China, India, Australia and Japan did not.

END OF PUBLIC FINANCING FOR 'UNABATED' FOSSIL FUEL PROJECTS ABROAD BY 2022

>20 countries including the US, UK and Canada pledged, but other major financiers incl. China, Japan and S. Korea did not.

GLOBAL METHANE PLEDGE, REDUCTION IN EMISSIONS BY AT LEAST 30% BY 2030

>100 countries, including US, EU countries and Indonesia, pledged. Other top methane emitters did not pledge.

END AND REVERSE DEFORESTATION BY 2030

>130 world leaders pledged, covering over 90% of the world's forests with over $19 bn pledged in public and private funds.

THAILAND PLEDGES

Carbon Neutrality by 2050 and Net Zero by 2065

BANPU STRATEGIC ROADMAP

- Accelerate development of renewables, energy storage systems and HELE power assets
- No further investments in coal mining business, focus on sustainable production
- GHG emission (incl. methane) reduction initiatives across gas and coal mining businesses
- To explore potential synergistic nature-based solutions businesses in the future.
- Rapid deployment and development of ETS including solar-rooftop, E-mobility and EMS

Banpu: portfolio rationalization and capital reallocation 2021

BANPU

PORTFOLIO RATIONALIZATION TO ACCELERATE *GREENER*, ***SMARTER*** GROWTH

POWER ACQUISITIONS

US POWER

Acquisition completion of 768 MW Temple I CCGT for US$430 M

AUSTRALIA SOLAR

Acquisition completion of Beryl & Manildra solar farms with combined capacity of **167 MW** for US$75 M

JAPAN POWER

Acquisition completion of 73 MW Nakoso IGCC for US$80 M

INCREASE IN BANPU ATTRIBUTABLE EQUITY OPERATION CAPACITY

1,008 MW

YTD 2021

ETS INVESTMENTS

ENERGY MGMT. SERVICES*

Signed SPA to acquire 100% in Engie Services (Thailand) for c.US$2.8 M

E-MOBILITY

Investments in Haupcar and Beyond Green for c.US$1.8 M and c.US$9 M equivalent to 10% and 30% shareholding, respectively

SMART CHARGING SOLUTION

Investment in EVolt Technology for c.US$2.7 M, equivalent to 15% of the total shareholding

Continuous expansion of energy technology ecosystem

SUNSEAP DIVESTMENT*

BUYER	edp renewables *a listed renewable energy company incorporated in Spain listed on Euronext Lisbon stock exchange of Portugal*
BANPU TOTAL INVESTMENT	**US$174 M**
AGREED SALES PRICE	**US$364 M**

SUNSEAP

SUNSEAP PORTFOLIO OPERATING CAPACITY

321 MW

as of Feb 2021

BANPU NEXT

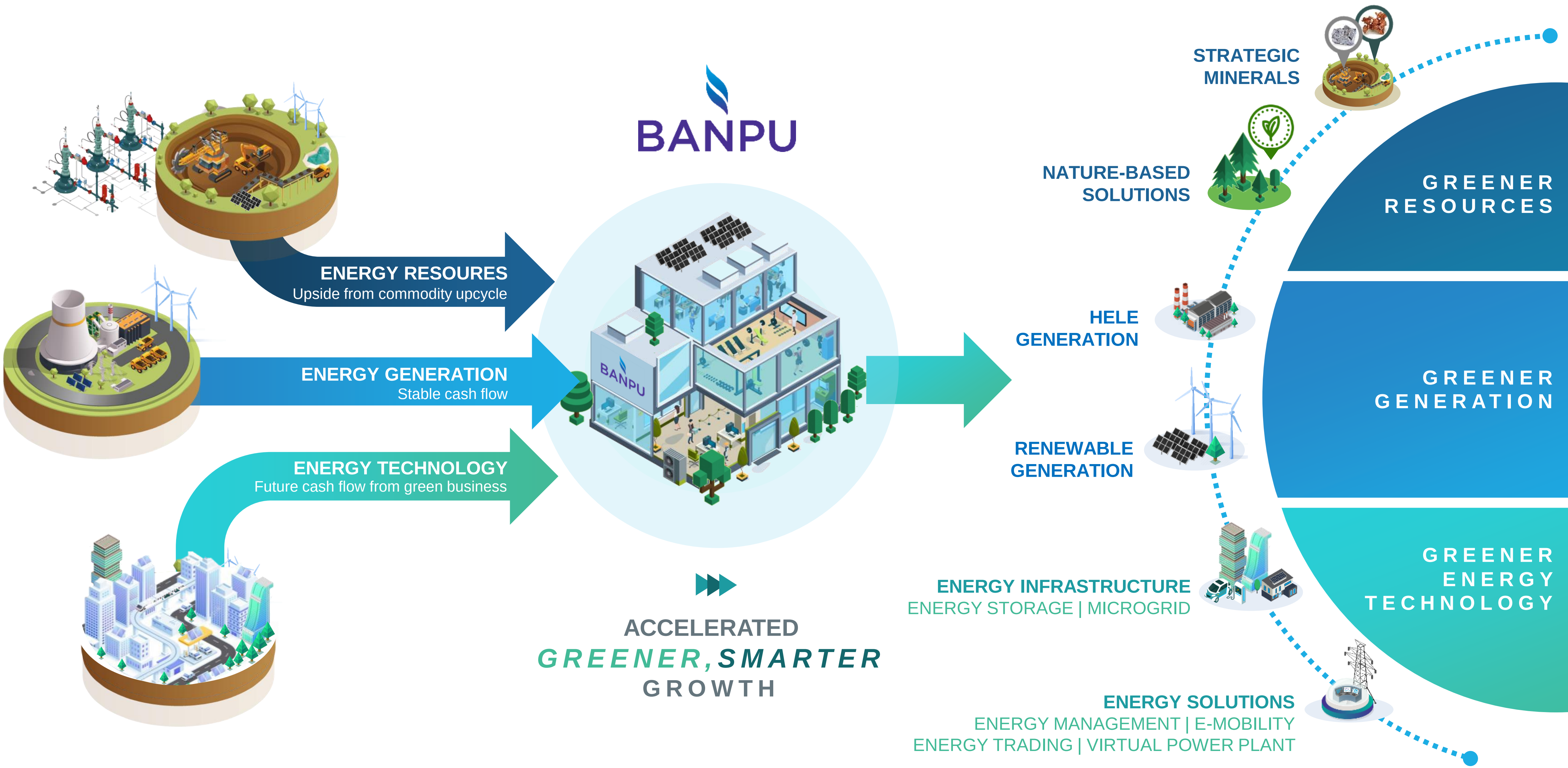
BANPU NEXT ATTRIBUTABLE EQUITY OPERATING CAPACITY

152 MW

as of Feb 2021

Note: *signed Share Purchase Agreement, transactions are subject to customary approvals, certain conditions precedent and potential adjustments, expected deal closing in 4Q21 for Energy Management and 1Q22 for Sunseap

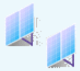
Banpu: accelerating Banpu's Greener, Smarter transformation to 2025

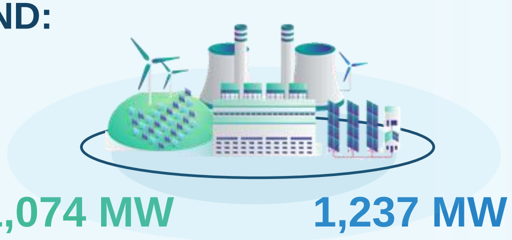


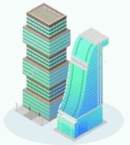
Banpu: investment focus 2021-25

BANPU

	2015	2016-2021	2021-2025
GREENER RESOURCES	COAL-FOCUSED	**ENTER:** 700 MMcfed Shale Gas Production	**EXPLORE** Potential pathways for green transition of energy resource business. Strategic minerals | Gas midstream | Nature-based Solutions
GREENER GENERATION	54 MW	**EXPAND:** 1,074 MW RE Capacity*; 1,237 MW HELE Capacity*	**EXPAND** Rapid scale-up of renewable and HELE generation capacity. 1.6 GW RE Capacity; 2.5 GW HELE Capacity
GREENER ENERGY TECHNOLOGY	LIMITED INVESTMENT	**ENTER:** Battery production; E-Mobility; Smart City & Energy Management; Energy Trading	**EXPAND & EXPLORE** Expand battery production, EMS and energy ecosystem. Explore synergistic complementary business. VPP | Data Centers | Microgrid | On-site Hydrogen







durapower | Fomm | muvmi | HAUP | evolt | BEYOND GREEN | GEPP | ENGIE

Note: *RE capacity - renewable committed capacity, HELE capacity - high efficiency low emissions operating capacity, includes Sunseap's renewables capacity

01 Highlights 3Q21

02 Accelerating the Transformation

03 Financial Summary

04 Energy Resources

05 Energy Generation

06 Energy Technology

Banpu consolidated financial summary 3Q21

BANPU

KEY FIGURES

EBITDA **$530 M**

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

NPAT **$106 M**

Strong performance, with strong EBITDA generation and improved operational results

ND/E **1.23 x**

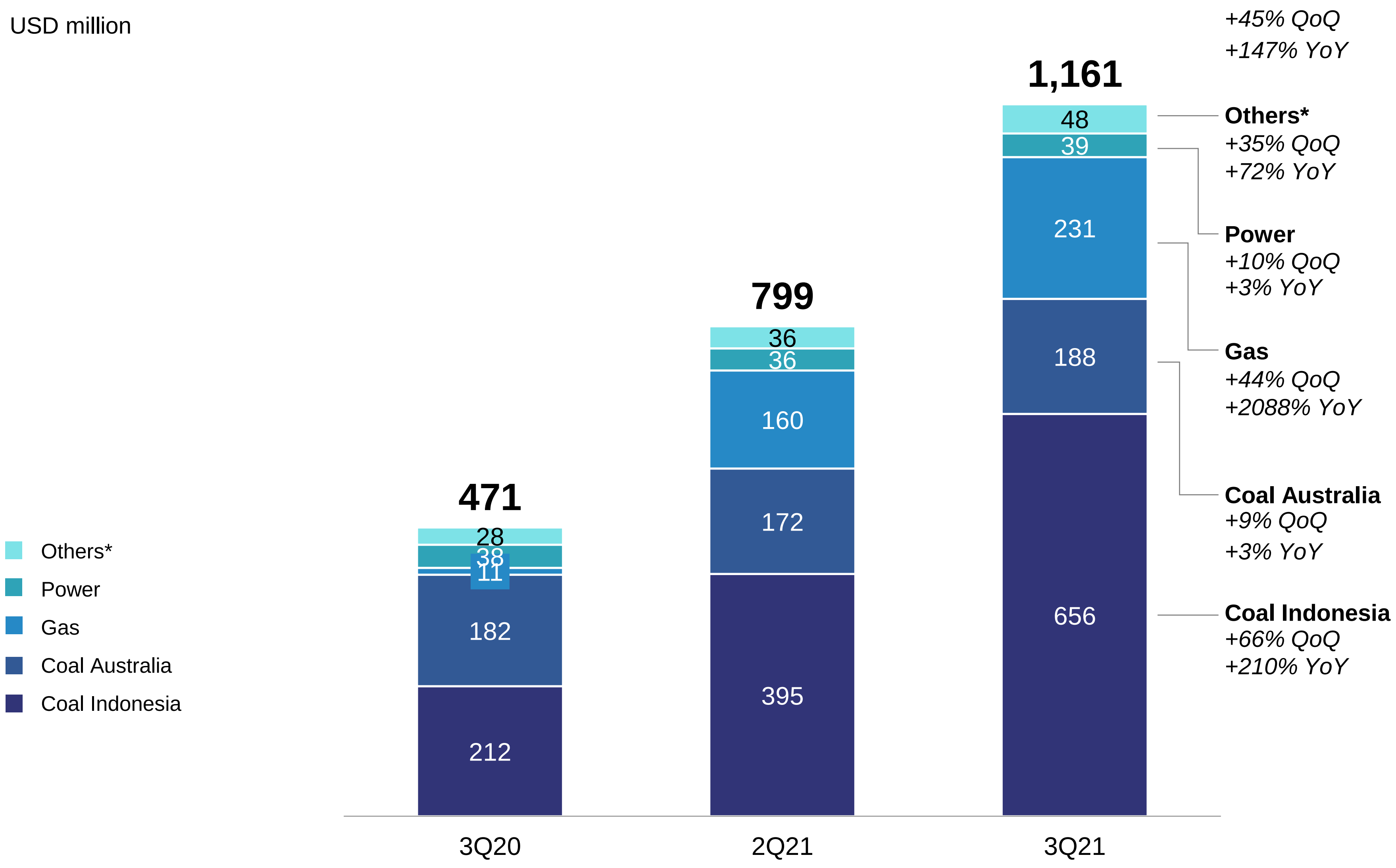
ND/E improved from 1.38x in the previous quarter

KEY TAKEAWAYS

1. **Robust Coal business performance:** from higher sales volume and ASP, compared to relatively strong levels of 2Q21, driven by strong demand and supply tightness
2. **Strong Core Gas business contribution:** supported by significant increase in average local price* and increased production volumes
3. **Strategic positioning:** Coal and Gas businesses well-positioned to benefit from current commodity price levels and demand
4. **Greener, Smarter investments:** cashflow generation captured from Nakoso IGCC and to be captured from Australia Solar, Temple I CCGT in the near-term

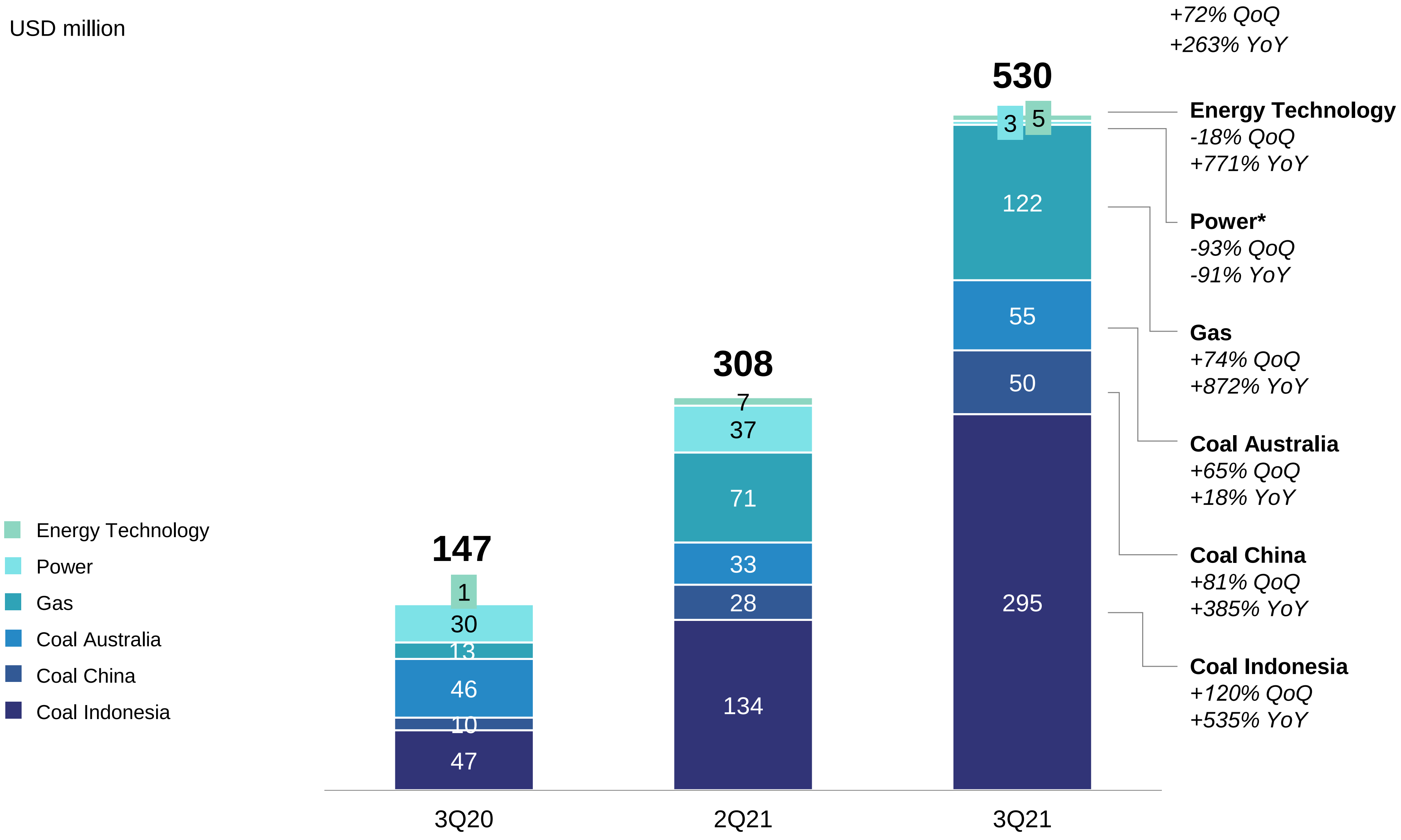
Note: *Average local price = Henry Hub - basis differential

Banpu consolidated sales revenues – 3Q21



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

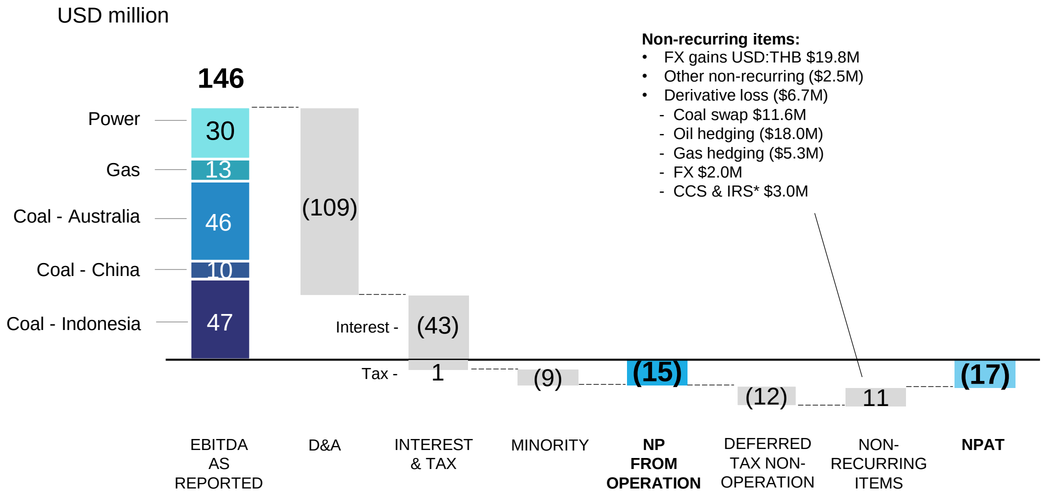
Banpu consolidated EBITDA – 3Q21



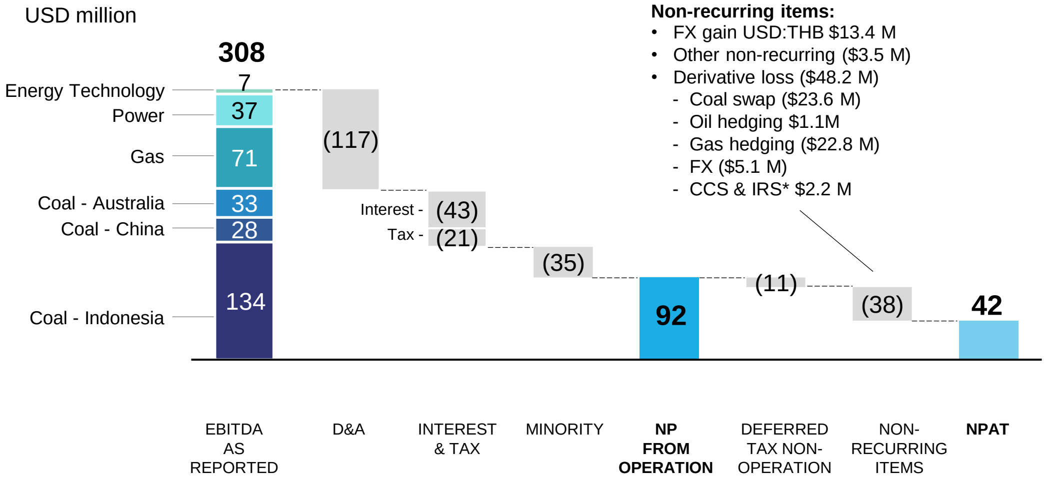
Note: *including one-time expense of $11.9 M incurred from transaction cost capitalization of Beryl and Manildra solar farms

Banpu consolidated NPAT – 3Q21

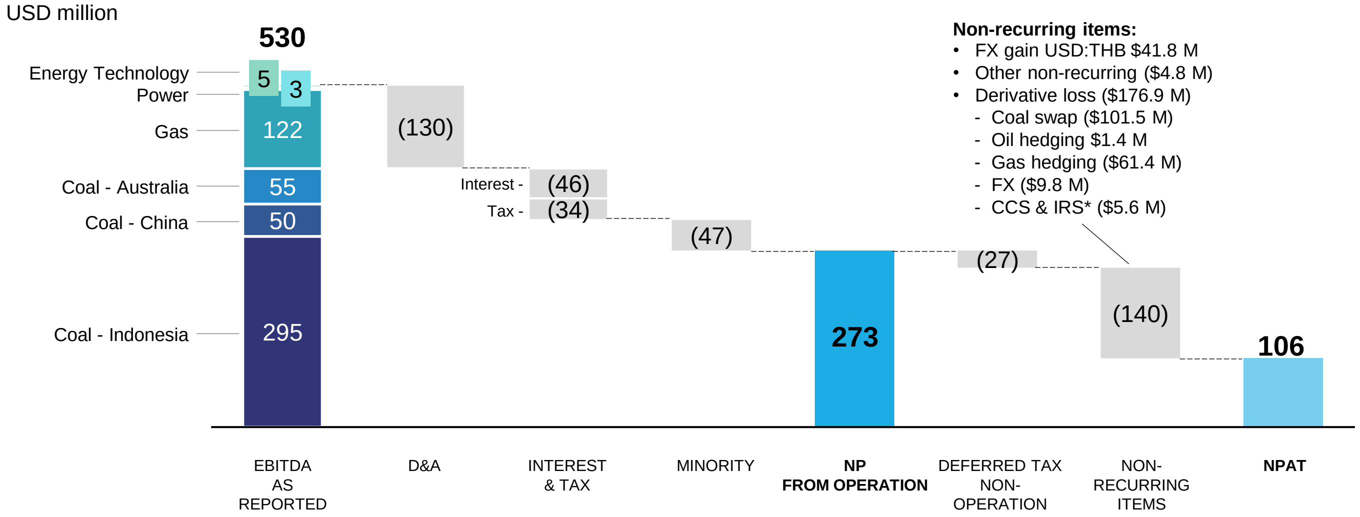
3Q20 NET PROFIT AFTER TAX



2Q21 NET PROFIT AFTER TAX



3Q21 NET PROFIT AFTER TAX



Note: *cross currency swap, interest rate swap

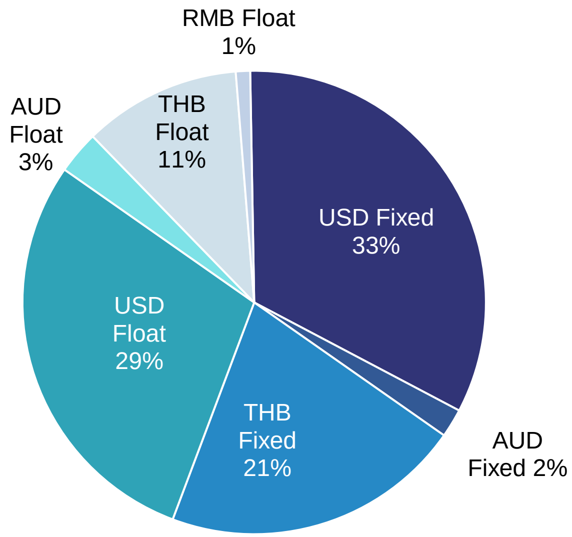
Banpu consolidated balance sheet – 3Q21

3Q21 CONSOLIDATED FINANCIAL POSITION

USD million

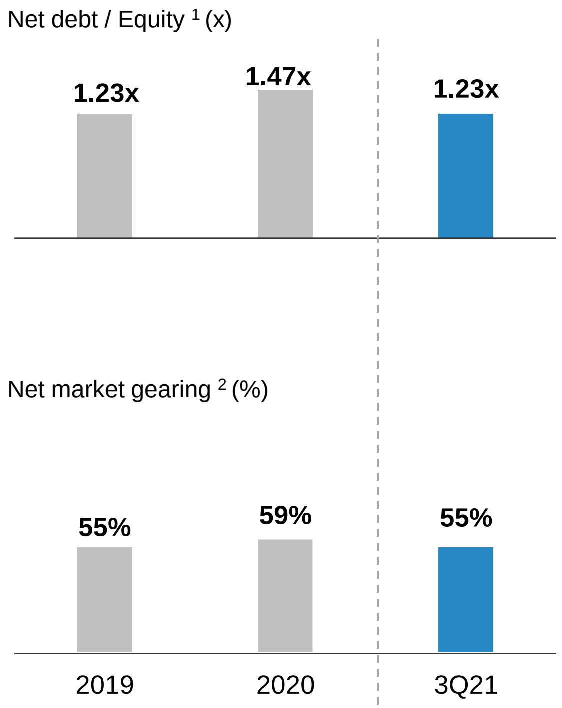
Note:
1 Net debt to book value of shareholders' equity
2 Net debt to enterprise value (enterprise value = net debt + book value of shareholders' equity)

DEBT FX STRUCTURE



Total gross debt: US$5.6 billion
As of 30 September 2021

GEARING RATIOS

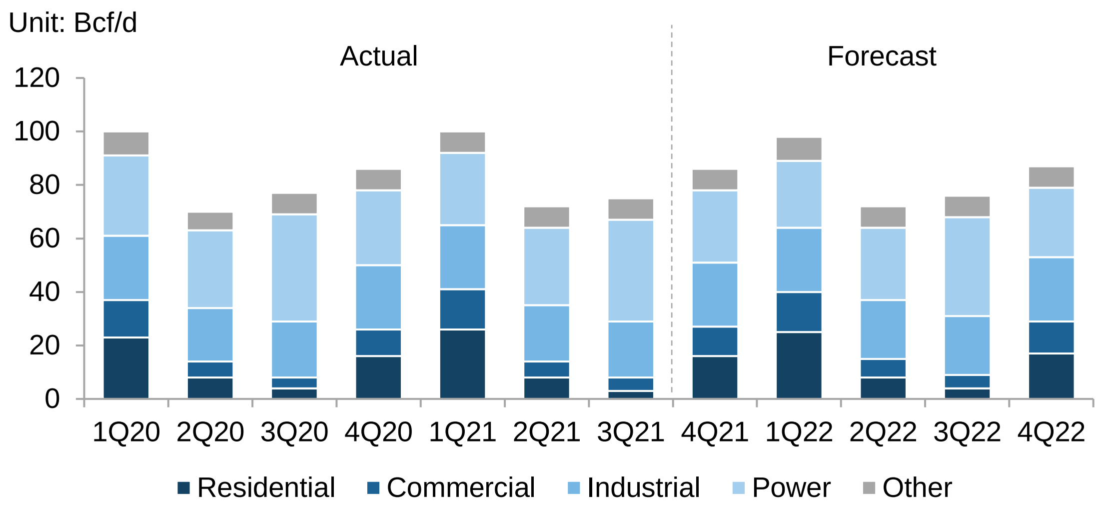



HD785
KOMATSU
746
BANPU

U.S. gas market update

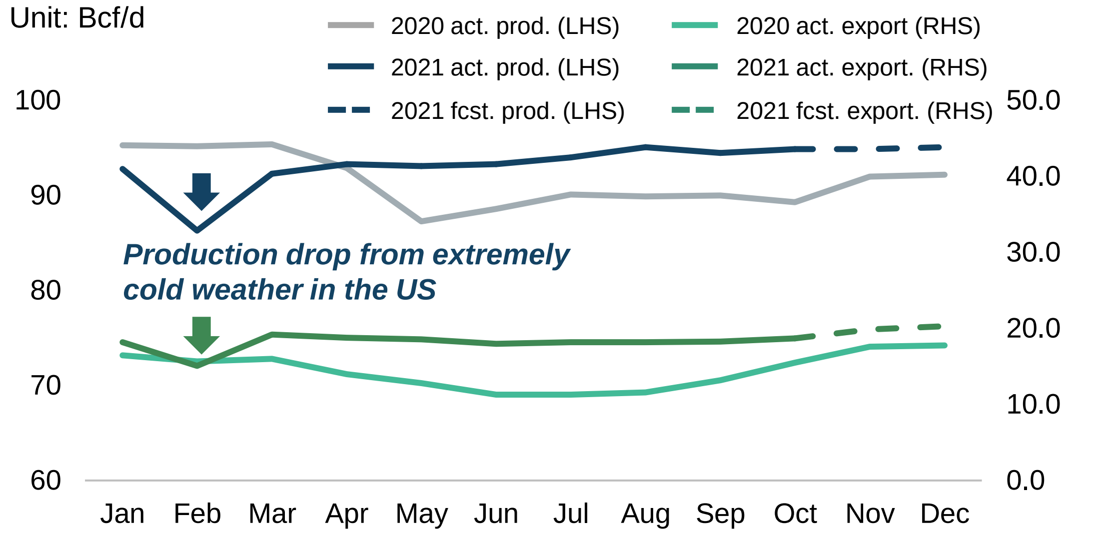
BANPU

RESILIENT DEMAND PROJECTION

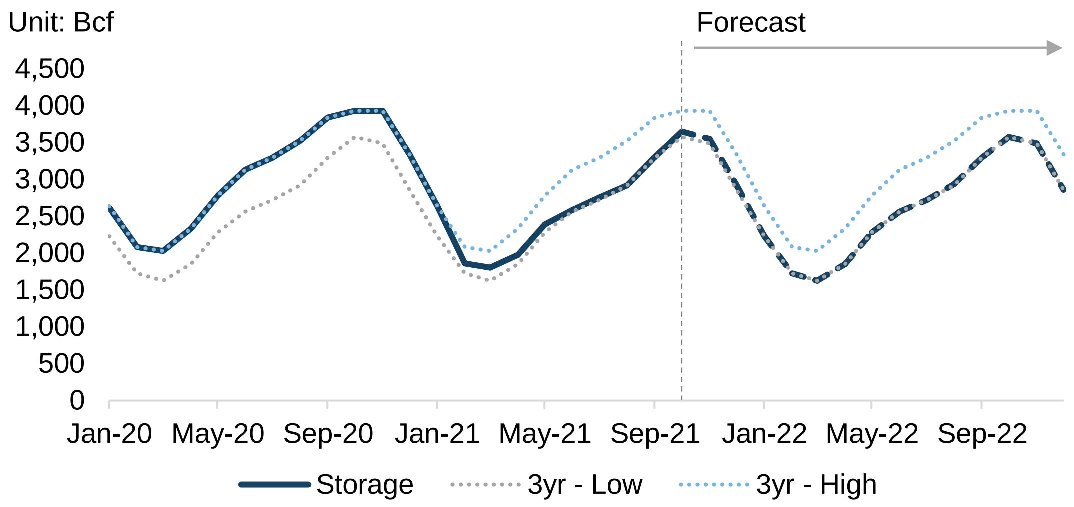


- Majority of US gas demand is domestic consumption. Price is determined by local demand and supply with indirect linkage to oil via associated gas production.
- U.S. gas production is expected to increase to 95.2 Bcf/d during the rest of the winter (Nov-Mar) and average at 96.7 Bcf/d in 2022, driven by increased natural gas and crude oil prices. Prices are expected to remain at levels that will support enough drilling to sustain production growth.
- U.S. LNG exports averaged at 9.8 Bcf/d in October, up 0.3 Bcf/d from September, supported by large price differences between Henry Hub prices in the U.S. and spot prices in Europe and Asia. LNG exports are expected to continue at high levels into 2022, averaging at 11.5 Bcf/d, up 17% from 2021.
- Natural gas inventories ended October 2021 at over 3.6 Tcf, 3% lower than 5-year average as gas injections into storage this summer were below the previous 5-year average, largely as a result of more electricity consumption in June and increased exports.

US NATURAL GAS PRODUCTION



U.S. STORAGE LEVEL

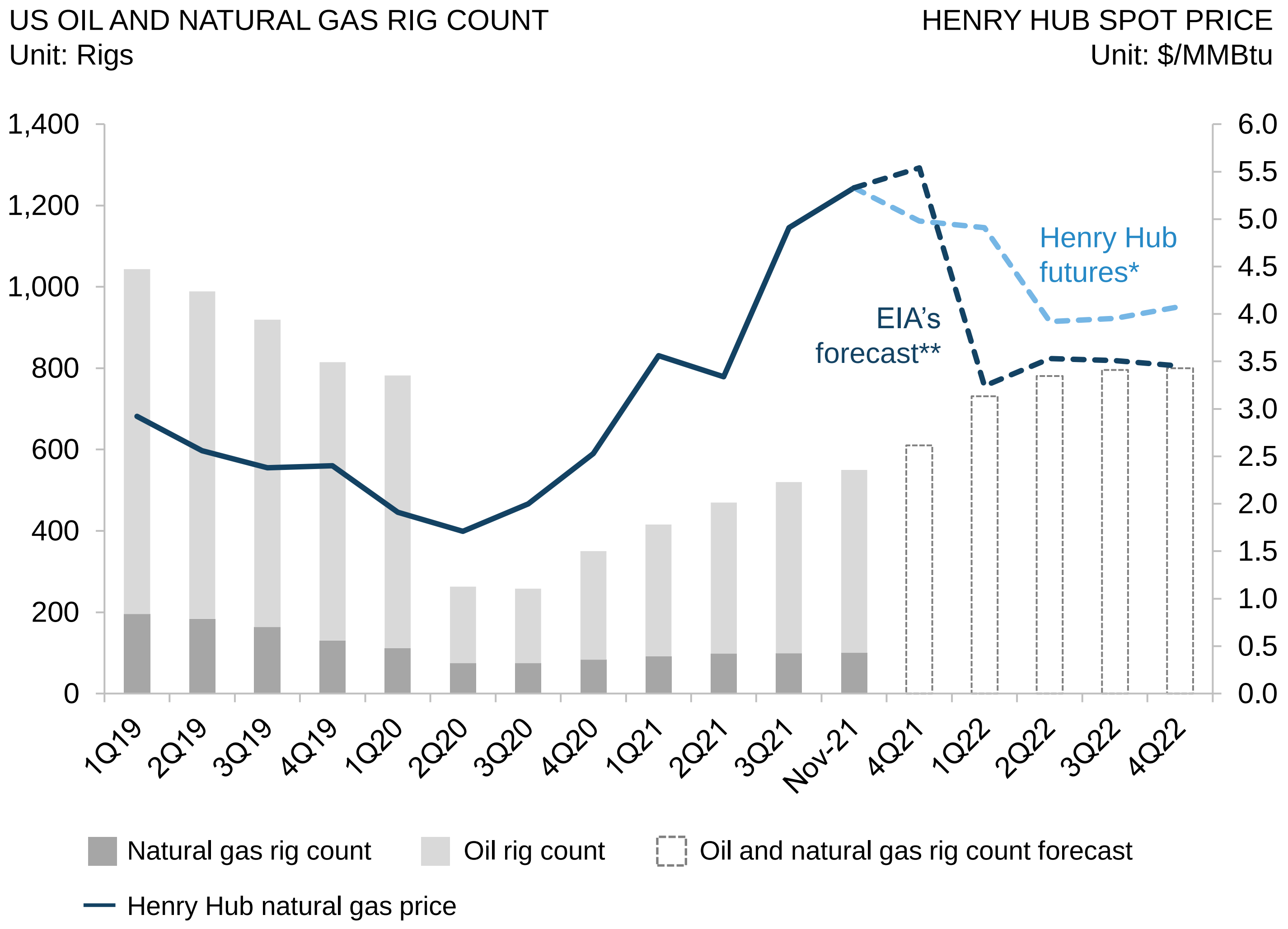


Source: EIA Short-Term Energy Outlook (November 2021)

U.S. gas: gas prices expected to remain high amid low storage level

BANPU

US RIG COUNT VS HENRY HUB PRICE



Note: *as of November 9th, 2021, **Short-Term Energy Outlook (November 2021)
Source: IHS Markit report (August 2021) and Baker Hughes US natural gas rotary rig count (November 2021)

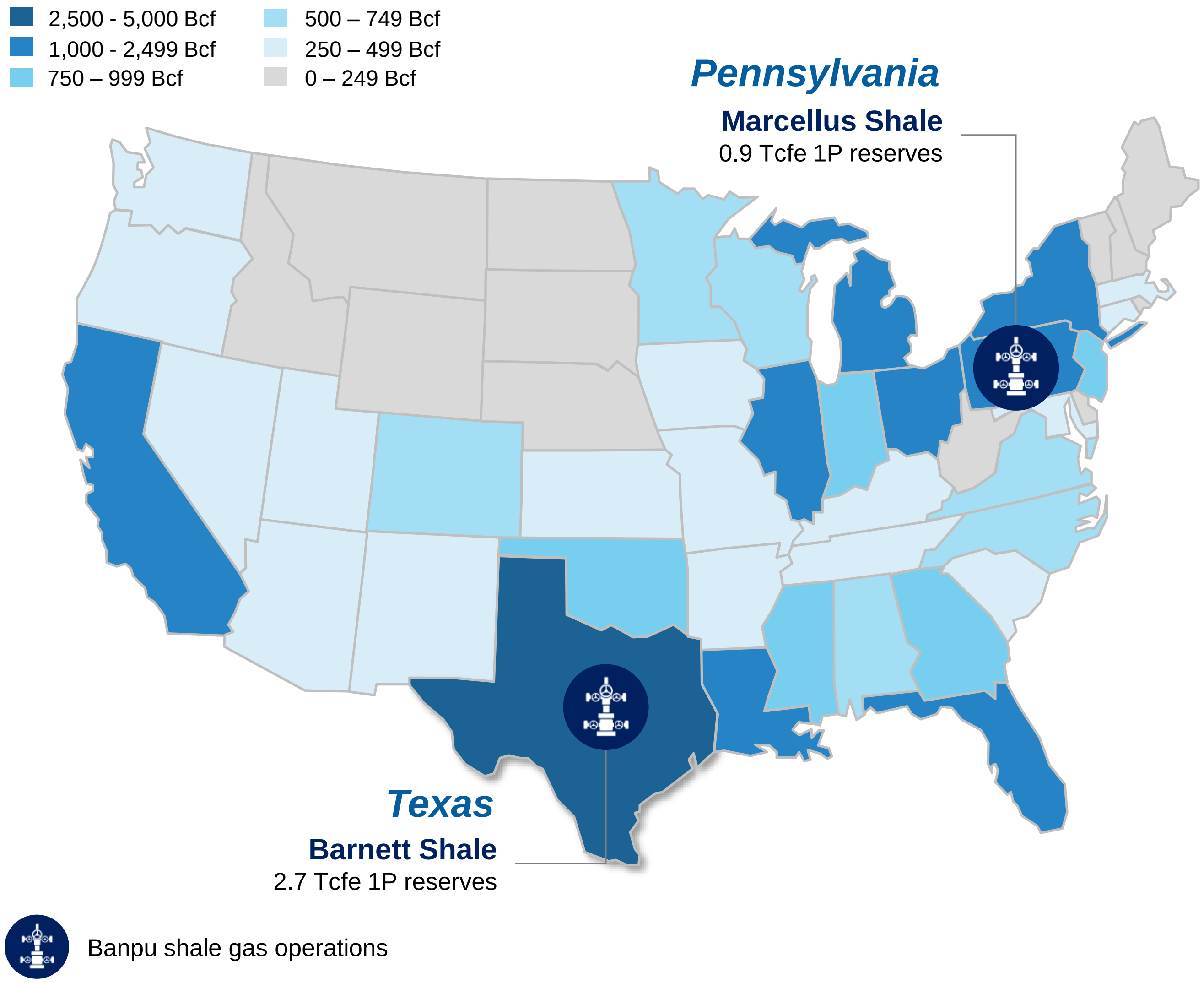
COMMENT

- Natural gas prices in 3Q21 increased from the previous quarter driven by production interruptions from Hurricane Ida and surge in gas demand in Europe.
- Capital spending is expected to increase in 2021 and 2022 relative to 2020 in response to higher crude oil and natural gas prices but remain low in total compared to 2015-2019 average.
- With the increase in capital spending, oil and gas rigs are expected to continue to increase in 4Q21, up 11% from 2Q21 but remain at levels 42% lower than 1Q19.
- Henry Hub futures signal a gradual decline but remain at relatively higher levels after winter season.

Banpu Gas: 3Q21 highlights

BANPU

US DRY GAS CONSUMPTION 2019 BY STATE* (Bcfe)



Average local price**

$3.86/Mcfe

+39% QoQ

Sales volume

62 Bcfe

+3% QoQ

EBITDA

$122M

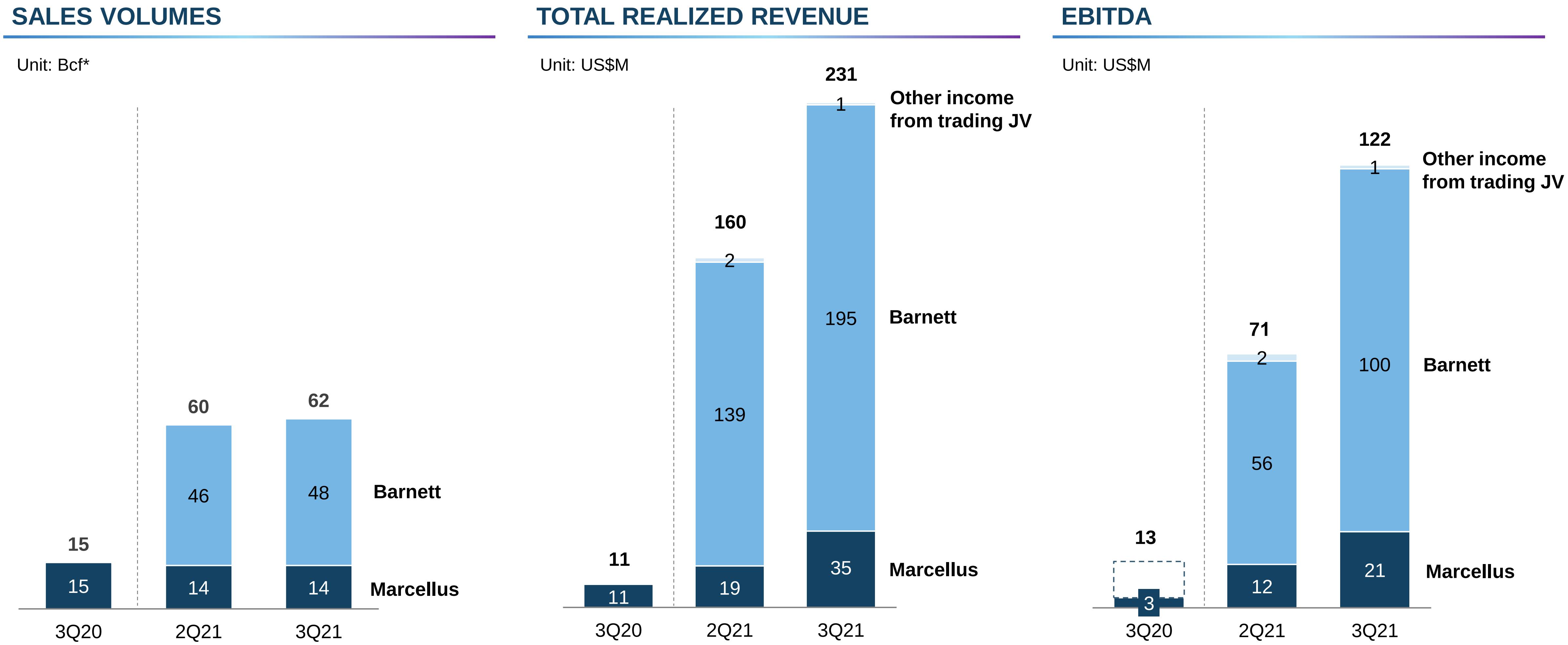
+74% QoQ

*Source: EIA

**Average local price = Henry Hub - basis differential

Banpu Gas: 3Q21 performance

3Q21 EBITDA came in strong at $122 M, 74% higher QoQ, highlighting our strength to maintain strong base production and accelerate our Value Driven Initiatives (VDI) under a solid summer-autumn pricing environment.

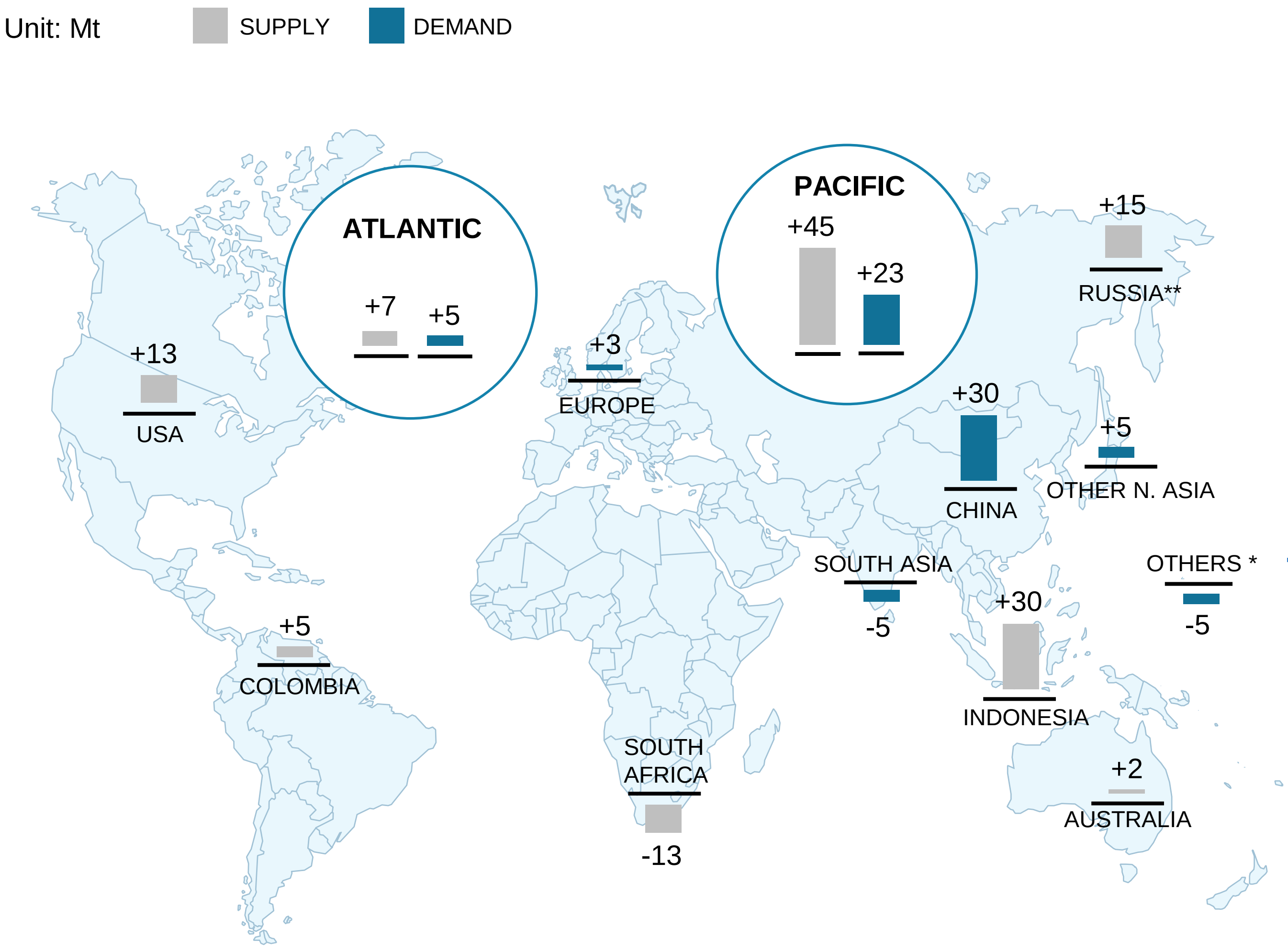


Note: *Bcf = Billion cubic feet

Global thermal coal market

BANPU

COAL DEMAND AND SUPPLY CHANGE – 2021E VS 2020



* Demand in other countries driven by Vietnam, ** Russia exports to non-CIS countries only, JKT = Japan, South Korea and Taiwan

TRENDS

DEMAND

Current record high prices are likely to ease, although a high-price environment is expected throughout the northern hemisphere winter and well into 2022. High natural gas prices help boost coal demand and price. Increase in demand is driven by strong economic recovery and restocking.

- **China:** Massive coal deficit drove domestic coal prices to record highs. Government's price intervention will not ease the market tightness.
- **India:** A severe coal shortage in 3Q was driven by strong demand and tight supply caused by unfavorable weather conditions. Rising global coal prices keeps Indian buyers away from imports.
- **JKT:** The forthcoming colder winter will boost coal demand amid high gas prices even with higher nuclear availability and environmental concerns
- **Europe:** Economic recovery, driving electricity demand with high gas prices making coal competitive. Coal prices hit record highs due to strong demand, tight supply and weak renewables output.

SUPPLY

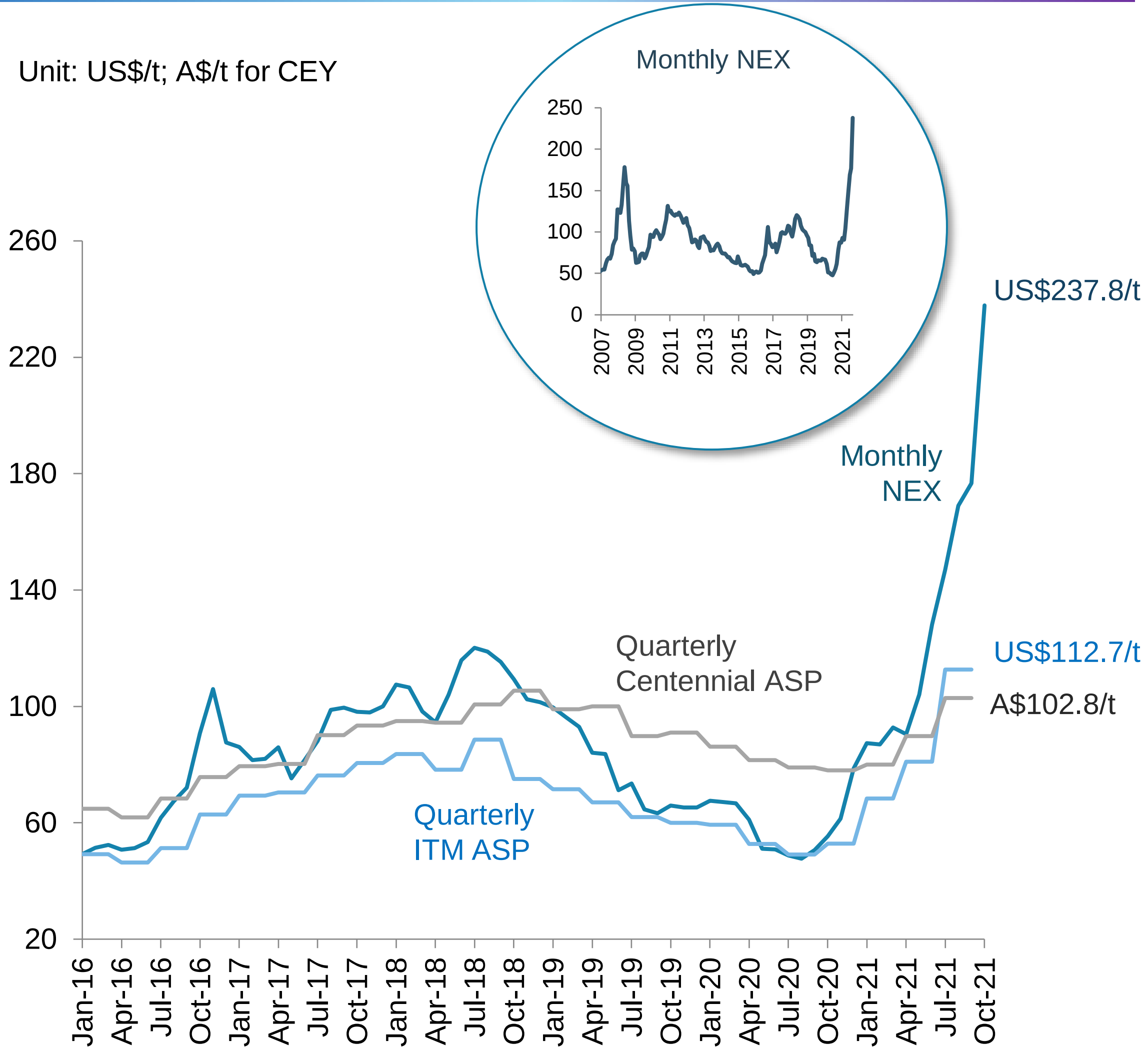
Global supply chain still struggles to recover from the Covid-19 pandemic with supply growth still lagging behind demand recovery with potential supply shortages in the coming winter.

- **Indonesia:** Export growth remains constrained by wet weather, Covid-19 prevention measures, and strong domestic demand.
- **Australia:** Tight supply availability with limited upside due to constraints around equipment availability and labor.
- **Others:** South Africa's exports continue to be challenged by ongoing rail issues. Russia completed maintenance on the railway lines to the Far East with the prospect to increase supply to Asia in 4Q. Colombia's exports are recovering due to a slowdown in protest actions and a ramp up in production. US thermal coal export remains tight due to domestic demand and producers and transporters reaching maximum output.

Banpu ASPs vs thermal coal benchmark prices

BANPU

BANPU ASP VS BENCHMARK PRICES



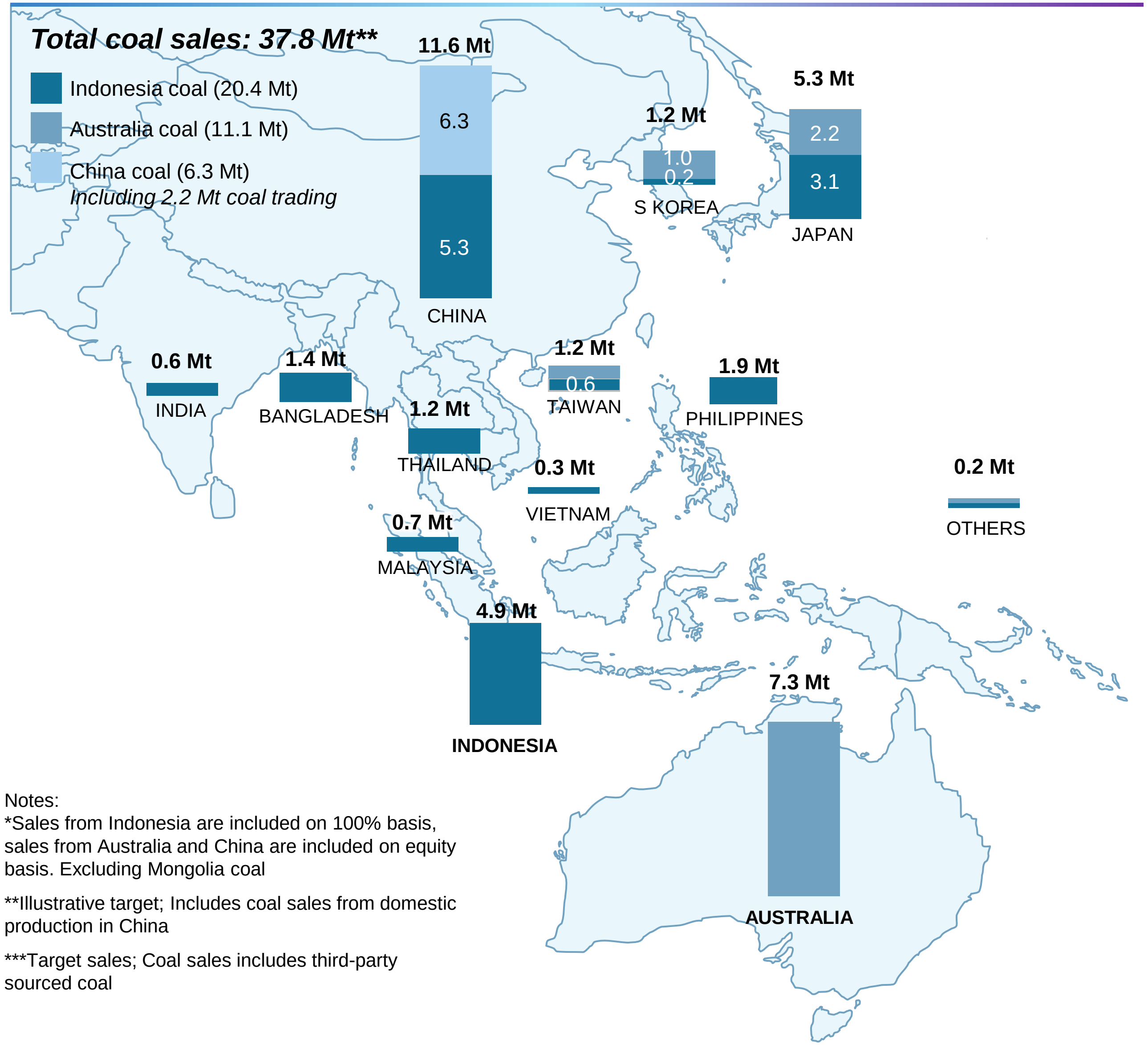
Note: * Includes post shipment price adjustments as well as traded coal
** The Newcastle Export Index (previously known as the Barlow Jonker Index – BJI)

COMMENTS

- Coal price has continued strengthening through 3Q21, mainly as a result of strong demand coupled with supply tightness. Particularly, from late August to September 2021, coal prices jumped to very high levels.
- JPU October 2021 – September 2022 term contract negotiations broke due to huge gaps on perspectives of future market trends.
- China continues to play a major role in the global thermal coal market. In 3Q21, Chinese buyers were not only buying the largest quantities, but also paying highest prices globally. Large quantities of high quality Indonesian thermal coal were sold to China, removed from traditional premium markets (e.g. Japan, Taiwan, Korea). This was one of the most important factors that pushed up all the major indexes to the record highs. As a result, the global thermal coal market was in an overheated situation since August up until mid-October.
- Newcastle future price has been keeping its significant backwardation through 3Q21, while still at very healthy price levels for the coal mining industry.
- Group ASP in 3Q21 continue to increase, particularly for the export portion.
- Key price metrics:
  - ITM ASP 3Q21 : US$112.7/t* (+39% QoQ)
  - CEY ASP 3Q21 : A$102.8/t* (+15% QoQ)
    ASP Domestic A$75.5/t (+2% QoQ), ASP Export A$163.9/t (+40% QoQ)
  - NEX (November 12th, 2021)**: US$157.9/t

Banpu Mining: group coal sales and pricing status 2021e

COAL SALES* SOURCE – DESTINATION ANALYSIS



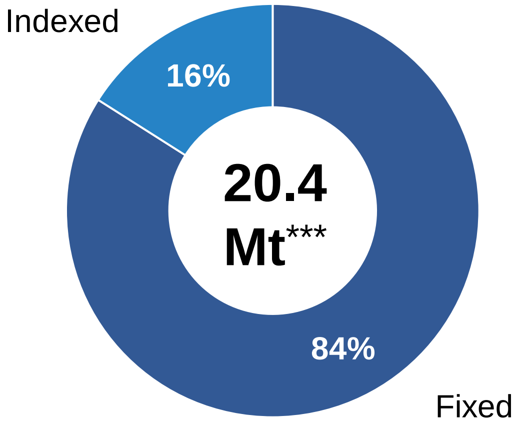
Notes:
*Sales from Indonesia are included on 100% basis, sales from Australia and China are included on equity basis. Excluding Mongolia coal

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

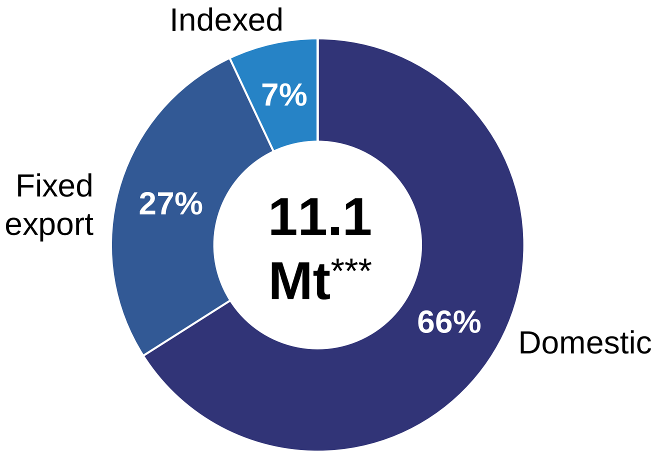
***Target sales; Coal sales includes third-party sourced coal

COAL SALES PRICING STATUS

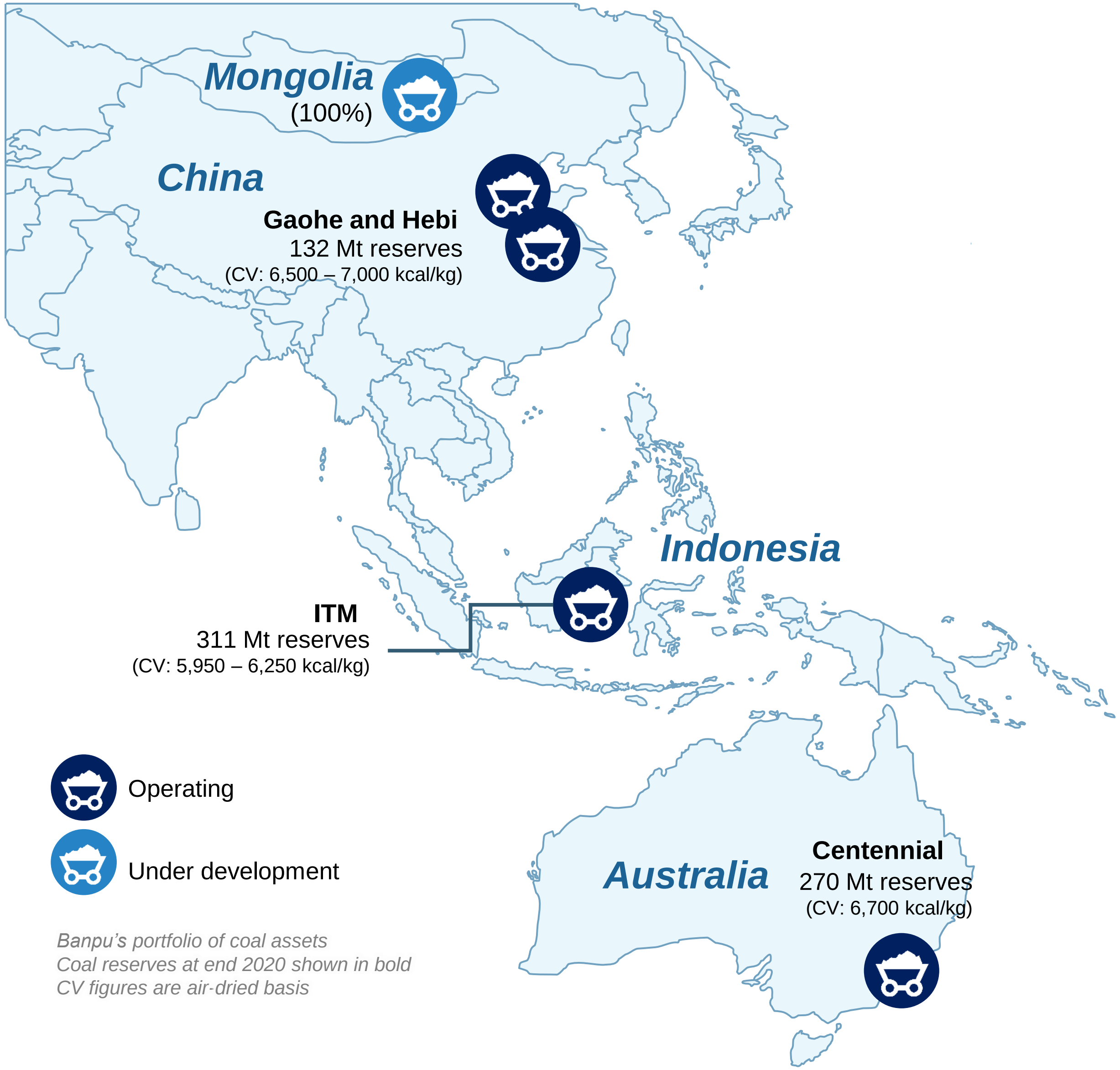
INDONESIA



AUSTRALIA



Banpu Mining: 3Q21 highlights



Banpu's portfolio of coal assets
Coal reserves at end 2020 shown in bold
CV figures are air-dried basis

Production volume*

9.6 Mt

+4% QoQ

Sales volume*

9.7 Mt

+9% QoQ

EBITDA

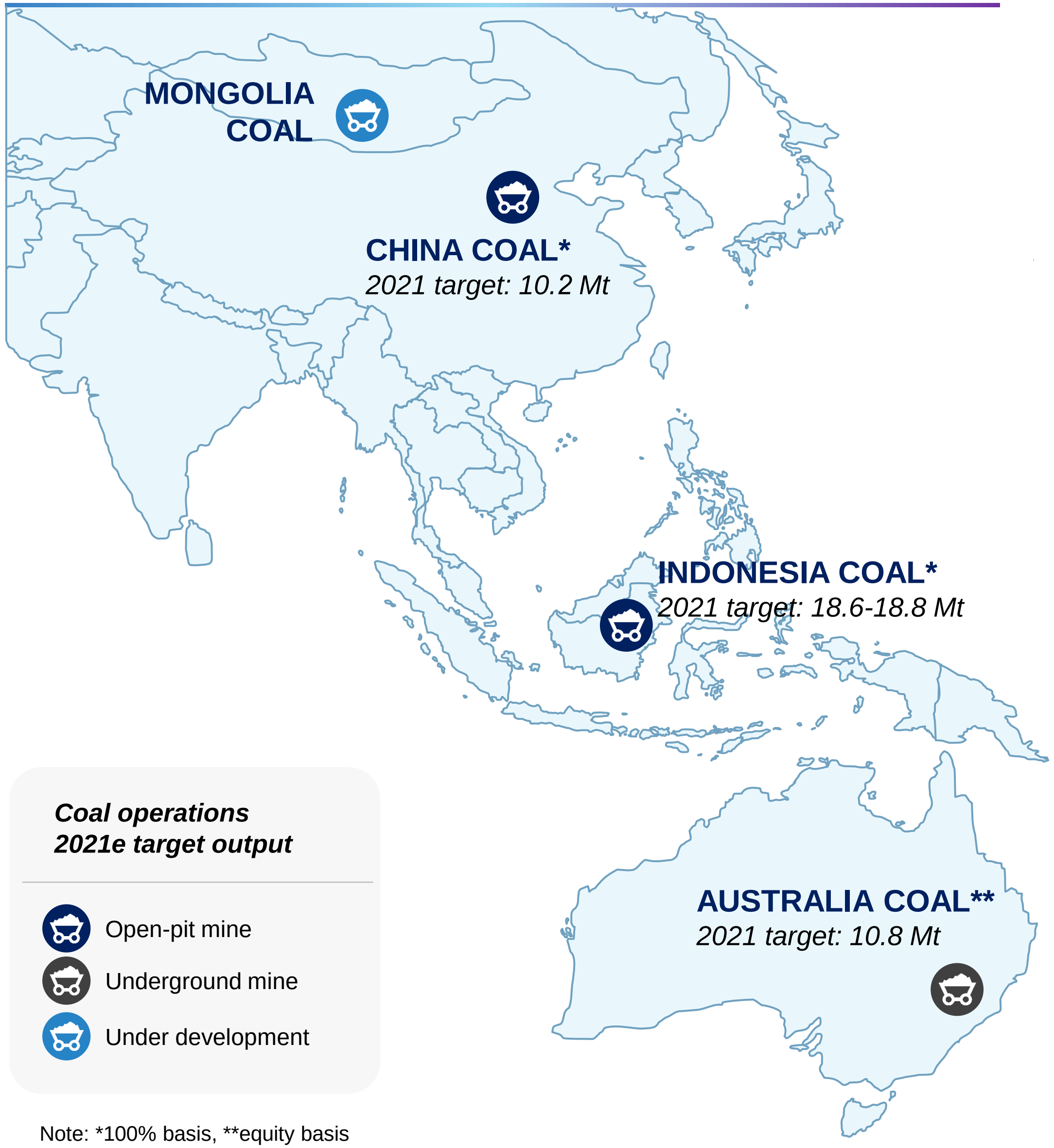
$399 M

+105% QoQ

Note: *Based on 100% basis

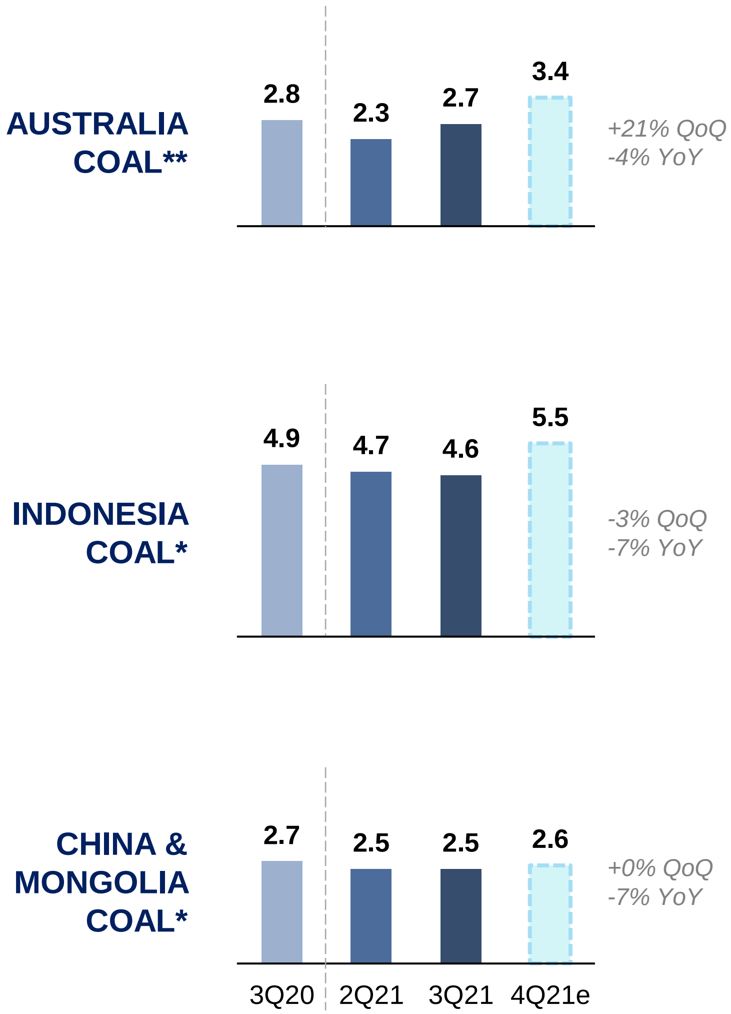
Banpu Mining: operational summary

2021E COAL OUTPUT



Note: *100% basis, **equity basis

ROM PRODUCTION AND KEY UPDATES



Australia
- Production improved when compared to previous quarter.
- All mines experienced improved production except Springvale, that was impacted by complex geology early in the quarter.
- 4Q21 - anticipated improved conditions and reduced time in longwall changeover mode.

Indonesia
- Continuous heavy rainfalls have prevented mine sites to achieve production target with lower production coming from Embalut.

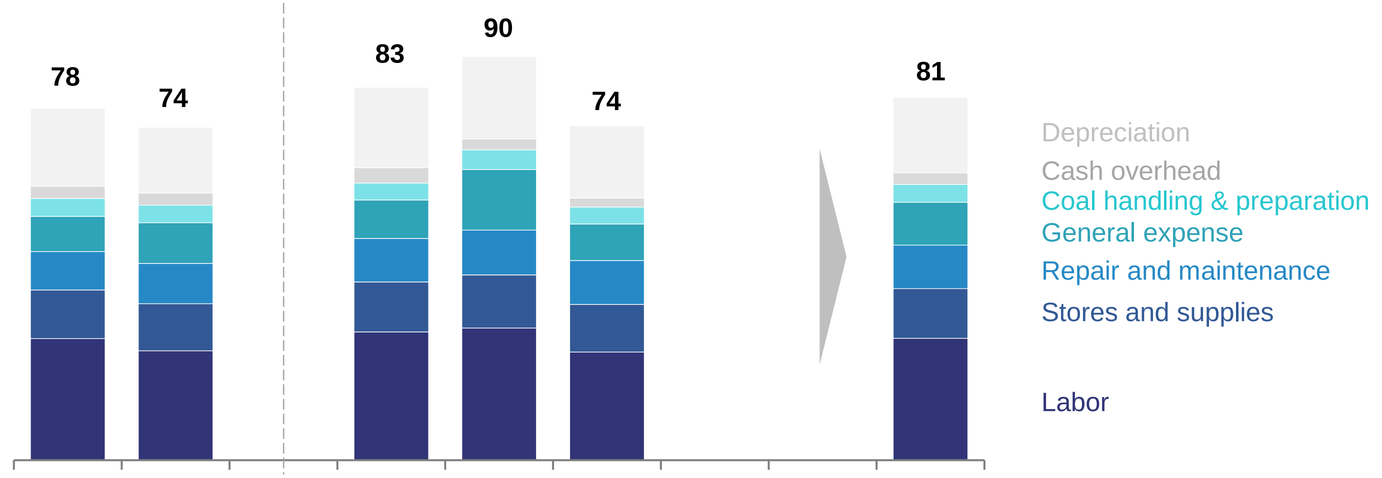
China & Mongolia
- Gaohe: Production and sales in 3Q remained stable amid strong demand along with the continuous recovery of industrial activities and summer peak.
- Hebi: Lower production and sales in 3Q due to complicated running conditions of LW panels, delayed roadway development progress.

Banpu Mining: average production cost breakdown

BANPU

AUSTRALIA COAL – AVERAGE PRODUCTION COST[1]

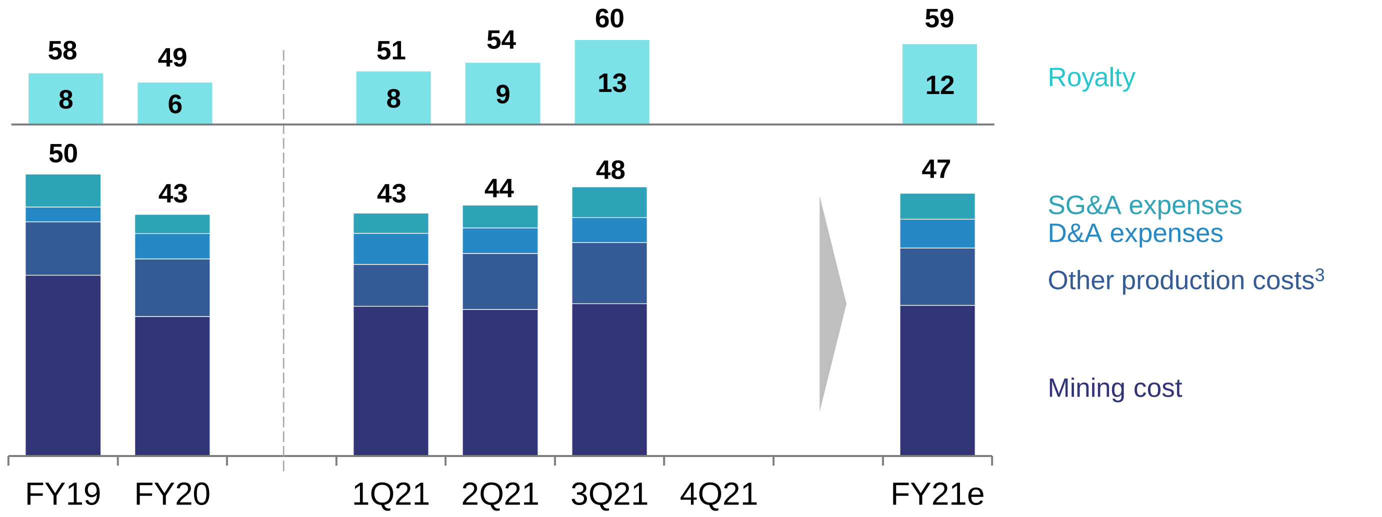
Unit: A$/t



- Lower unit cost as a result of Project Challenge initiatives and improved production.
- Focus remains on improving production and cost performance.

INDONESIA COAL – AVERAGE TOTAL COST[2]

Unit: US$/t



- Average total cost per ton (excl. royalty) rose to $48/t in 3Q21 on the back of increasing fuel price which impacted mining cost and increase in equipment rental. Selling expense also rose driven by increases in freight cost.
- Royalty costs increased further as coal price index reached all time high during 3Q21.

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

Banpu Energy Generation: 4,318 MW committed capacity

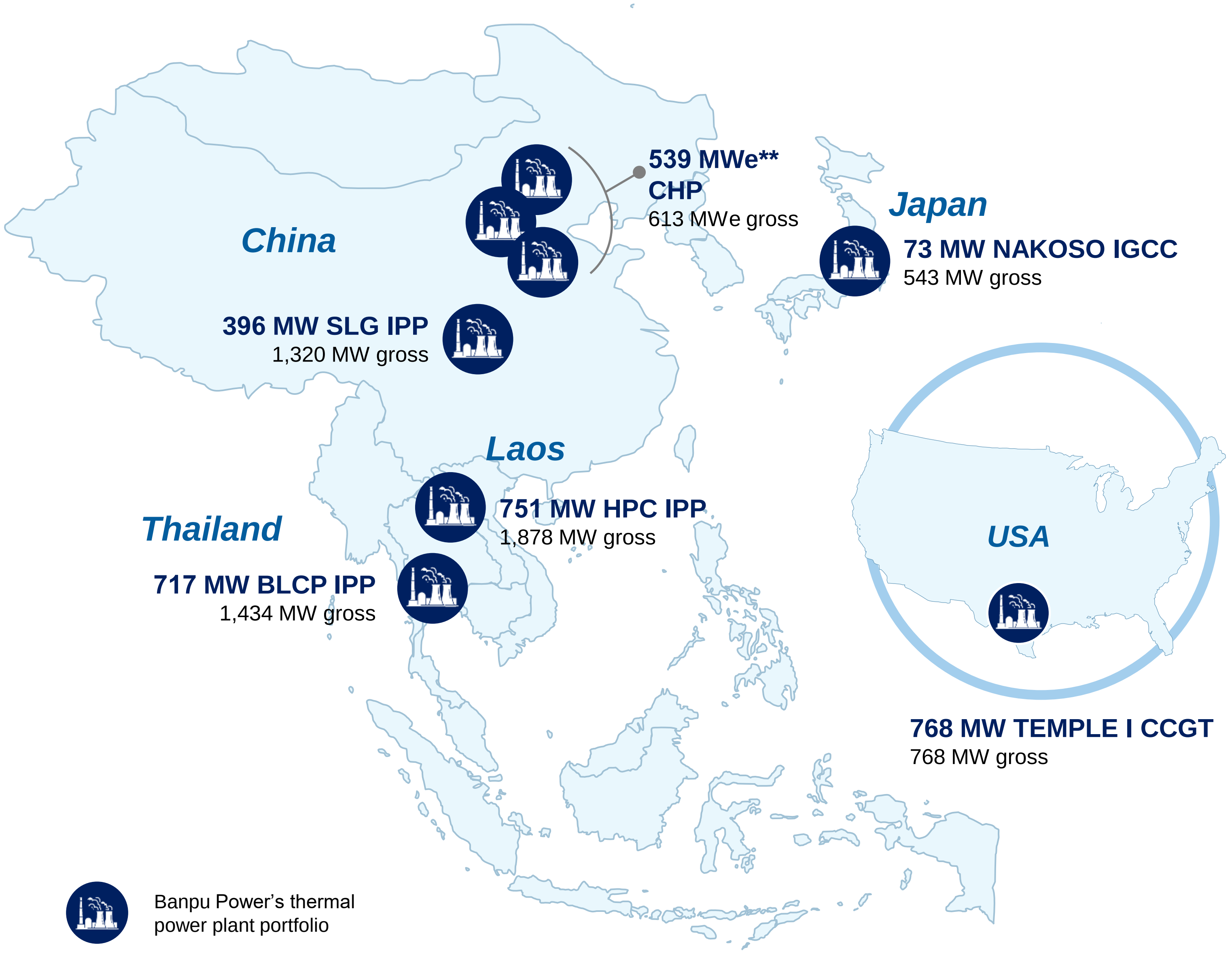
13 countries
operations across the Pacific Rim

3,244 MW
committed thermal equity capacity*

1,074 MW
committed renewables equity capacity**

*Based on Banpu Power's equity capacity, **Banpu Renewable Power businesses are owned by Banpu NEXT (50% Banpu PLC, 50% Banpu Power), includes Sunseap's renewables capacity

Banpu Thermal Power: 3Q21 highlights



EBITDA

$3 M

-93% QoQ

Achieved EAF

100%
at BLCP

75%
at HPC

Growth update

+768 MW

Acquisition completion of Temple I in USA

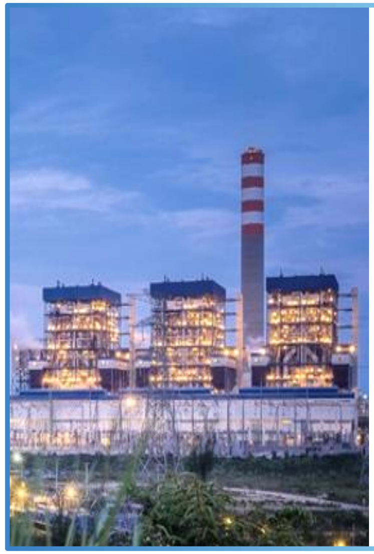
*Based on Banpu Power's equity capacity, **MW equivalent

Banpu Thermal Power: 3Q21 updates

BLCP

Smooth operations with strong reliability and consistency to serve 100% dispatch order from EGAT

- High reliability with EAF* reported at 100%, +13% QoQ
- Total revenue reported at THB 4.3 bn, EBITDA at THB 0.9 bn
- Reported loss sharing of THB (54) M



HPC

Successfully completed planned maintenance for Unit 1 and 3 and operations are back to normal

- Reported EAF of 75%, -17% QoQ as a result of planned maintenance
- Total revenue reported at THB 4.5 bn, EBITDA at THB 2.3 bn
- Reported share of profit at THB 0.7 bn

China CHP

Optimize plant operational mode to protect bottom line, mainly impacted from high domestic coal cost

- Reported revenue of RMB 206 M.

SLG

- Started its commercial dispatch to national transmission system

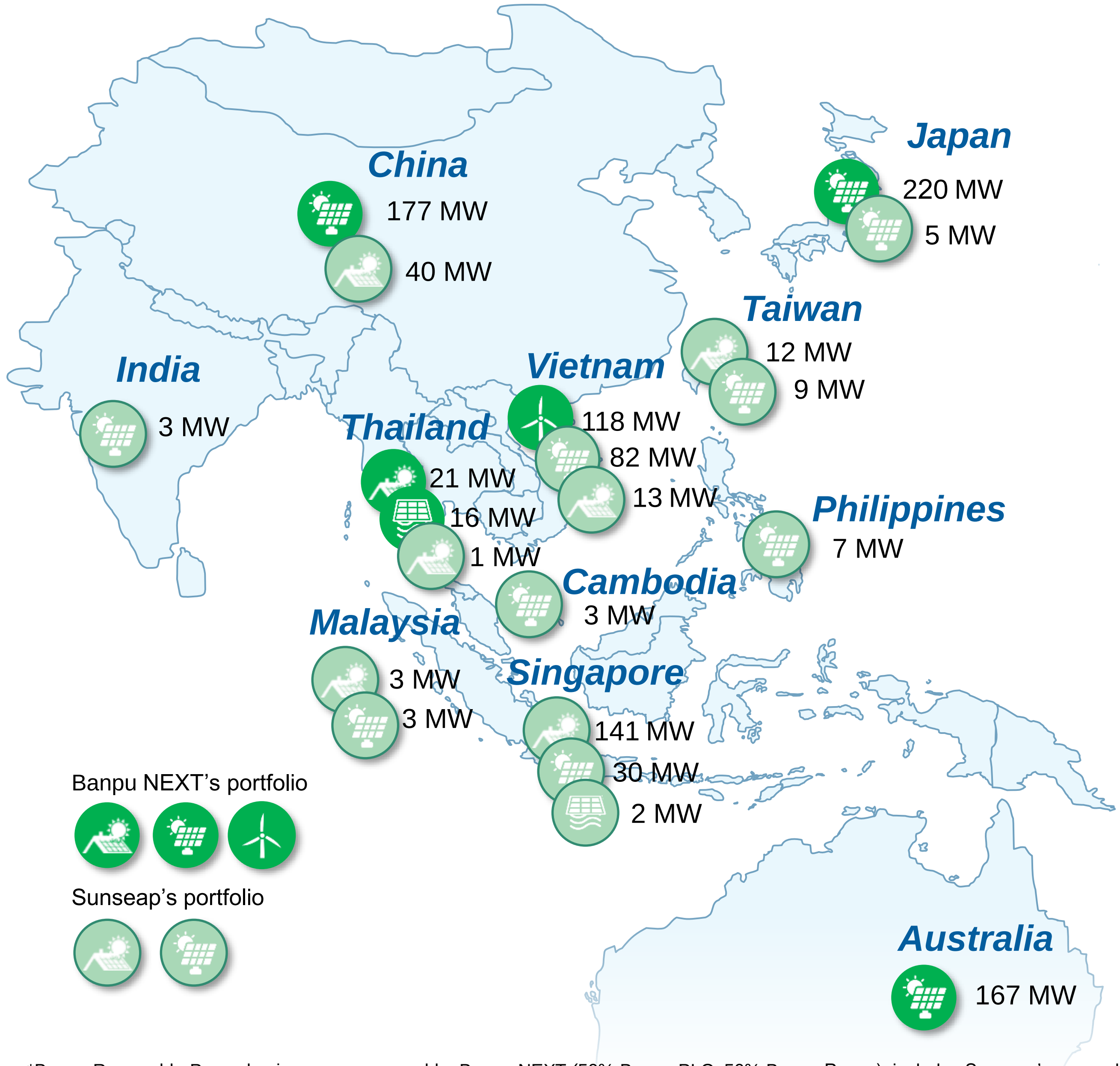
Nakoso IGCC

Gradually improving plant efficiency and reliability. The technical improvement program has started and is expected to complete in 4Q21

- Reported EAF of 43%
- Achieved net generation of 506 GWh
- Reported share of profit at THB 103 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*



1,074 MW
committed renewables capacity across Asia-Pacific

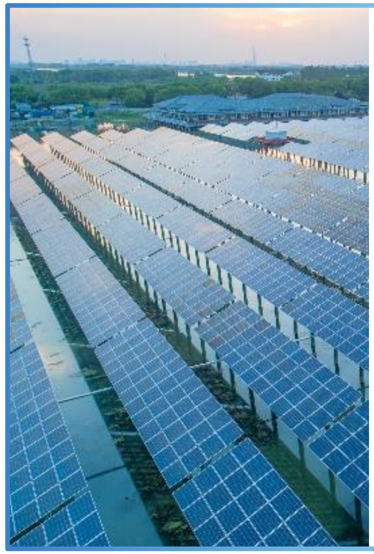
706 MW
committed solar power capacity

250 MW
committed solar rooftop and floating solar capacity

118 MW
committed wind capacity

*Banpu Renewable Power businesses are owned by Banpu NEXT (50% Banpu PLC, 50% Banpu Power), includes Sunseap's renewables capacity

Banpu Renewable Power: 3Q21 updates



China Solar

Capacity factors remain strong, slightly lower power sold from seasonality and unfavorable weather conditions.

- Average capacity factor was 14.6%
- Power sold was 57 GWh, -11% QoQ
- Reported revenue of RMB 48 M with profit contribution of RMB 15 M

Japan Solar

Lower power sold due to unfavorable weather conditions resulting in lower capacity factor.

- Average capacity factor was 15%
- Power sold was 48 GWh, -12% QoQ
- Reported TK distribution of JPY 470 M

Australia Solar

Post-closing activities on integration of plant operations and management. Optimization of generation and energy value through plant improvement initiatives.

- Average capacity factor 3Q21 reported at 20%
- Power sold was 53 GWh

Vietnam Wind

Construction progress of Vinh Chau reached 76% and expect slight shift in COD to 1Q22.

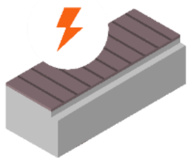
- Phase 1 of Vinh Chau project in Soc Trang province achieved construction progress of 76%
- Substation energization completed and continued work on internal road construction

Note: Banpu has 50% shareholding in Banpu NEXT


EV
BANPU

Banpu Energy Technology: growth targets 2025

BANPU



	SOLAR: ROOFTOP & FLOATING	ENERGY STORAGE SYSTEMS	E-MOBILITY	SMART CITIES & ENERGY MGMT.	ENERGY TRADING
	Including **47.5%** in Sunseap	**47.7%** in Durapower	**30.7%** in UMT, **30%** Beyond Green, **21.5%** in FOMM, **15%** in EVolt, **10%** in Haupcar	**100%** ownership	**100%** ownership
3Q21	**250** **MW** committed capacity	**1.0** **GWh** (0.5 GWh on equity basis) Li-ion battery production capacity	**1,600** passengers/day ride hailing via Muvmi **215** electric vehicles under fleet management **102** Chargers **1** E-ferry sold	**5** **projects** Includes energy management, smart infrastructure, etc.	**226** **GWh** Electricity sales
2025 target	**500** **MW**	**3.0** **GWh** (1.4 GWh on equity basis)	**430,000** passengers/day **5,500+** electric vehicles **2,000** chargers **100** e-ferries sold	**9** **projects**	**1,000** **GWh**

Banpu Energy Technology: 3Q21 updates

BANPU

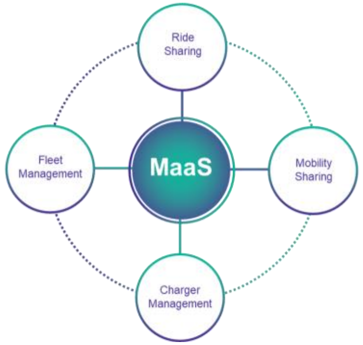
SOLAR: ROOFTOP & FLOATING | **ENERGY STORAGE SYSTEMS** | **E-MOBILITY** | **SMART CITIES & ENERGY MGMT.** | **ENERGY TRADING**

SOLAR ROOFTOP

NEW CONTRACT SIGNING
With Khon Kaen Innovations for the installation of solar rooftop with the total capacity of 674 kWp

SIGNED SPA TO DIVEST FROM SUNSEAP
Divestment of 47.5% shareholding in Sunseap to EDPR, a listed renewables company incorporated in Spain, for US$364 M. The transaction is expected to be completed in 1Q22

E-MOBILITY PLATFORM



muvmi
HAUP
evolt
BEYOND GREEN

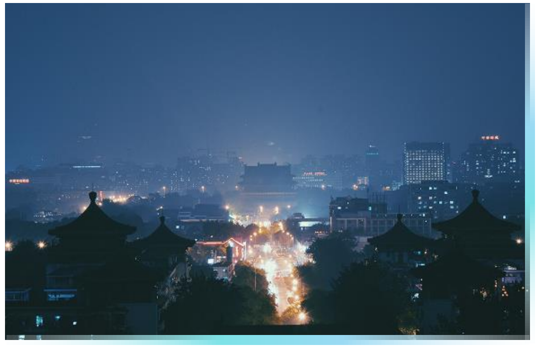
LAUNCHED MOBILITY AS A SERVICE
with strategic partners to provide fleet management, charger mgmt., mobility sharing, and ride sharing

INVESTMENT IN BEYOND GREEN AND EVOLT TECHNOLOGY
Invested c.US$9 M in Beyond Green, a distributor of electric club cars in Thailand, Laos, and Cambodia. Future collaboration in R&D activities to develop innovative solutions. Invested c. US$2.7 M in EVolt, an EV infra company with smart charging solutions

CSR

MUVMI FOOD AND ISOLATION KIT DELIVERY
In collaboration with the ‘Food for Fighters’ network, Banpu NEXT supported the fight against Covid-19 by utilizing its fleet of MuvMi e-tuktuks to help deliver and distribute food, survival packs, and home isolation kits to affected communities and homes

ELECTRICITY SALES



SECURED NEW SUPPLY CONTRACT
Awarded 7 contracts to deliver 131 GWh of electricity to 6 new clients and 1 existing client. Clients include hospitals, universities and National institutes with most contracts’ supply period lasting one year, from October 2021 to September 2022

Banpu Energy Technology: 3Q21 updates

BANPU

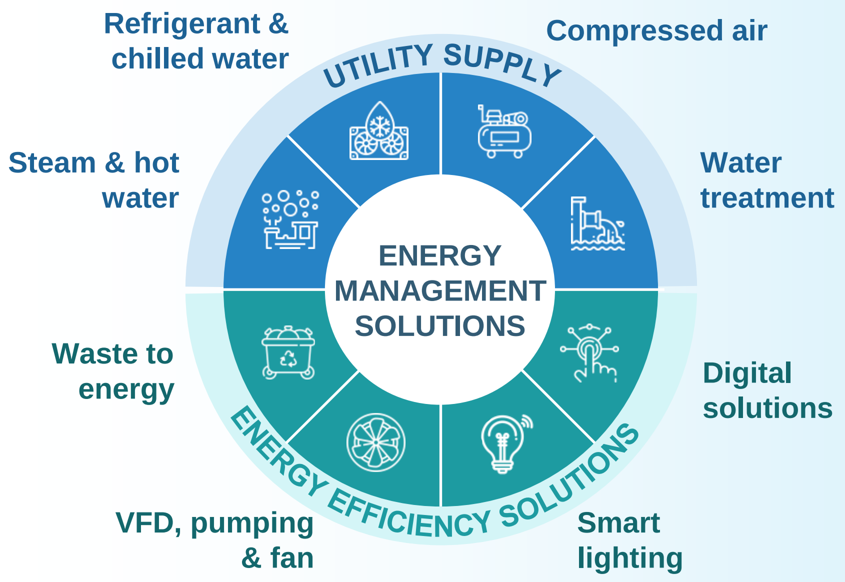
- SOLAR: ROOFTOP & FLOATING
- ENERGY STORAGE SYSTEMS
- E-MOBILITY
- **SMART CITIES & ENERGY MGMT.**
- ENERGY TRADING

ACQUISITION OF ENGIE SERVICES (THAILAND) – ENERGY MANAGEMENT COMPANY

engie

Banpu NEXT acquired 100% stake in Engie Services (Thailand) for US$2.8 M. The company provides services such as procuring, installing, operating, maintaining, and enhancing energy systems for commercial and industrial clients in Thailand. The deal is expected to be completed in November 2021.

CURRENT SERVICES:



CLIENT PORTFOLIO:

- Commercial buildings
- Petrochemical
- Cement
- Packaging
- Automotive

INVESTMENT RATIONALE:

- **Strengthen Banpu NEXT's energy management platform**
- **High growth potential in Thailand's C&I market with >130 TWh electricity usage**
- **Grow and scale EMS services in other Banpu geographies**
- **Immediate cash flow generation with existing and future contracts in pipeline**
- **Industry expertise**

APPENDIX

Banpu: 'integrated energy solutions' 2021

BANPU

ENERGY RESOURCES

Shale Gas

~700 MMcfed
Net production

Mining

38.0 Mt
Coal sales

ENERGY GENERATION

Renewable Power

825 MW
Committed capacity

Thermal Power

3,244 MW
Committed capacity

ENERGY TECHNOLOGY

Solar: Rooftop & Floating

250 MW
Committed capacity

Clean Energy Tech

1.0 GWh (100% basis)
Li-ion batteries

E-mobility services
E-mobility solutions

Smart Cities &
Energy Management

220 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

2021 indicative guidance

BANPU

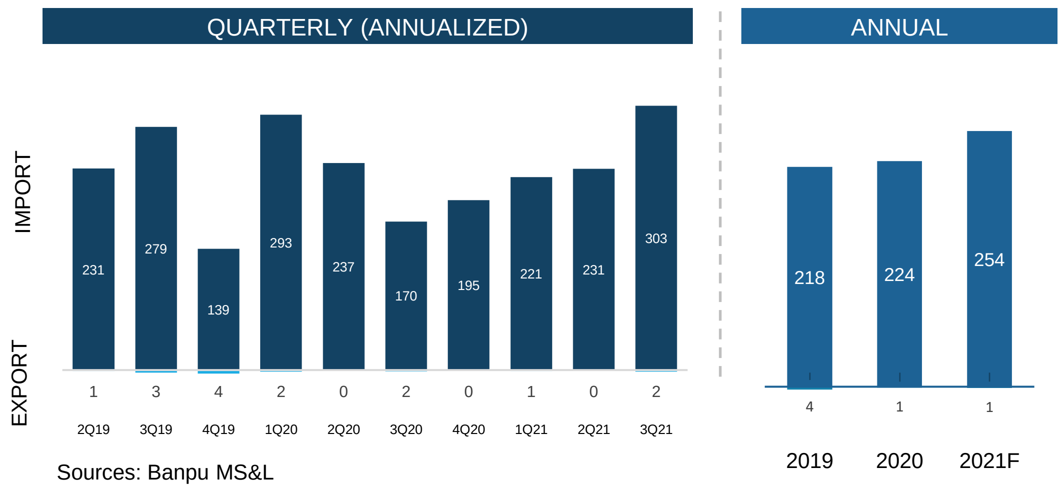
ILLUSTRATIVE AND INDICATIVE ONLY

	UNIT GUIDANCE (US$/MCF)		COMMENTS
	REVENUE		
	Reserves (Tcf)	*3 – 4*	
	Production volume (Mmcfd)	*600 – 700*	
NET BACK	Average differential to Henry Hub	$0.20 - $0.50	Difference selling points and Henry Hub (NYMEX basis)
NET BACK	GCP&T costs	$0.90 - $1.10	Gathering, compression, fractionation and transportation costs
	Pipeline revenue	$0.02 - $0.05	Applicable to Chaffee Corners volume only
	COSTS		
	Lease operating expense and production tax	$0.40 - $0.55	Main component of operating costs
	G&A	$0.25 - $0.35	Recurring general and administration costs
	Taxes	21%	Currently benefit from tax shield due to NOL
	DD&A	$0.42 - $0.48	Depreciation, depletion and amortization
	Drilling and completion costs	$0.22 - $0.28	Costs incurred to drill and to make the well ready for production

China: supply tightness keeps import high

CHINA THERMAL COAL IMPORTS/EXPORTS*

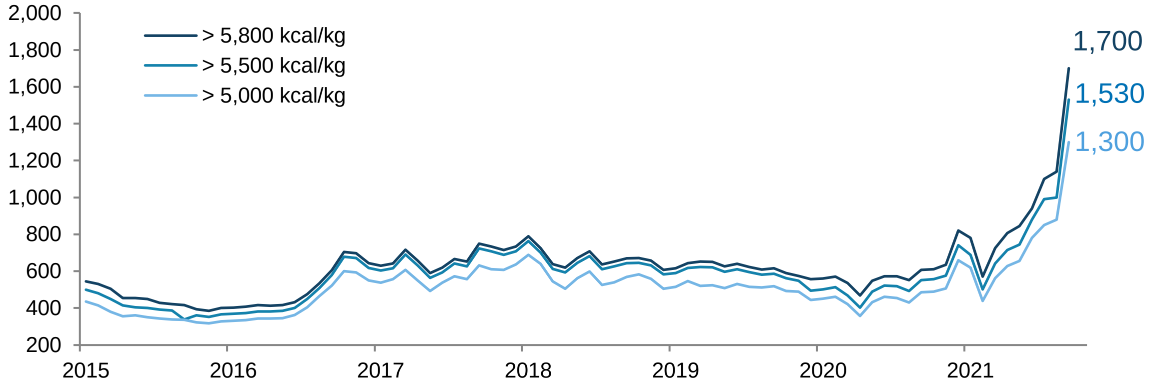
Unit: Mt



Sources: Banpu MS&L

CHINA DOMESTIC COAL PRICES

Unit: RMB/t



Note: *Includes lignite but excludes anthracite imports/exports
Source: www.sxcoal.com/cn 13 October 2021

3Q21

- A slowing economy due to weakening domestic consumption in 3Q did not prevent thermal coal demand from increasing.
- Hot weather, weak hydro, restricted supply as well as government intervention led to continued supply tightness driving the significant price growth.
- Coal supply chain in key-producing regions heavily disturbed by torrential rain.
- The fundamental tightness drove QHD price above RMB1,500/t by the end of 3Q.
- Mine accidents remain a serious issue disrupting supply.
- Many provinces announced power supply cuts to reduce energy consumption and intensity which helped to curtail some coal demand growth.
- China has increased some power tariffs to reflect the higher costs for power plants but the change likely too small to have a significant impact.
- The government adopted new measures to improve supply, however, it will take time for the additional supply to come.

OUTLOOK

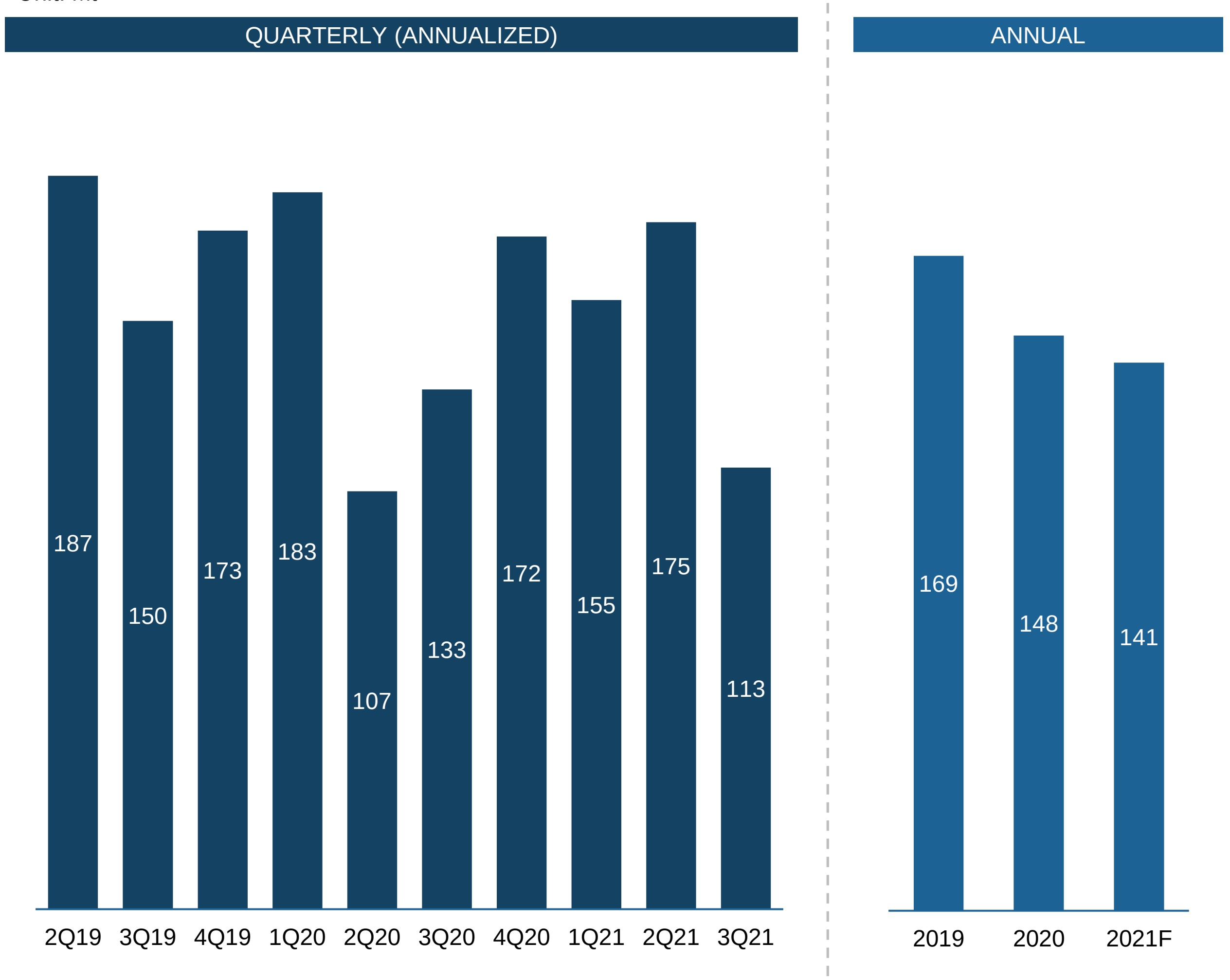
- Chinese domestic coal prices rose to above RMB2,000/t in the first half of October but have started to fall in late October with powerful intervention by government.
- We do not expect the seaborne market will be impacted significantly by China's price intervention as the price regulation will not ease the market tightness.
- Slowing increase supply due to safety and environmental issues and forthcoming winter restocking demand will keep supply tightness.
- Peak summer demand has passed, which will relieve some tightness in the market, but forthcoming restocking will keep demand strong.
- Chinese buying interest for seaborne supply will remain strong in 4Q but the ban on Australian coal will remain.
- Rising new coronavirus cases may slow economic growth and coal demand.

India: strong demand amid supply issue

BANPU

INDIA THERMAL COAL IMPORTS*

Unit: Mt



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

3Q21

- India faced a severe coal shortage in 3Q due to several factors: the economic revival, pent-up demand in most sectors, and the pandemic getting under control after a massive second wave in 3Q.
- Coal-fired generation in 3Q recorded an impressive growth of around 11% versus last year driven by a fall in gas and nuclear generation.
- Domestic supply was growing in 3Q but failed to meet the growth in demand due to the impact of Covid-19 on mining activities, mining and logistical constraints during monsoon season, and infrastructure maintenance.
- The surge in global prices and inability to pass on incremental fuel costs to the end-consumers forced most of coastal-based power plants to idle their capacity which led to more reliance on domestic coal-based plants.
- Higher utilization rate of hinterland plants resulted in more coal burn from stocks due to domestic supply issue from logistics constraints caused by rain in mining areas.
- Coal imports by the power sector declined by about 55% y-o-y in 3Q, stood at historically low levels.
- To stabilize the supply crunch in power plants, the government has prioritized supplies to the power sector at the expense of other industrial consumers.

Outlook

- Coal demand is expected to remain strong in 4Q, which is a season of festivities in India and generally sees an uptick in demand from almost all the industrial sectors.
- Hydro and renewable generation tends to be low in 4Q as India enters winter season, increasing the dependence on coal.
- Domestic coal supply is expected to improve as monsoon has passed. But supply is expected to prioritize to power sector, leave non-power sector to rely on imports.
- Some industrial consumers may choose to cut down on their plant utilization due to high global coal prices.

Coal quarterly output summary

AUSTRALIA OPERATIONS: COAL OUTPUT (MT) – ROM OUTPUT ON EQUITY BASIS					
Mines	**CV (kcal/kg)***	**1Q21**	**2Q21**	**3Q21**	**4Q21e**
Western operations		**1.1**	**1.2**	**1.2**	**1.7**
Springvale	6,700	0.5	0.5	0.4	0.8
Clarence	6,700	0.3	0.4	0.4	0.5
Airly	6,700	0.3	0.3	0.4	0.4
Northern operations		**1.3**	**1.1**	**1.5**	**1.7**
Mandalong	6,700	1.1	0.9	1.2	1.4
Myuna	6,700	0.2	0.2	0.3	0.3
Total Australia coal		**2.4**	**2.3**	**2.7**	**3.4**

INDONESIA OPERATIONS: COAL OUTPUT (MT) – ROM OUTPUT ON 100% BASIS									
Mines	**CV (kcal/kg)***	**1Q21**		**2Q21**		**3Q21**		**4Q21e**	
		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	12.5	1.9	11.0	1.8	11.5	1.9	9.7
Trubaindo	6,550 – 6,700	0.7	14.0	0.9	11.9	1.0	11.6	1.4	8.4
Bharinto		1.0	6.7	1.3	6.6	1.4	6.3	1.6	7.3
Kitadin-Embalut	5,800	0.3	18.6	0.4	17.0	0.3	22.9	0.5	15.5
Jorong	5,300	0.2	11.6	0.3	13.4	0.2	11.8	0.2	15.7
Total Indonesia coal		**4.0**	**11.5**	**4.7**	**10.5**	**4.6**	**10.6**	**5.5**	**9.3**

CHINA OPERATIONS: COAL OUTPUT (MT) – ROM OUTPUT ON 100% BASIS					
Mines	**CV (kcal/kg)***	**1Q21**	**2Q21**	**3Q21**	**4Q21e**
Gaohe		2.3	2.3	2.3	2.4
Hebi		0.2	0.2	0.2	0.2
Total China coal		**2.5**	**2.5**	**2.5**	**2.6**

Note: *CV figures are air-dried basis

Key external and corporate events

BANPU

EXTERNAL EVENTS

INDIRECT

World recorded highest Covid-19 cases since the beginning of the pandemic

Indonesian government announced its plan to stop approving new coal-fired power plants

BANK OF THAILAND

BoT maintained policy rates at 0.50%

Daily Covid-19 case in Thailand hits all time high of almost 21,000 new cases

Hurricane Ida created a landfall on the US Gulf Coast which resulted in > 95% of offshore oil and gas production in the region being halted

DIRECT

Henry Hub price rose above $3.00/MMBtu from higher electricity demand due to hot weather

Newcastle coal price index increased to $131.4/t, hitting 10-year high

Newcastle coal price index hit $150/t

Henry Hub price rose almost hit $6/MMBtu over supply concerns

Newcastle coal price index surpasses $200/t

2Q21 | **3Q21**

CORPORATE EVENTS

Nakoso IGCC started commercial operation

1Q21 results presentation

Announced investment in 2 solar farms in Australia with a total capacity of 167 MW

Announced BOD's resolution to issue new shares through rights offering and warrant issuance

Temple I CCGT investment

Banpu rights offering XR

2Q21 results presentation

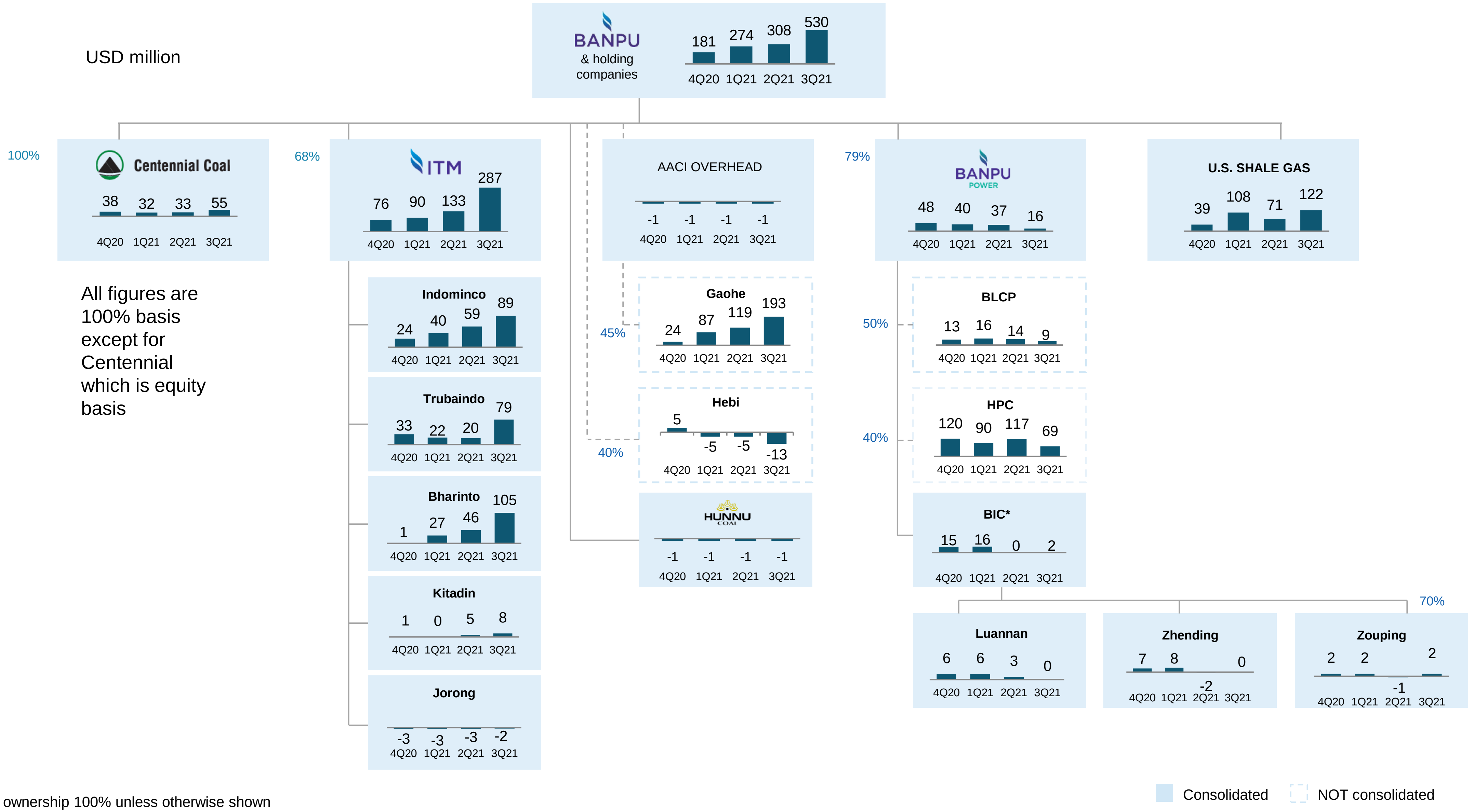
New Banpu shares traded

FX impact analysis guidance on P&L

CURRENCY EXPOSURE	NPAT IMPACT 3Q21 (US$M)	APPROXIMATE FX EXPOSURE (US$M) NET LIABILITY	APPROXIMATE FX EXPOSURE (US$M) NET ASSET	NPAT 5% SENSITIVITY 4Q21 (US$M) *Assuming 5% depreciation of local currencies against USD*	
Banpu: THB bond and Others	55.1	-970		THB 48	*BOT revised down growth for 2021 to 0.7% from 1.8% previously*
ITMG: IDR asset and liabilities	0.1		60	IDR -4	*BI maintained growth for 2021 to 3.5%-4.3%*
CEY: USD asset and liabilities	-13.4	-330		AUD -20	*RBA forecasted growth for 2021 to 3.0%*
Net	41.8			NET 24	

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

USD million	**3Q21**	**2Q21**	**3Q20**	QoQ%	YoY%
Total sales revenues*	**1,161**	**799**	**471**	+45%	+147%
Sales revenue – Coal	870	587	404	+49%	+115%
Sales revenue – Gas	231	160	11	+44%	+1996%
Sales revenue – Power	39	36	38	+9%	+3%
Cost of sales	(619)	(530)	(373)		
Gross Profit*	**542**	**269**	**97**	+101%	+458%
Gross profit – Coal	417	210	95	+98%	+339%
Gross profit – Gas	121	55	(6)	+120%	n.a.
Gross profit – Power	0	2	8	-79%	-94%
GPM	***47%***	***34%***	***21%***		
GPM – Coal	*48%*	*36%*	*24%*		
GPM – Gas	*53%*	*34%*	*-60%*		
GPM – Power	*1%*	*7%*	*20%*		

Note: * including other businesses

Banpu consolidated: operating profit

USD million	3Q21	2Q21	3Q20	QoQ%	YoY%
Gross Profit	**542**	**269**	**97**	+101%	+458%
GPM	***47%***	***34%***	***21%***		
SG&A	(124)	(88)	(61)		
Royalty	(87)	(57)	(37)		
Income from associates	64	63	32		
Other income and Dividend	14	12	13		
Mining property	(9)	(8)	(7)		
EBIT	**400**	**192**	**36**	+109%	+998%
EBIT – Coal	305	112	14	+173%	+2155%
EBIT – Gas	95	43	(3)	+120%	n.a.
EBIT – Power	(3)	33	27	n.a.	n.a.
EBIT – Energy Technology	2	4	(2)	-40%	n.a.
EBITDA	**530**	**308**	**146**	+72%	+263%
EBITDA – Coal	399	194	103	+105%	+288%
EBITDA – Gas	122	71	13	+74%	+872%
EBITDA – Power	3	37	30	-93%	-91%
EBITDA – Energy Technology	5	7	1	-18%	+771%

Banpu consolidated: net profit

USD million	3Q21	2Q21	3Q20	QoQ%	YoY%
EBIT	**400**	**192**	**36**	+109%	+998%
Interest expenses	(43)	(41)	(42)		
Financial expenses	(3)	(2)	(1)		
Income tax (core business)	(46)	(21)	(5)		
Minorities	(47)	(35)	(9)		
Net profit before extra items	**261**	**92**	**(21)**	+182%	n.a.
Non-recurring items*	(5)	(3)	(3)		
Gain (Loss) on Derivatives Transactions	(177)	(48)	(7)		
Income tax (non - core business)	(0)	(1)	(0)		
Deferred tax income (expenses)	(14)	(11)	(6)		
Net profit before FX	**65**	**29**	**(36)**	+124%	n.a.
FX translation	42	13	20		
Net Profit	**106**	**42**	**(17)**	+152%	n.a.
EPS (US$/share)	0.021	0.008	(0.003)		

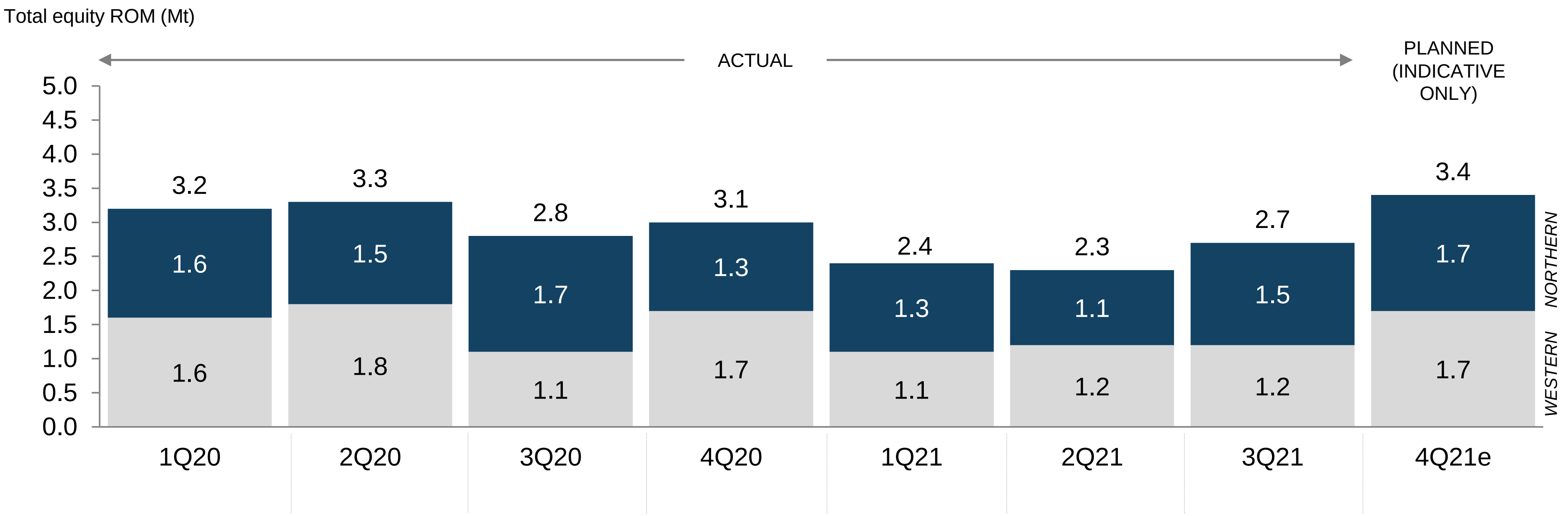
Note: * income from non-core assets and other non-operating expenses

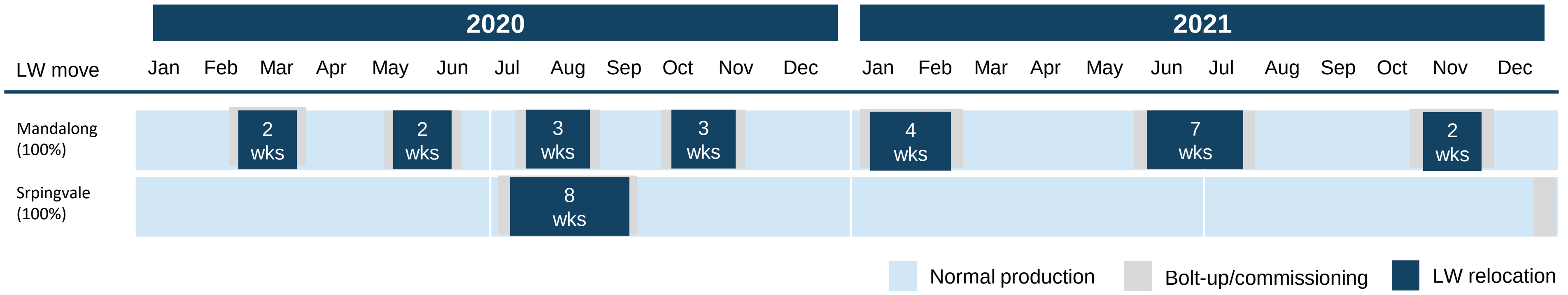
Centennial: income statement

BANPU

USD million	3Q21	2Q21	3Q20	QoQ%	YoY%
Sales volume (Mt)	**2.5**	**2.5**	**3.2**	0%	-23%
Sales revenue	187.7	172.4	181.9	+9%	+3%
Cost of Sales	(160.8)	(157.0)	(161.3)		
Gross Profit	**26.8**	**15.4**	**20.6**	75%	31%
GPM	14%	9%	11%		
SG&A	(23.1)	(28.2)	(24.4)		
Royalty	(12.4)	(11.0)	(12.4)		
Other income	1.0	4.1	2.4		
Other expenses	-	-	-		
EBIT	**(7.7)**	**(19.8)**	**(13.8)**	n.a.	n.a.
Interest expenses	(6.0)	(5.4)	(6.2)		
Financial expenses	(2.1)	(0.8)	(0.6)		
Gain (loss) on exchange rate	(13.4)	(1.1)	11.0		
Gain (loss) on derivative	(40.0)	(6.8)	7.4		
Corporate income tax	-	-	-		
Deferred tax income	20.8	10.0	0.7		
Net Profit	**(48.4)**	**(23.8)**	**(1.6)**	n.a.	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