



3Q21 results

Investor and analyst update

15th November 2021



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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

Banpu: ESG leadership and credit rating recognition

ESG RATING



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



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



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



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



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



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



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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



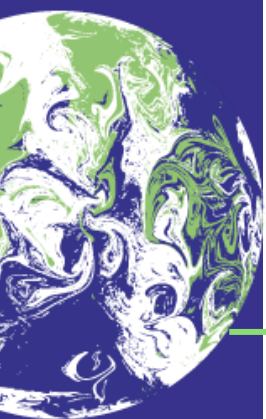
INTERNATIONAL VERSATILE ENERGY PROVIDER

ENERGY TECHNOLOGY

ENERGY STORAGE | ENERGY TRADING
ENERGY MANAGEMENT | E-MOBILITY



Banpu: strategic roadmap aligned with global initiatives



GLASGOW
COP26

KEY OBJECTIVES

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

Adapt to protect communities and natural habitats

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

► 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 PORTFOLIO
OPERATING CAPACITY

321 MW

as of Feb 2021

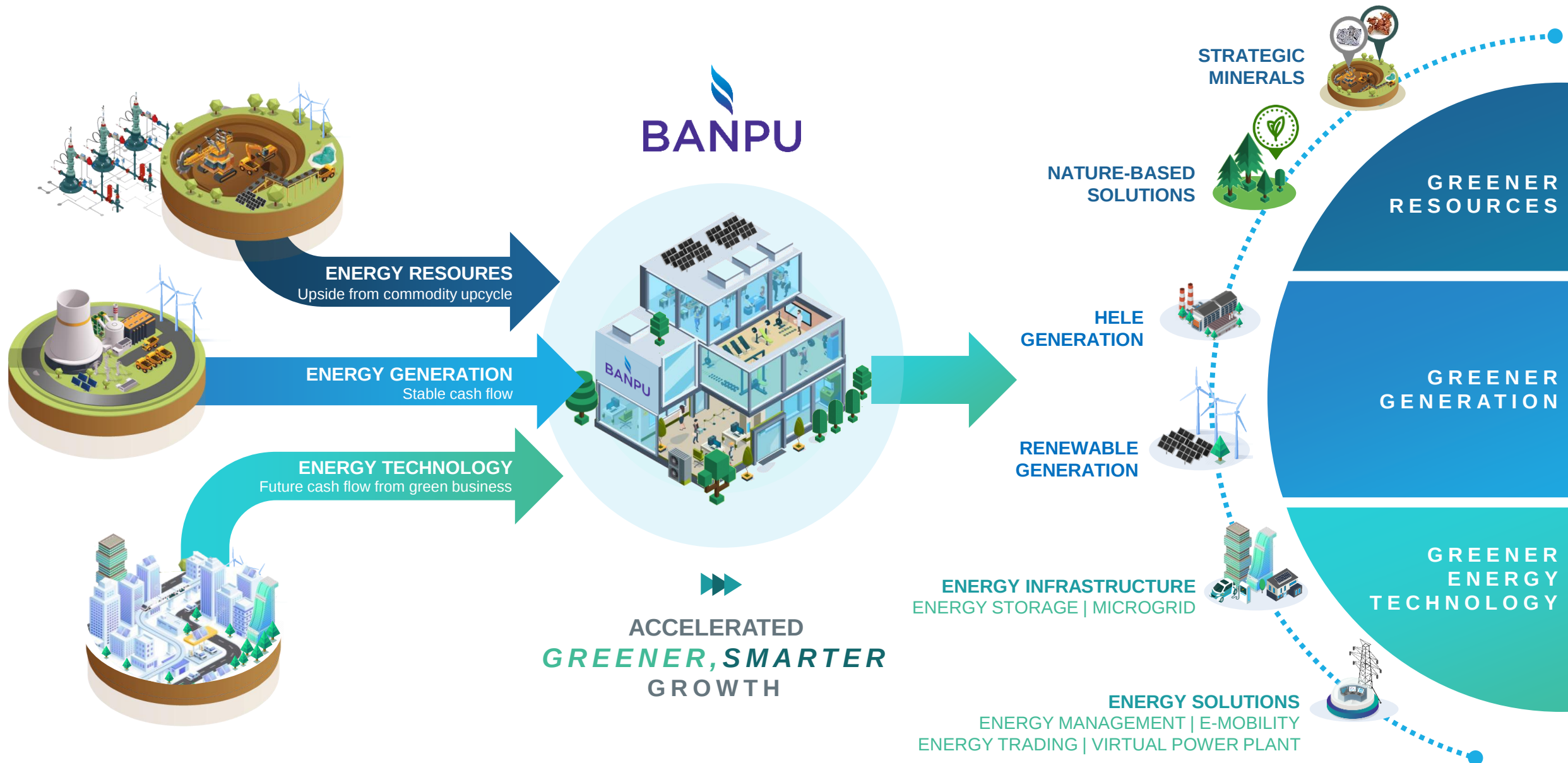
BANPU NEXT

BANPU NEXT
ATTRIBUTABLE EQUITY
OPERATING CAPACITY

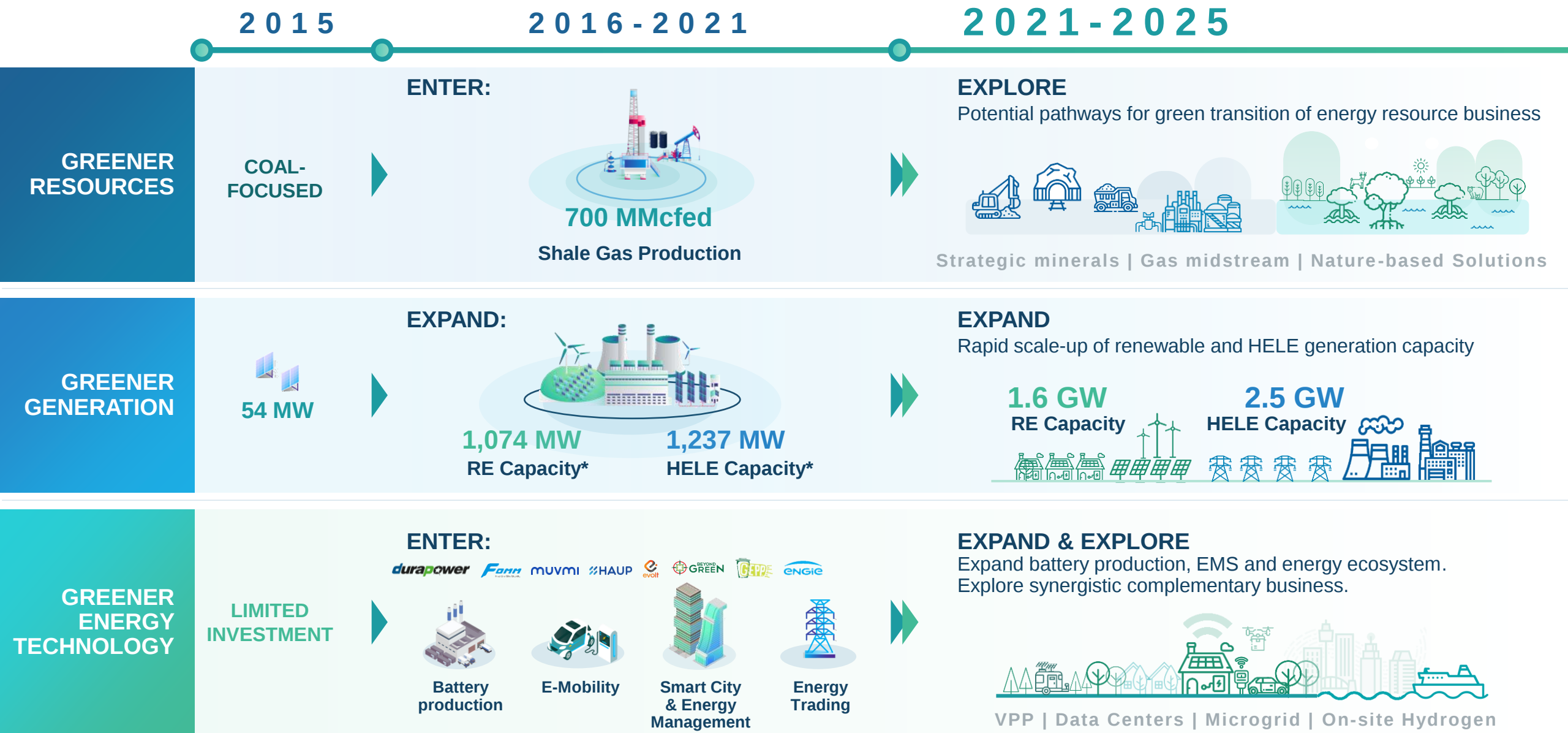
152 MW

as of Feb 2021

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



Banpu: investment focus 2021-25



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

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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**

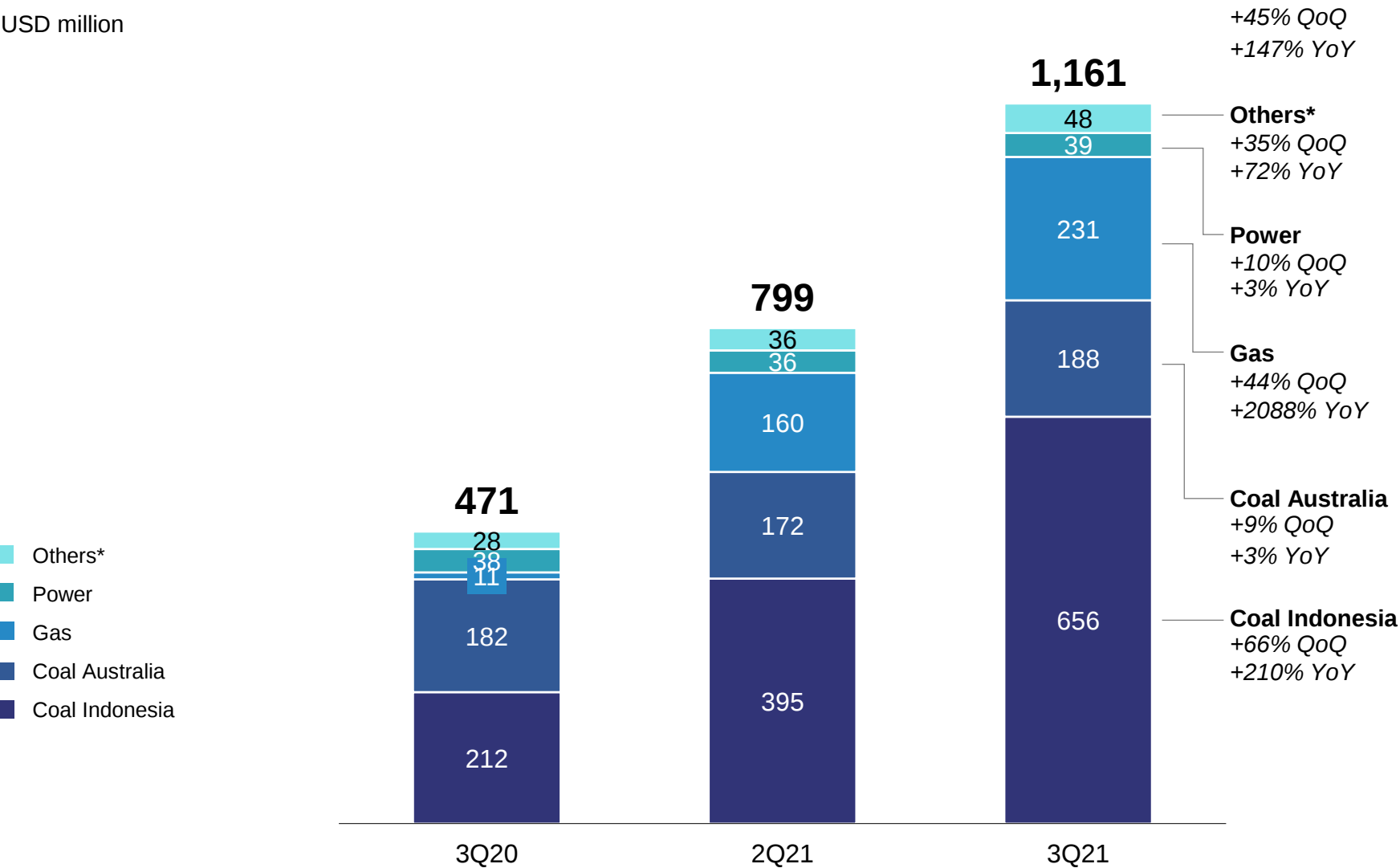
ND/E improved from 1.38x in the previous quarter

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

Banpu consolidated sales revenues – 3Q21

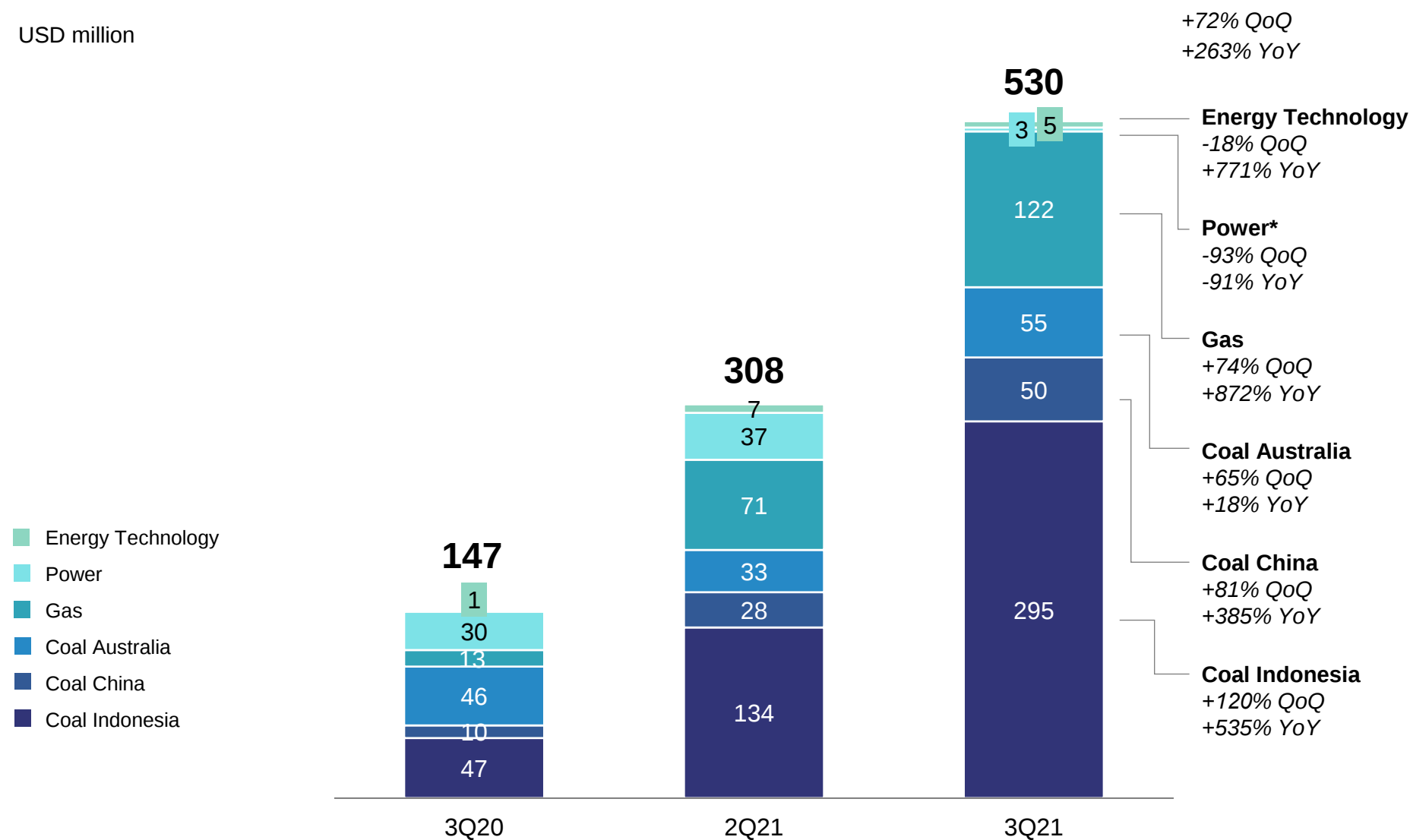
USD million



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

Banpu consolidated EBITDA – 3Q21

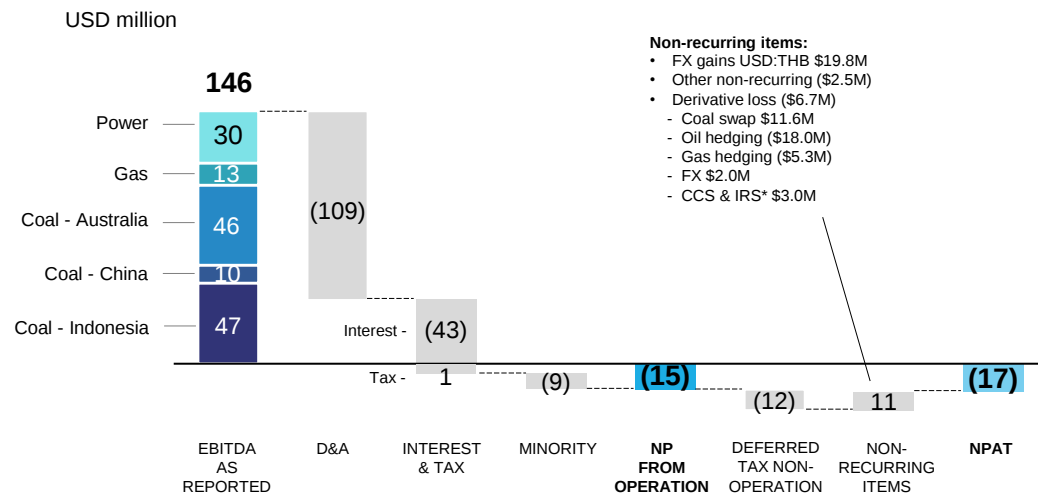
USD million



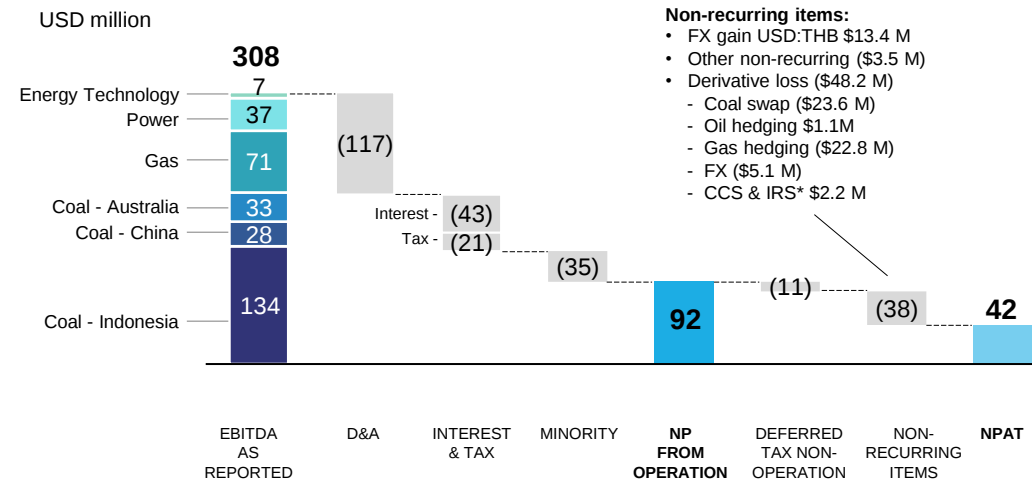
Note: *including one-time expense of \$11.9 M incurred from transaction cost capitalization of Beryl and Manildra solar farms

Banpu consolidated NPAT – 3Q21

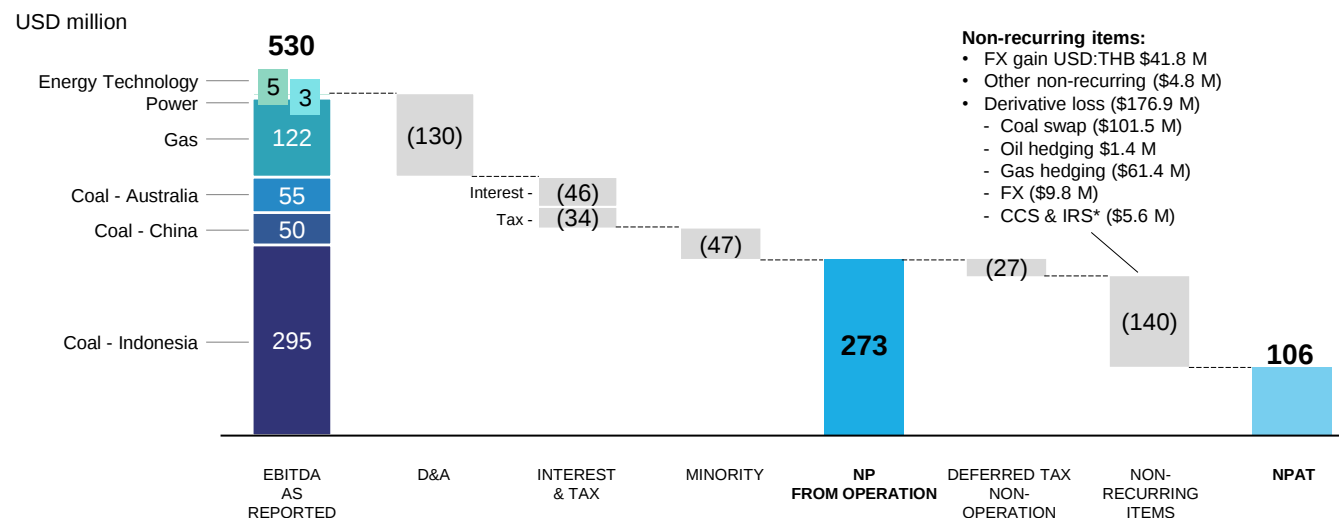
3Q20 NET PROFIT AFTER TAX



2Q21 NET PROFIT AFTER TAX



3Q21 NET PROFIT AFTER TAX



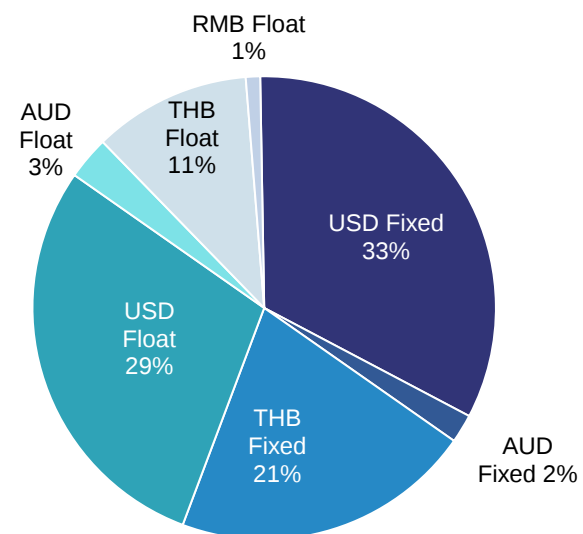
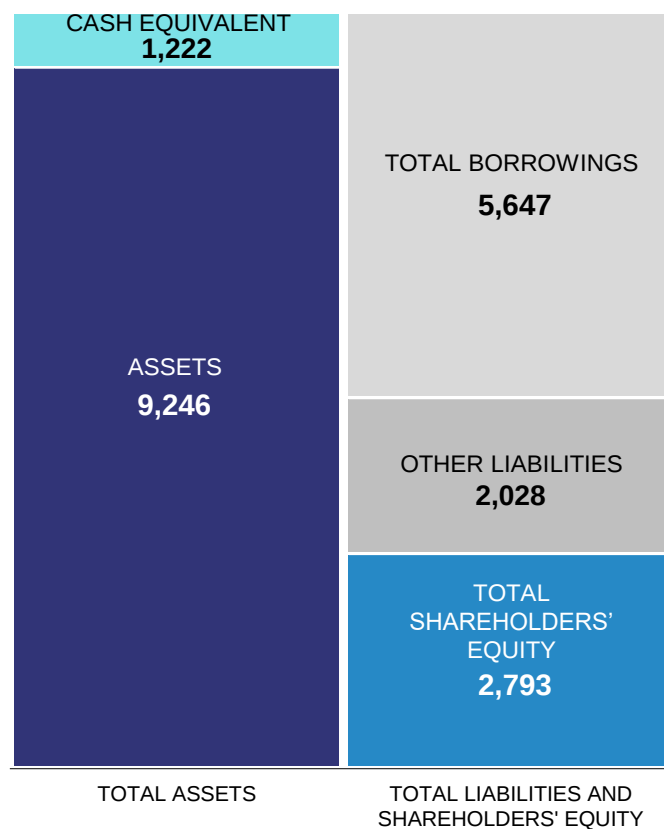
Banpu consolidated balance sheet – 3Q21

3Q21 CONSOLIDATED FINANCIAL POSITION

DEBT FX STRUCTURE

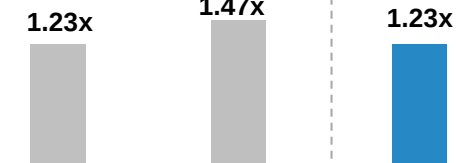
GEARING RATIOS

USD million

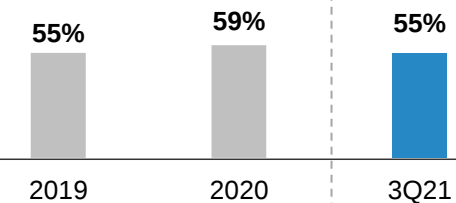


Total gross debt: US\$5.6 billion
As of 30 September 2021

Net debt / Equity ¹ (x)



Net market gearing ² (%)



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)



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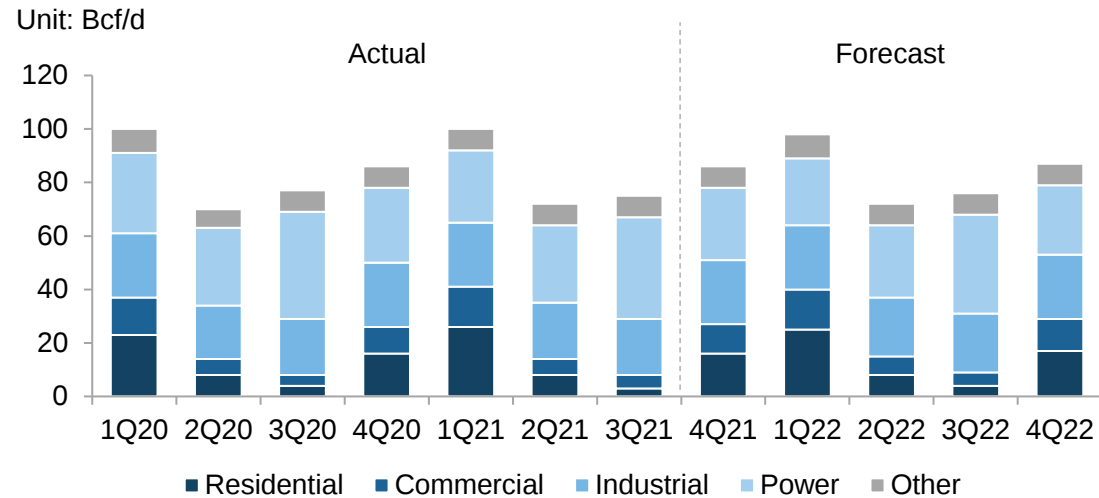
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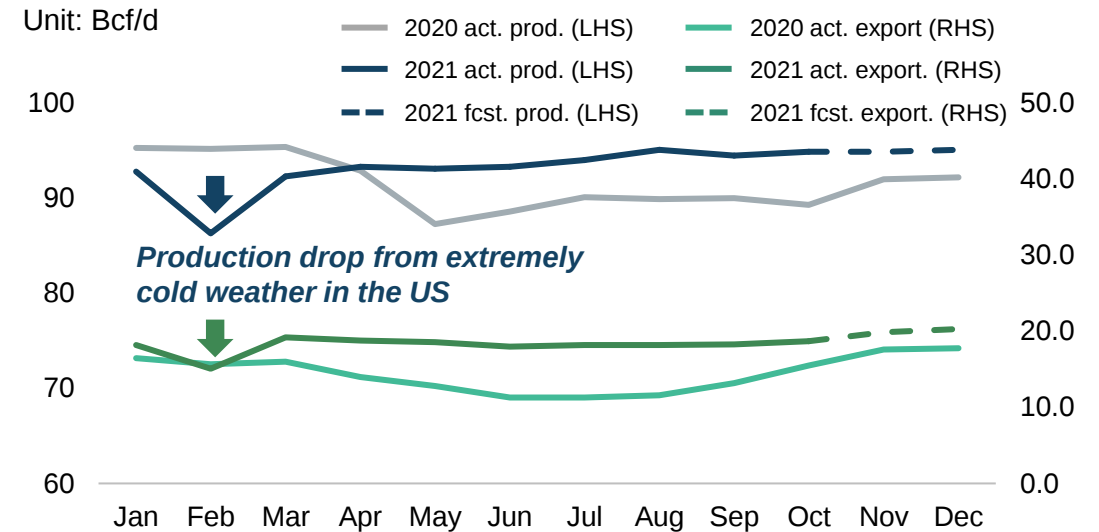
U.S. gas market update

RESILIENT DEMAND PROJECTION

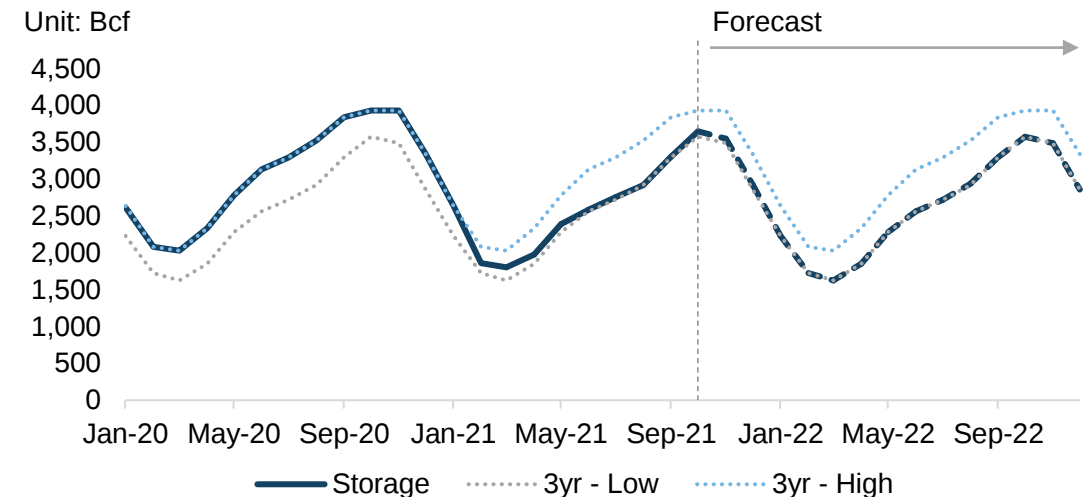


- Majority of US gas demand is domestic consumption. Price is determined by local demand and supply with indirect linkage to oil via associated gas production.
- U.S. gas production is expected to increase to 95.2 Bcf/d during the rest of the winter (Nov-Mar) and average at 96.7 Bcf/d in 2022, driven 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



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

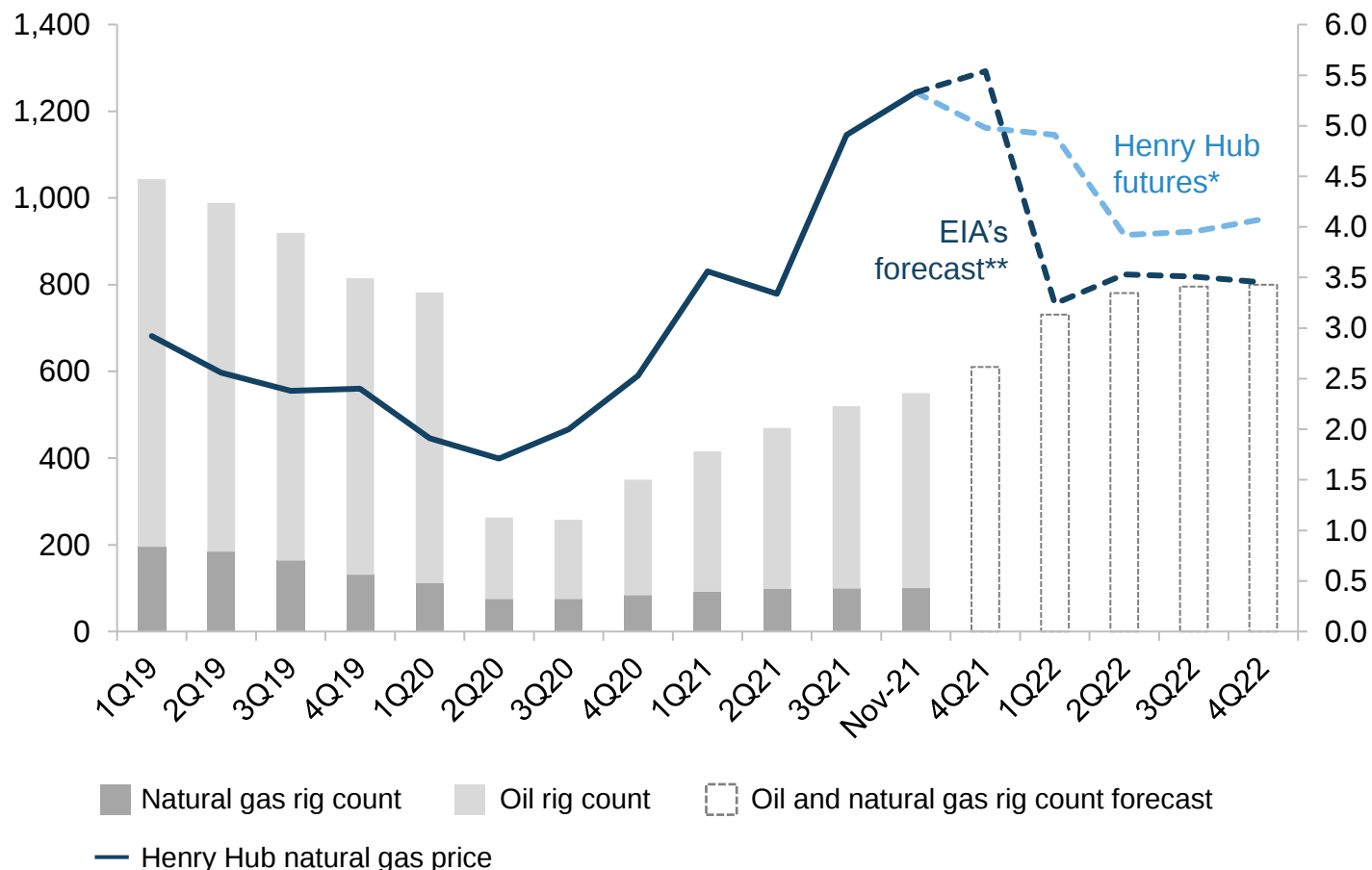
US RIG COUNT VS HENRY HUB PRICE

US OIL AND NATURAL GAS RIG COUNT

Unit: Rigs

HENRY HUB SPOT PRICE

Unit: \$/MMBtu



COMMENT

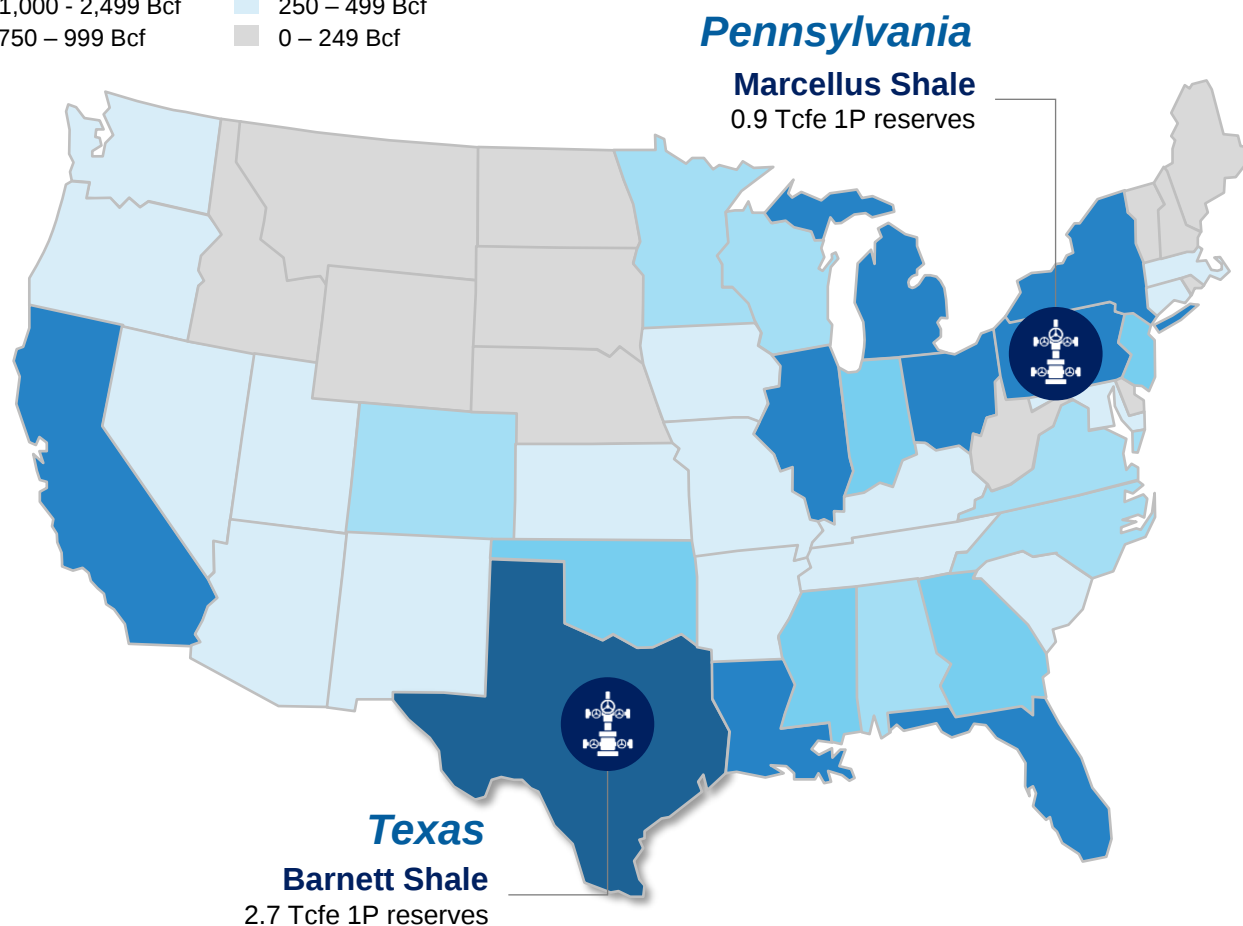
- Natural gas prices in 3Q21 increased from the previous quarter driven by production interruptions from Hurricane Ida and surge in gas demand in Europe.
- Capital spending is expected to increase in 2021 and 2022 relative to 2020 in response to higher crude oil and natural gas prices but remain low 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.

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)

Banpu Gas: 3Q21 highlights

US DRY GAS CONSUMPTION 2019 BY STATE* (Bcfe)



Banpu shale gas operations

*Source: EIA

**Average local price = Henry Hub - basis differential

Average local price**

\$3.86/Mcfe

+39% QoQ

Sales volume

62 Bcfe

+3% QoQ

EBITDA

\$122M

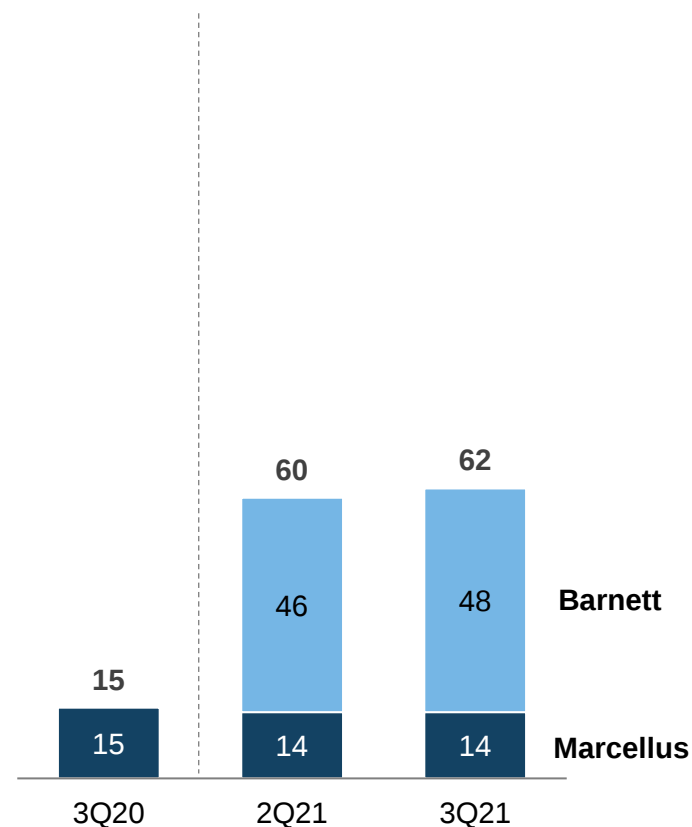
+74% QoQ

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.

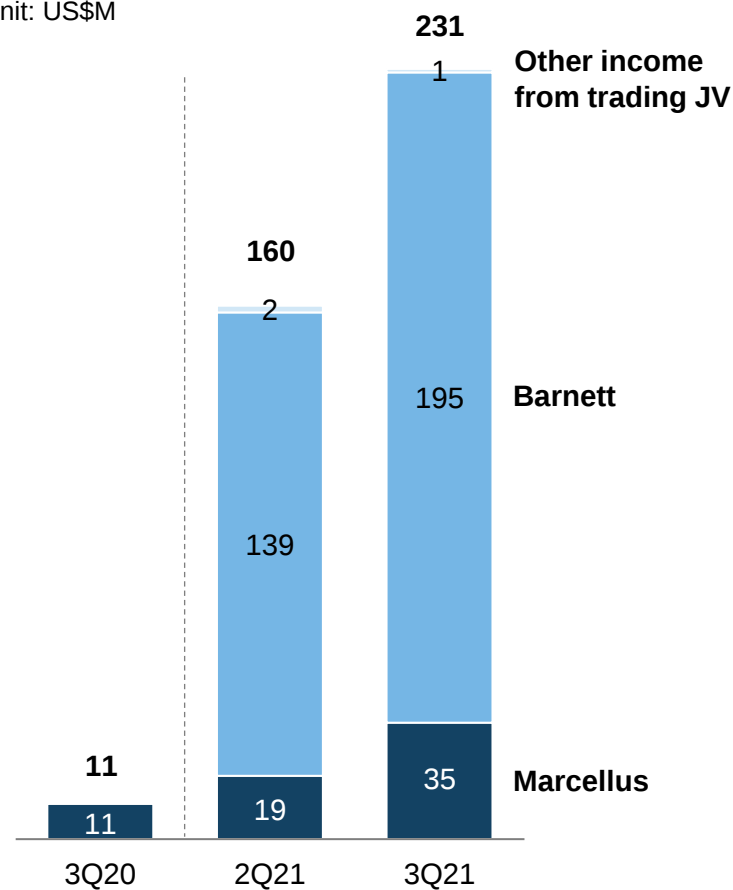
SALES VOLUMES

Unit: Bcf*



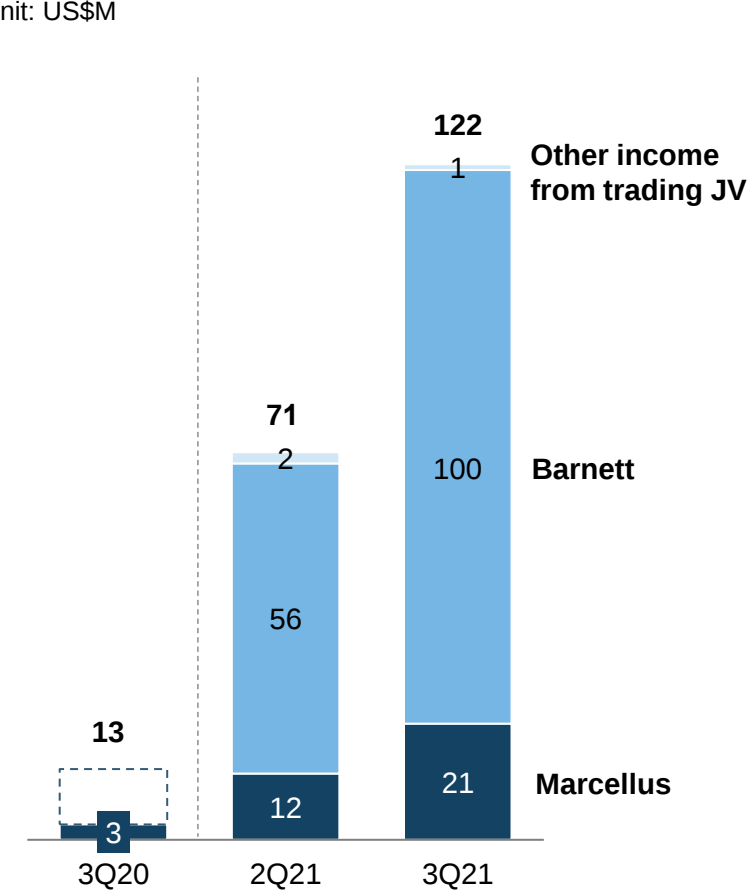
TOTAL REALIZED REVENUE

Unit: US\$M



EBITDA

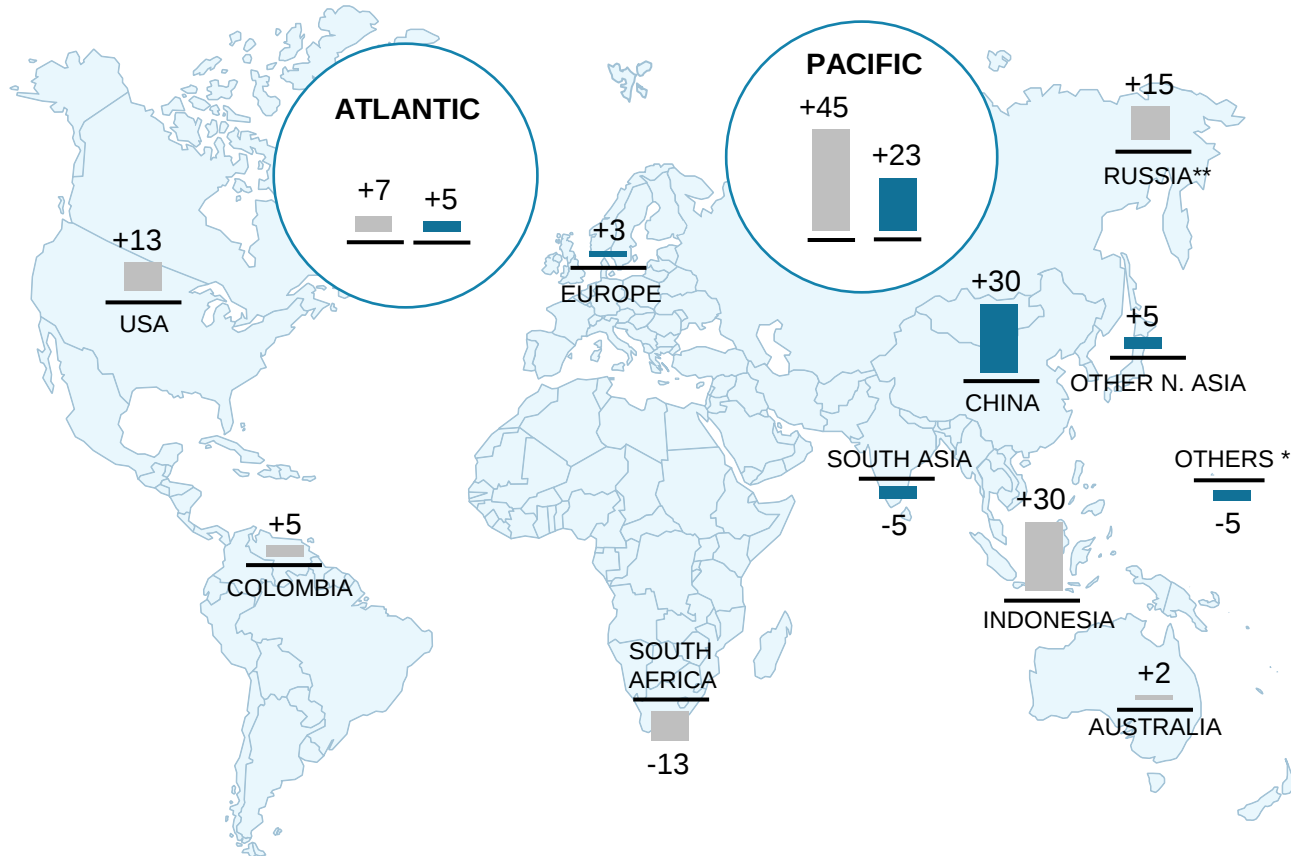
Unit: US\$M



Global thermal coal market

COAL DEMAND AND SUPPLY CHANGE – 2021E VS 2020

Unit: Mt ■ SUPPLY ■ DEMAND



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.

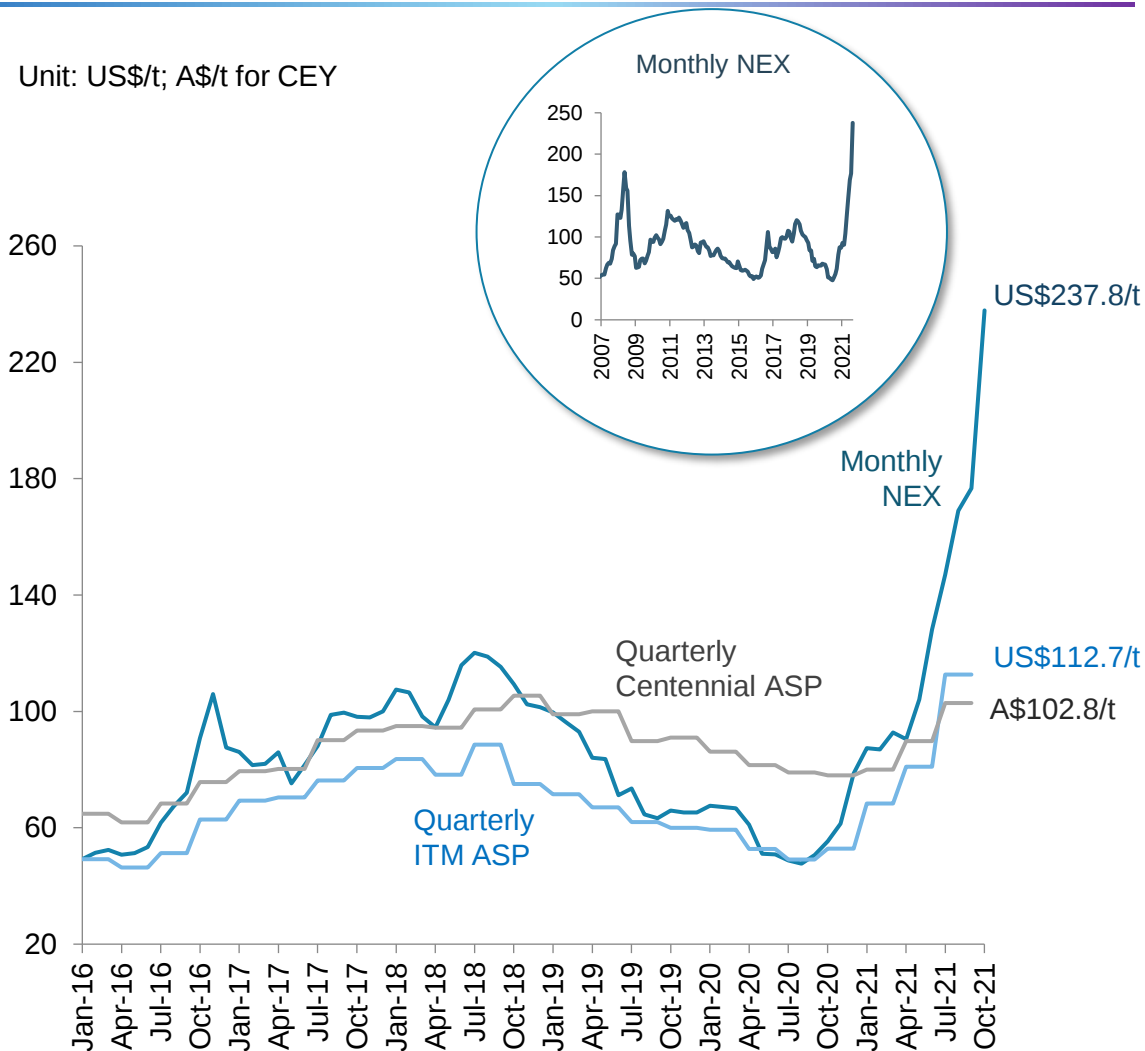
SUPPLY

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 ASP VS BENCHMARK PRICES



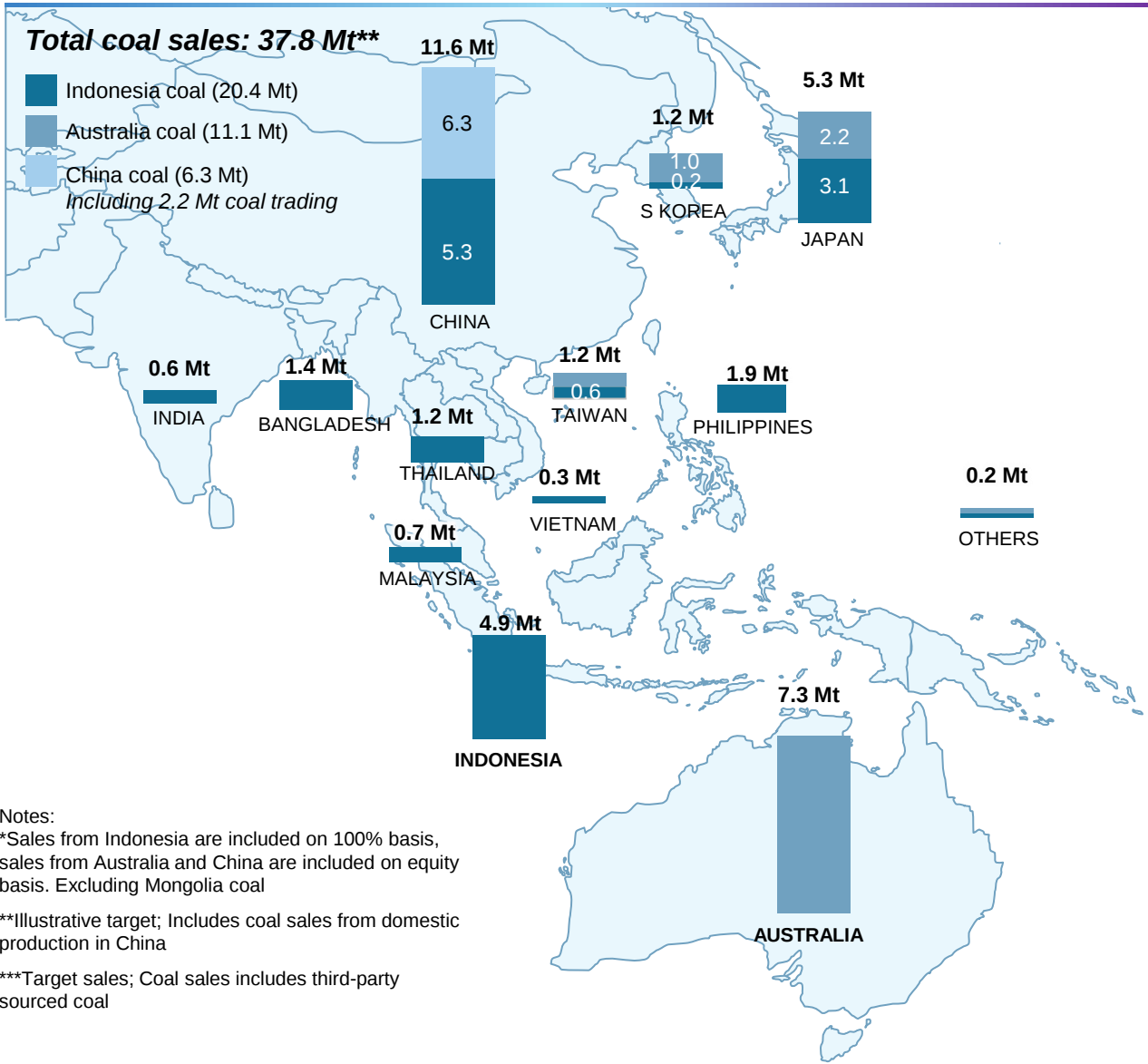
COMMENTS

- 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 5th, 2021)**: US\$158.2/t

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

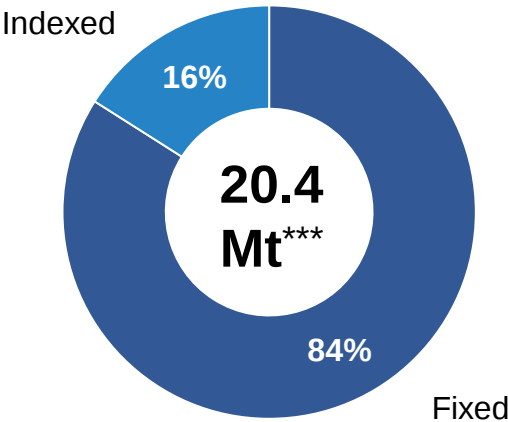
Banpu Mining: group coal sales and pricing status 2021e

COAL SALES* SOURCE – DESTINATION ANALYSIS

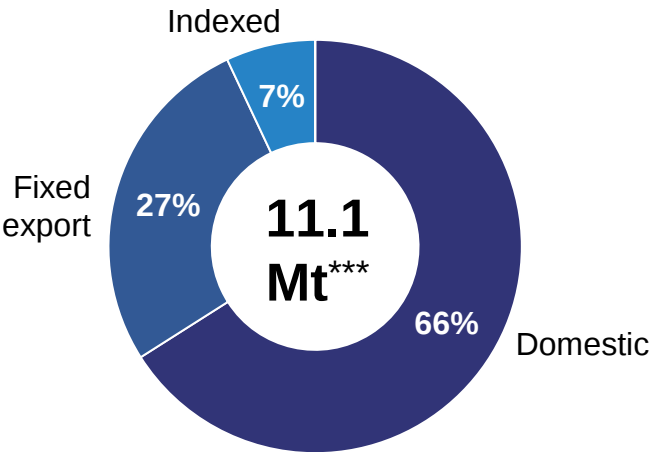


COAL SALES PRICING STATUS

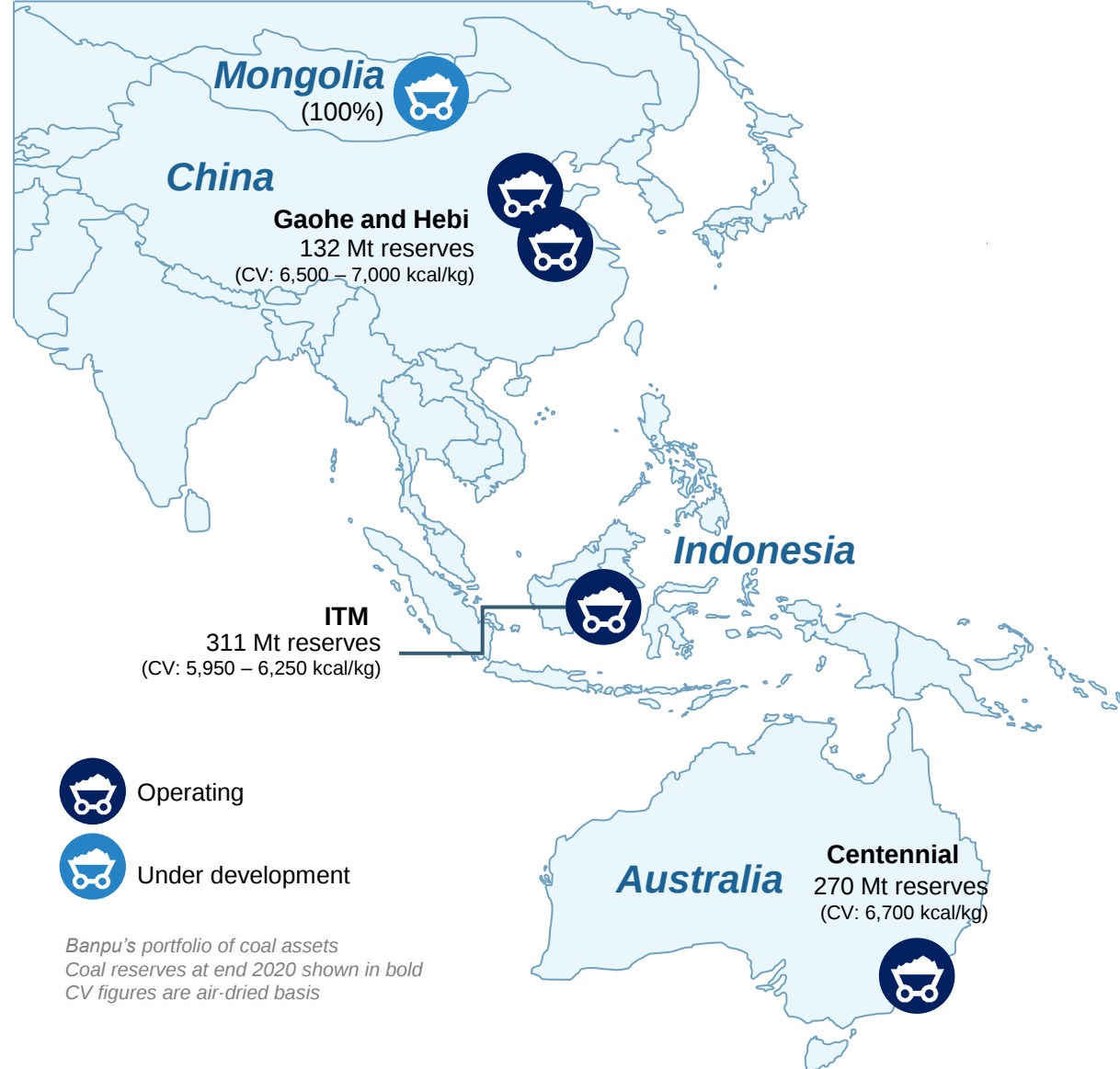
INDONESIA



AUSTRALIA



Banpu Mining: 3Q21 highlights



Production volume*

9.6 Mt

+4% QoQ

Sales volume*

9.7 Mt

+9% QoQ

EBITDA

\$399 M

+105% QoQ

Note: *Based on 100% basis

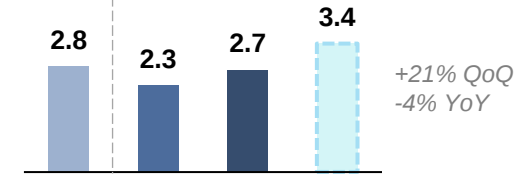
Banpu Mining: operational summary

2021E COAL OUTPUT



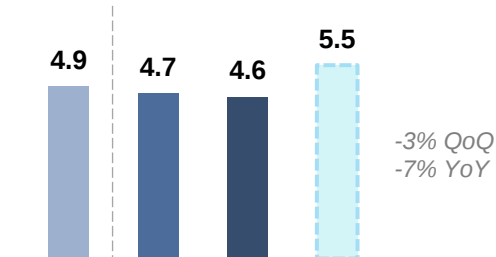
ROM PRODUCTION AND KEY UPDATES

AUSTRALIA COAL**



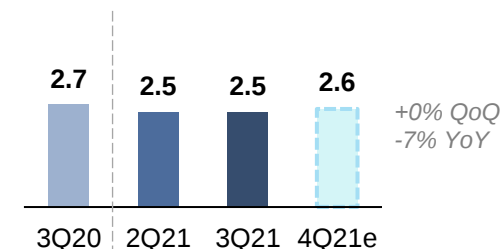
- Production improved when compared to previous quarter.
- All mines experienced improved production except Springvale, that was impacted by complex geology early in the quarter.
- 4Q21 - anticipated improved conditions and reduced time in longwall changeover mode.

INDONESIA COAL*



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

CHINA & MONGOLIA COAL*

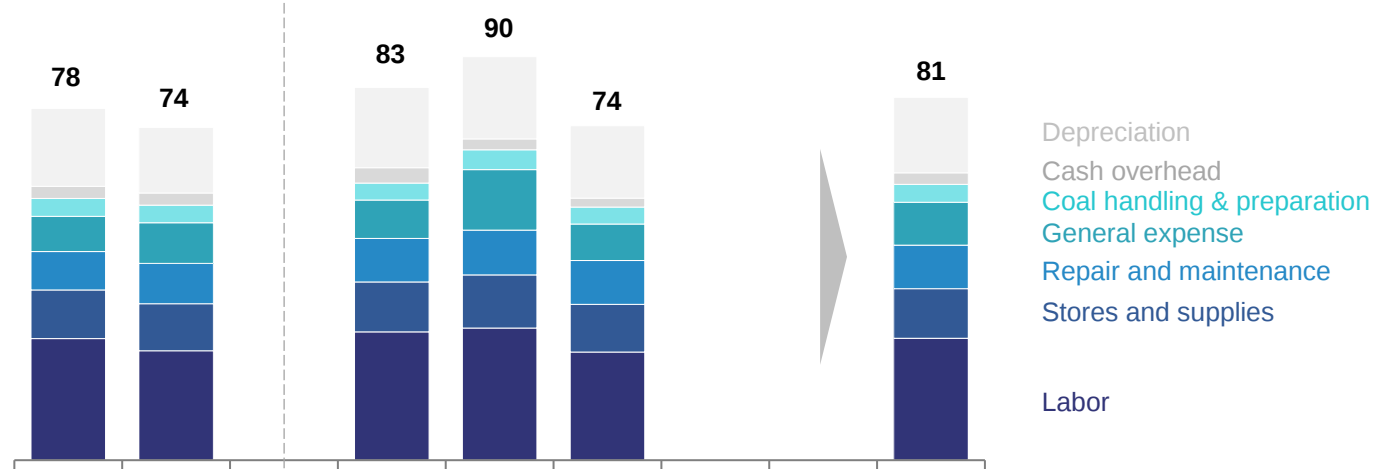


- Gaohe: Production and sales in 3Q remained stable amid strong demand along with the continuous recovery of industrial activities and summer peak.
- Hebi: Lower production and sales in 3Q due to complicated running conditions of LW panels, delayed roadway development progress.

Banpu Mining: average production cost breakdown

AUSTRALIA COAL – AVERAGE PRODUCTION COST¹

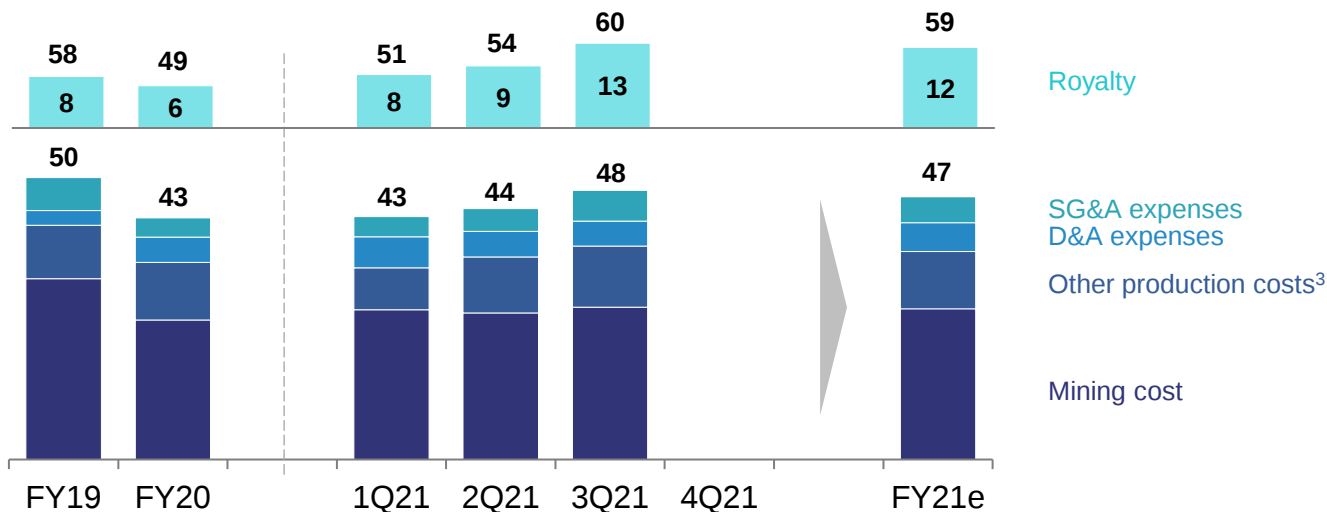
Unit: A\$/t



- 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 COST²

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.



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Banpu Energy Generation: 4,318 MW committed capacity



13 countries
operations across the
Pacific Rim



3,244 MW
committed thermal
equity capacity*

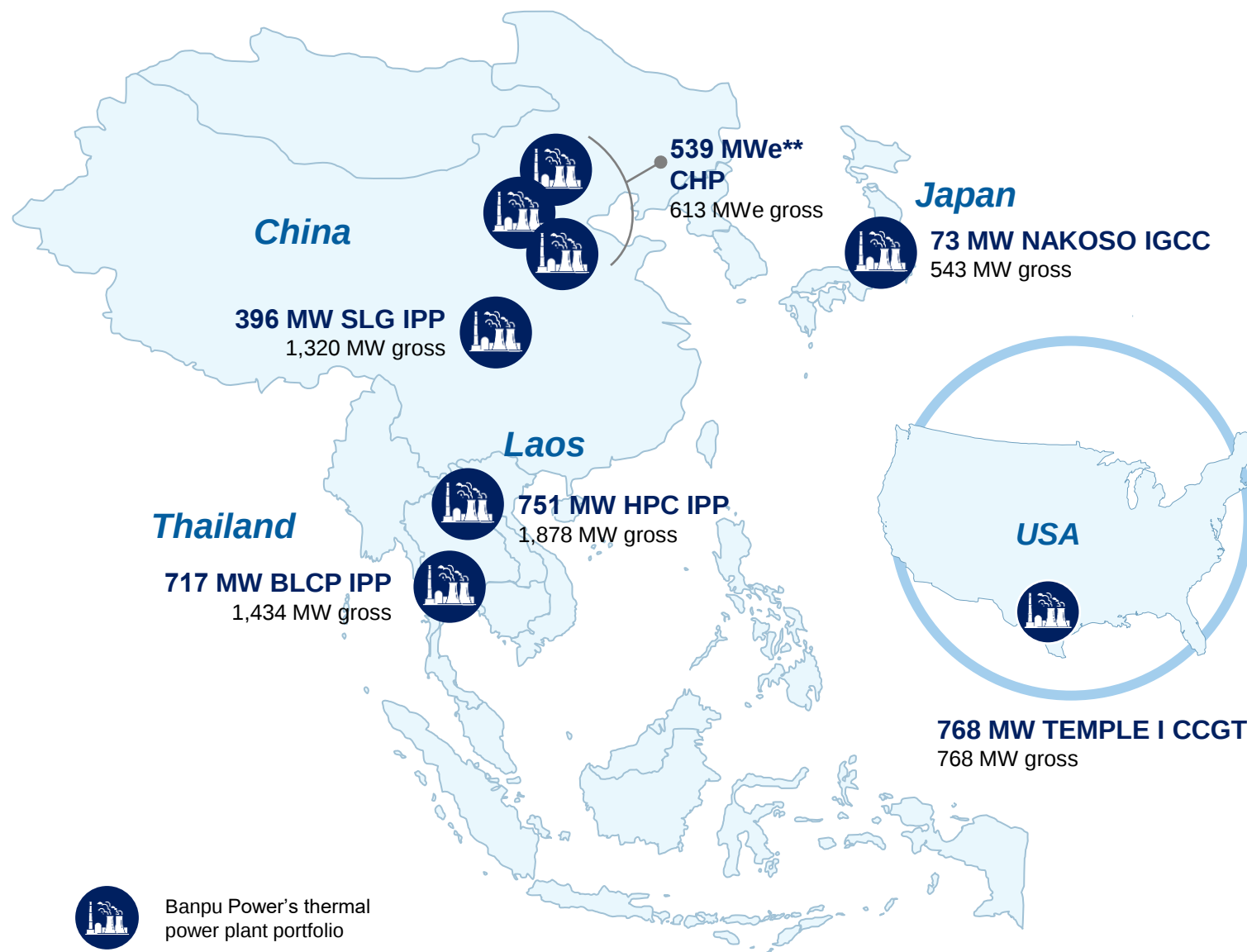


1,074 MW
committed renewables
equity capacity**

-  Solar power plant portfolio
-  Solar rooftop portfolio
-  Banpu Power's thermal power plant portfolio
-  Wind power plant portfolio

*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



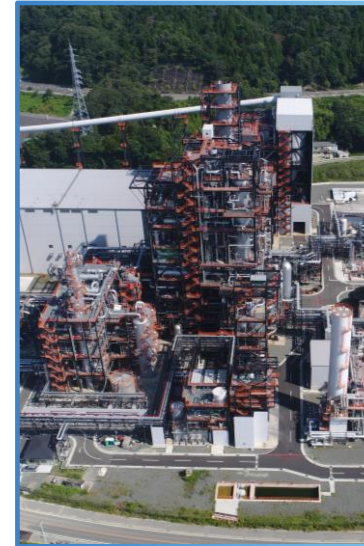
China CHP

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

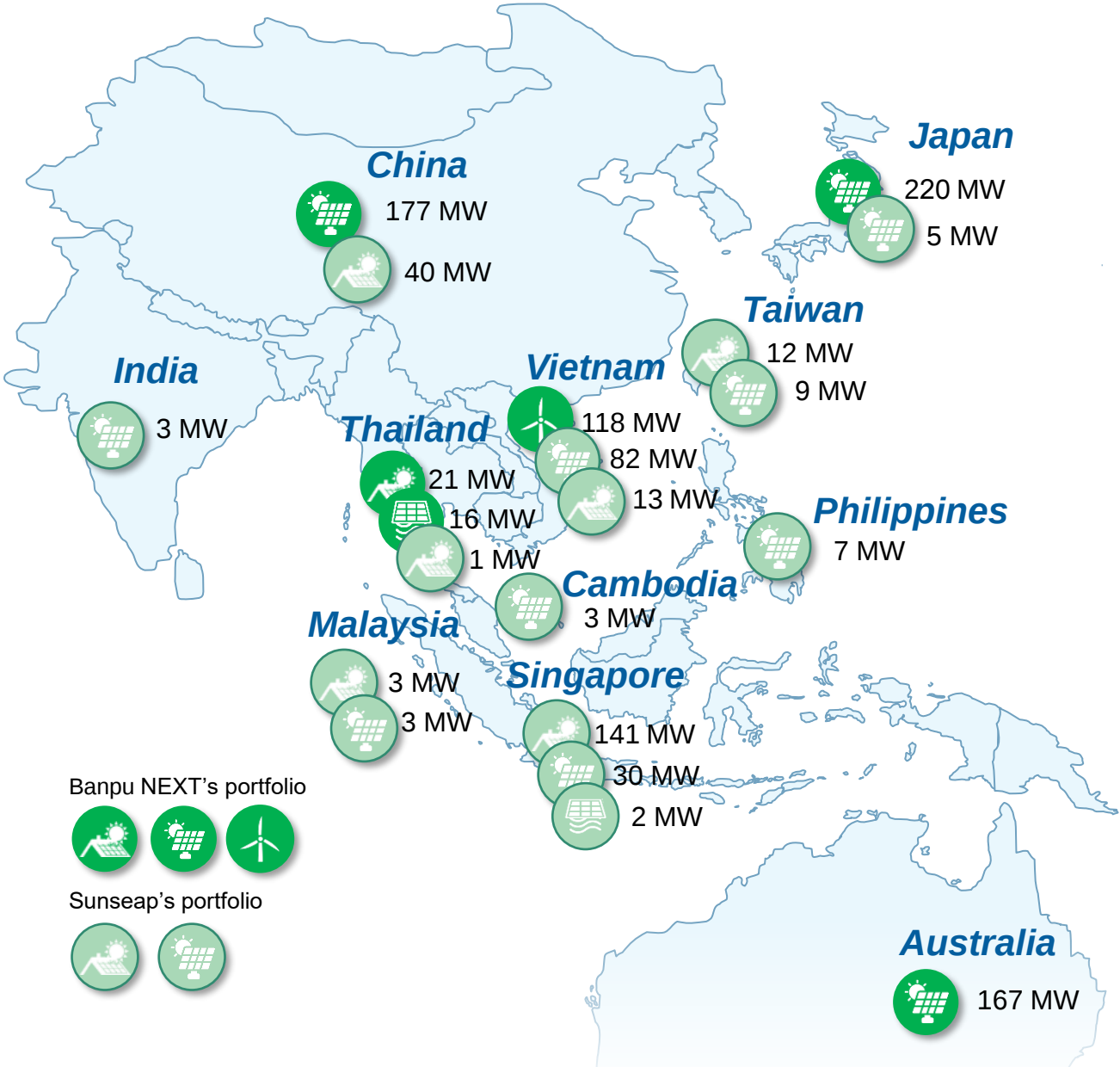


Nakoso IGCC

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

Banpu Renewable Power: diversified Asia-Pacific portfolio*



Banpu NEXT's portfolio



Sunseap's 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



01

Highlights
2Q21

02

Accelerating the
Transformation

03

Financial
Summary

04

Energy
Resources

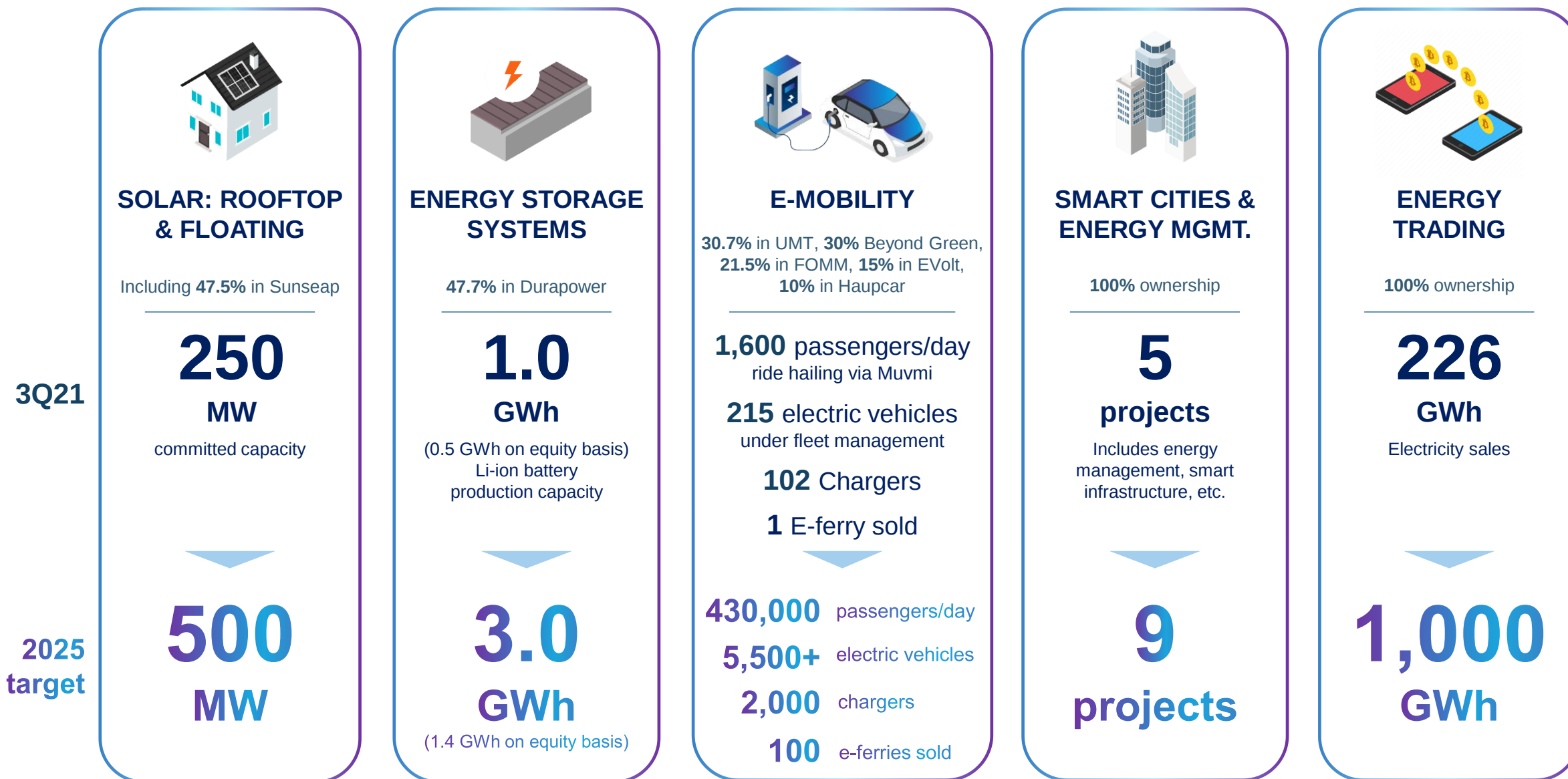
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Energy
Generation

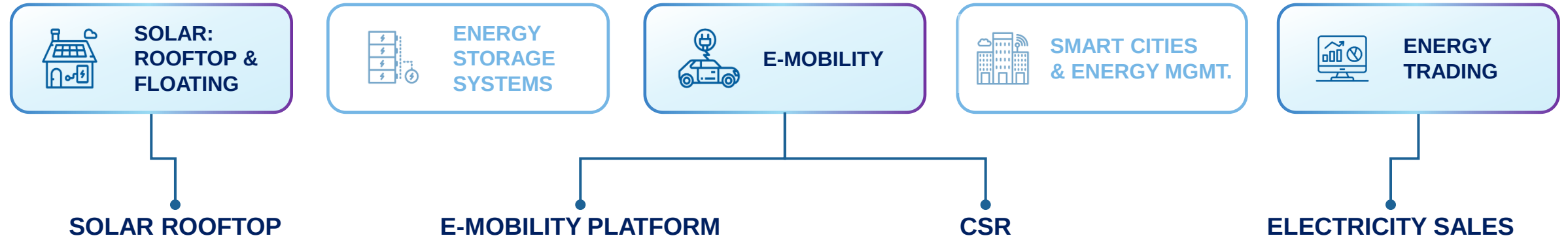
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**Energy
Technology**

Banpu Energy Technology: growth targets 2025



Banpu Energy Technology: 3Q21 updates

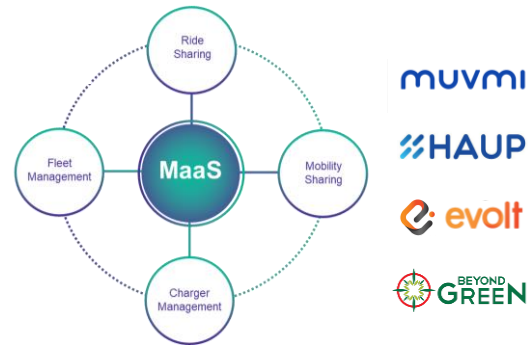


NEW CONTRACT SIGNING

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



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



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



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



SOLAR:
ROOFTOP &
FLOATING



**ENERGY
STORAGE
SYSTEMS**



E-MOBILITY



**SMART CITIES
& ENERGY MGMT.**



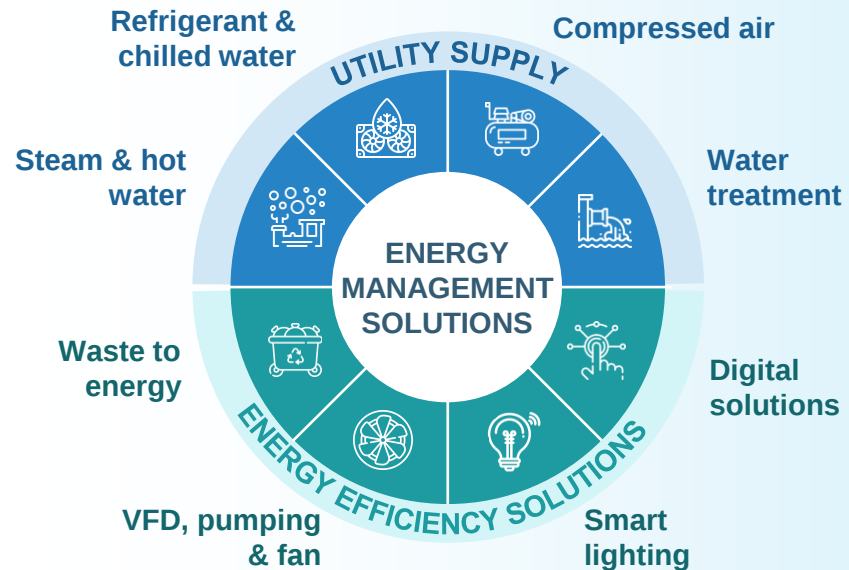
**ENERGY
TRADING**

ACQUISITION OF ENGIE SERVICES (THAILAND) – ENERGY MANAGEMENT COMPANY

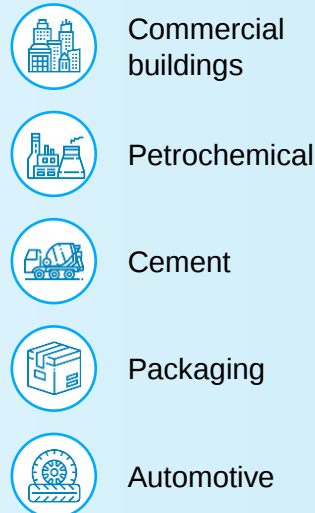


Banpu NEXT acquired 100% stake in Engie Services (Thailand) for US\$2.8 M. The company provides services such as procuring, installing, operating, maintaining, and enhancing energy systems for commercial and industrial clients in Thailand. The deal is expected to be completed in November 2021.

CURRENT SERVICES:



CLIENT PORTFOLIO:



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

ENERGY RESOURCES

Shale Gas



~700 MMcfed
Net production

ENERGY GENERATION

Renewable Power



825 MW
Committed capacity

ENERGY TECHNOLOGY

Solar: Rooftop & Floating



250 MW
Committed capacity

Mining



38.0 Mt
Coal sales

Thermal Power



3,244 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



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 Meters³
 - 1 MCF = 1.0 Million BTU (MMBTU) or Decatherms (dry gas)
 - 1 BCF = 1.0 Trillion BTU
 - 1 Meter³ = 35.3 MCF
 - 1 Billion Meters³ = 35.3 BCF

2021 indicative guidance

ILLUSTRATIVE AND INDICATIVE ONLY

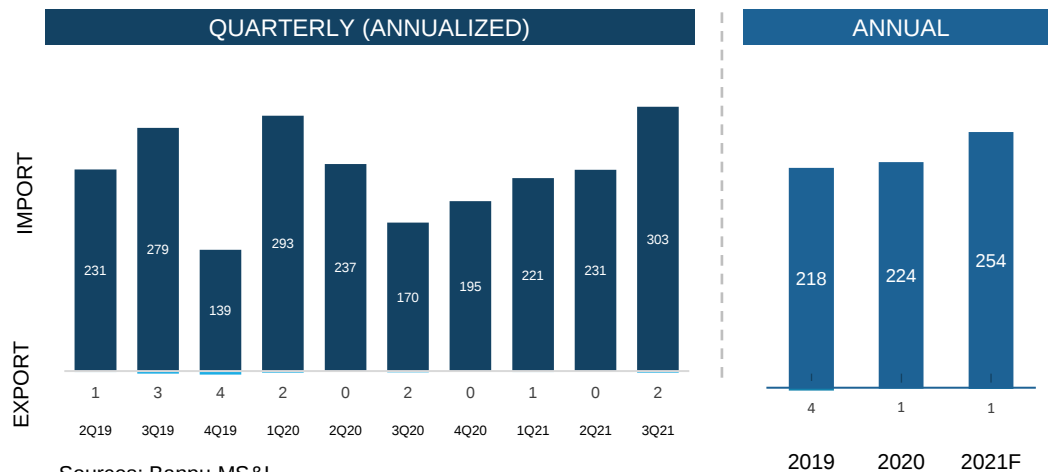
UNIT GUIDANCE (US\$/MCF)		COMMENTS
REVENUE		
<i>Reserves (Tcf)</i>	<i>3 – 4</i>	
<i>Production volume (Mmcfd)</i>	<i>600 – 700</i>	
Average differential to Henry Hub	\$0.20 - \$0.50	Difference selling points and Henry Hub (NYMEX basis)
GCP&T costs	\$0.90 - \$1.10	Gathering, compression, fractionation 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

NET BACK

China: supply tightness keeps import high

CHINA THERMAL COAL IMPORTS/EXPORTS*

Unit: Mt

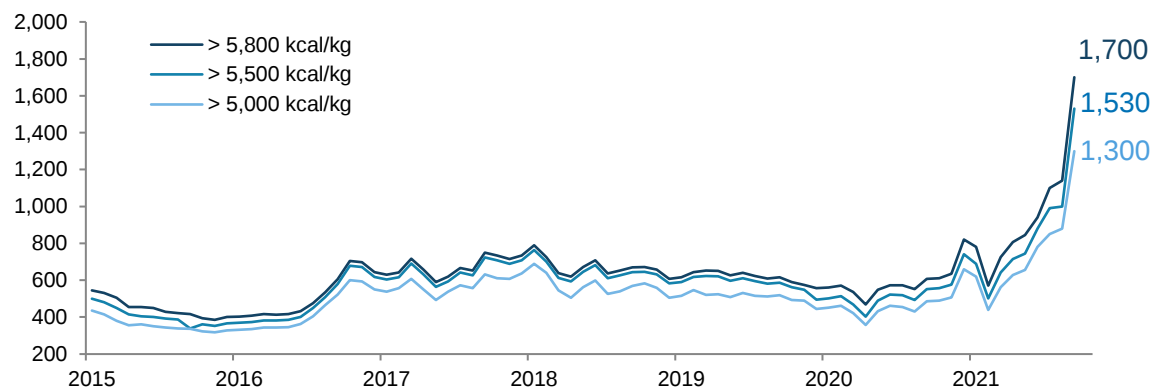


3Q21

- 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.

CHINA DOMESTIC COAL PRICES

Unit: RMB/t



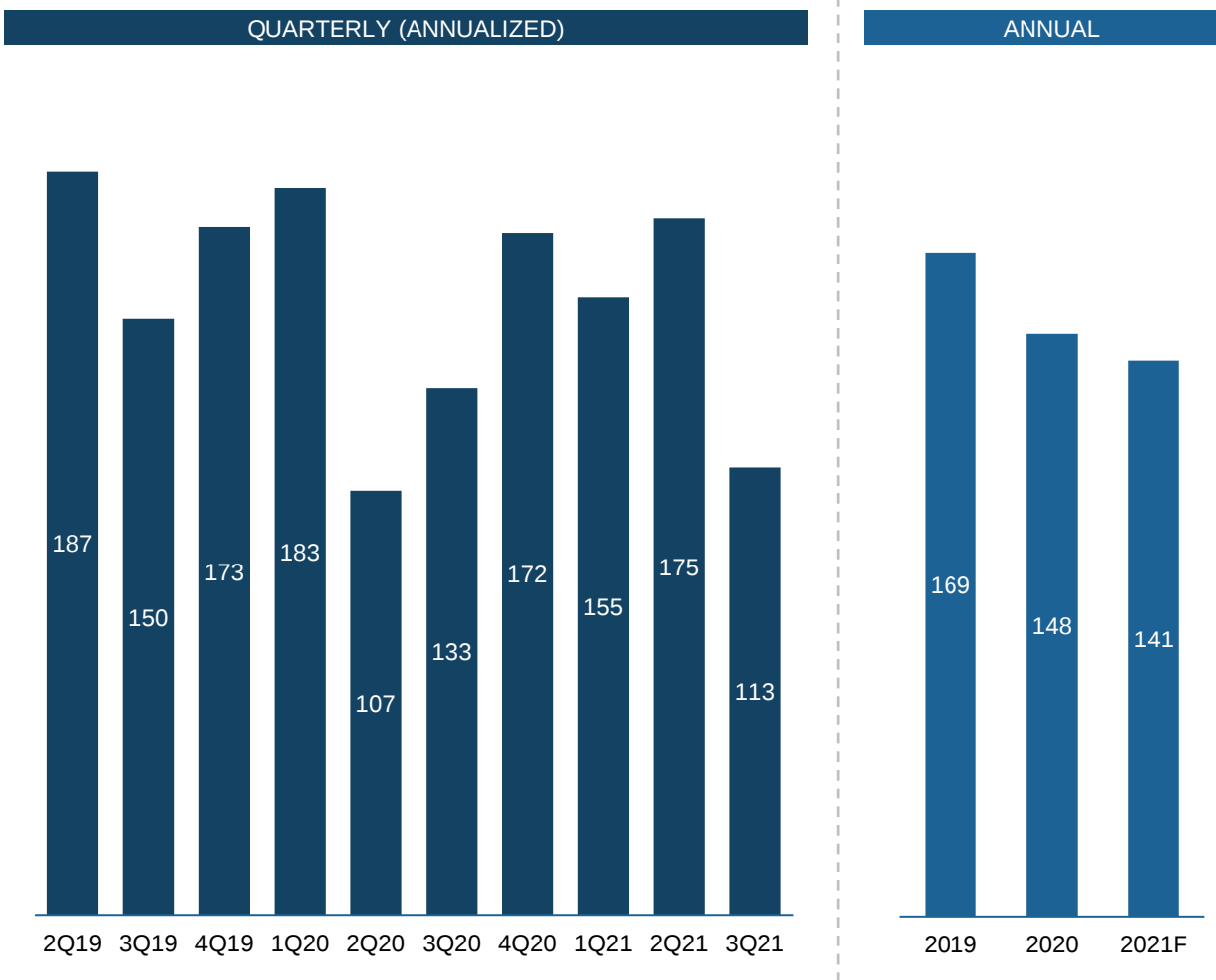
OUTLOOK

- 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

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

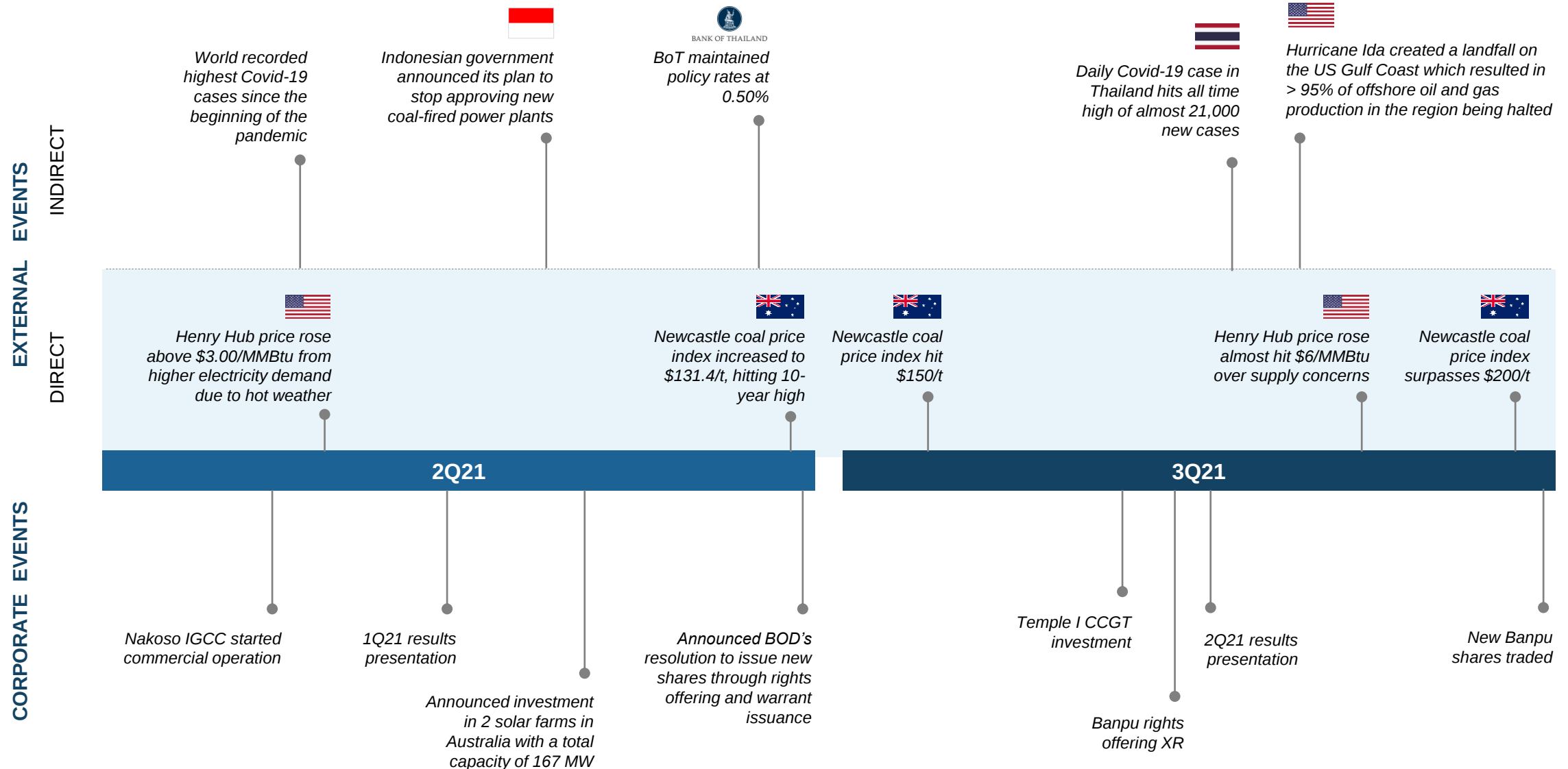
INDONESIA OPERATIONS: COAL OUTPUT (MT) – ROM OUTPUT ON 100% BASIS

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

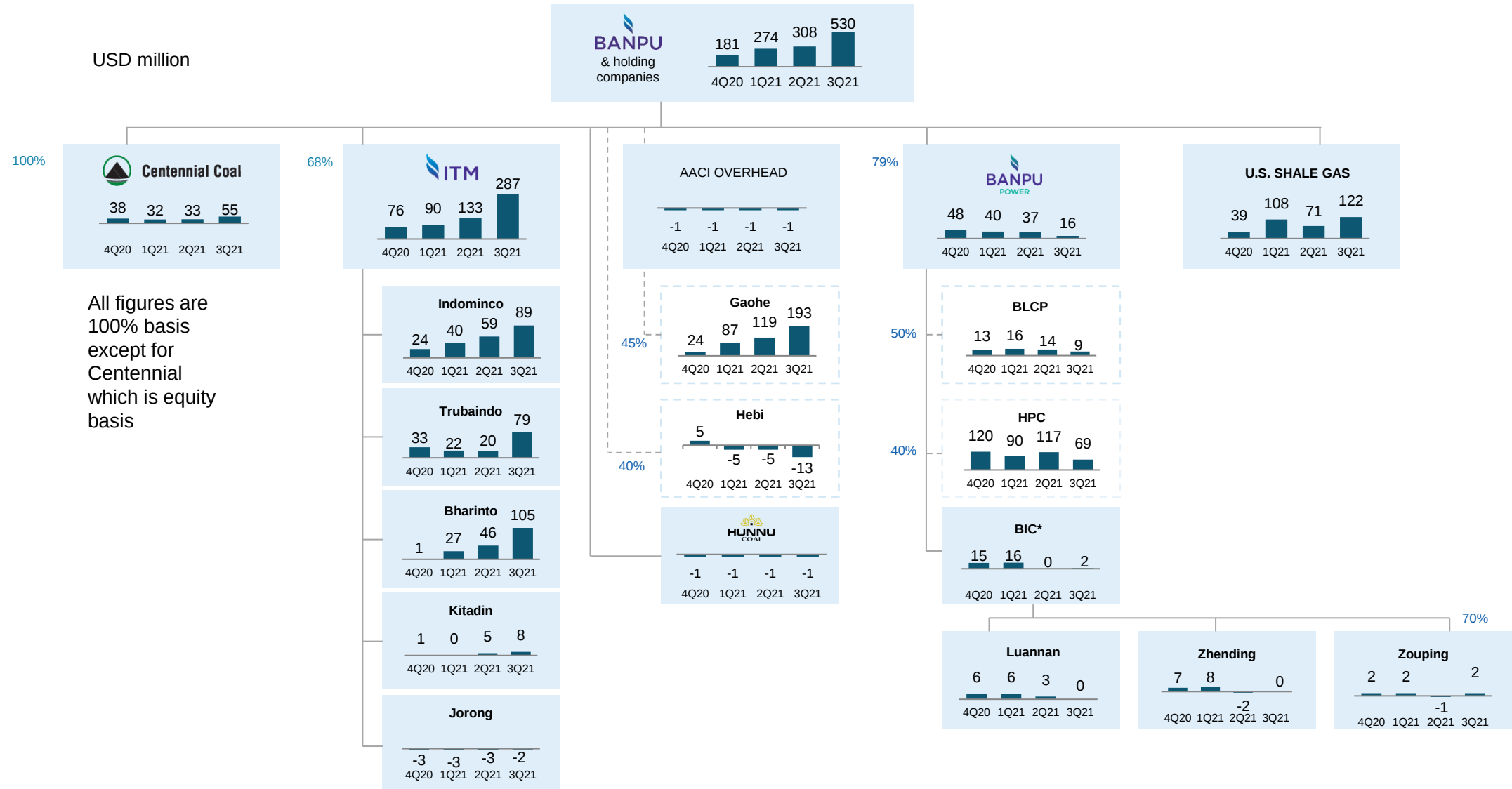
Key external and corporate events



FX impact analysis guidance on P&L

CURRENCY EXPOSURE	NPAT IMPACT 3Q21 (US\$M)	APPROXIMATE FX EXPOSURE (US\$M)		NPAT 5% SENSITIVITY 4Q21 (US\$M)
		NET LIABILITY	NET ASSET	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



Note: all ownership 100% unless otherwise shown

*BIC = Banpu Investment China

Consolidated NOT consolidated

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%		
<i>GPM – Coal</i>	<i>48%</i>	<i>36%</i>	<i>24%</i>		
<i>GPM – Gas</i>	<i>53%</i>	<i>34%</i>	<i>-60%</i>		
<i>GPM – Power</i>	<i>1%</i>	<i>7%</i>	<i>20%</i>		

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

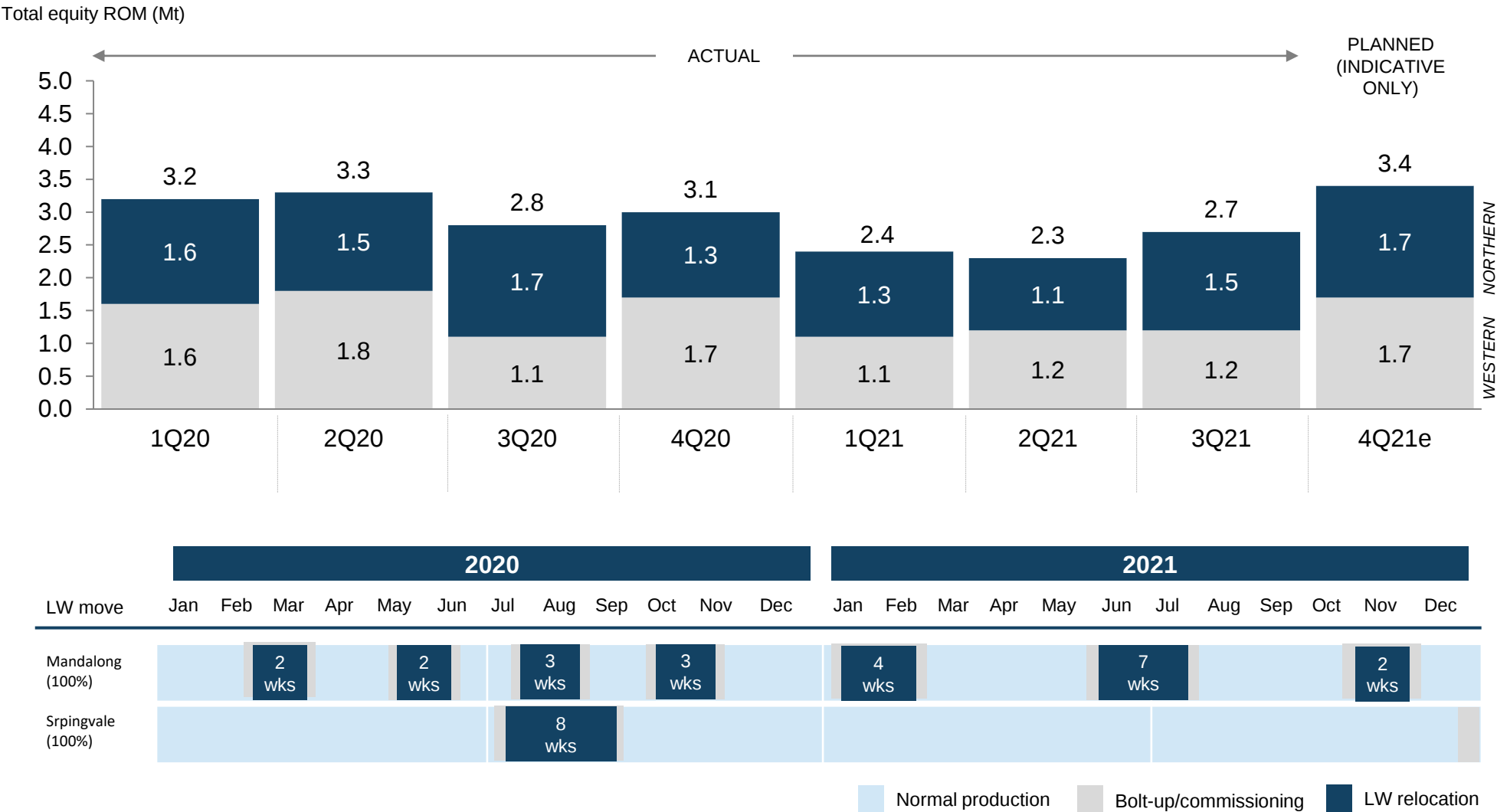
USD million	3Q21	2Q21	3Q20	QoQ%	YoY%
EBIT	400	192	36	+109%	+998%
Interest expenses	(43)	(41)	(42)		
Financial expenses	(3)	(2)	(1)		
Income tax (core business)	(46)	(21)	(5)		
Minorities	(47)	(35)	(9)		
Net profit before extra items	261	92	(21)	+182%	n.a.
Non-recurring items*	(5)	(3)	(3)		
Gain (Loss) 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

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%.

