

QLD METALLURGICAL COAL PROJECTS

Bede Boyle HiValue Strategies Pty Ltd July 2018

Record 2017 Export Earnings sustaining into 2018 is boosting investment confidence in Queensland Metallurgical Coal Projects

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Coal Ventures & Associates was formed by Bede Boyle and George Edwards with GEOS Mining and HANBURY Capital and ASIA investment advisors Pearl Asia Limited.

CVA provides Independent Business Intelligence, Expert Advice and Support for Coal Asset Divestments, Acquisitions and Resource Developments in Australia and Internationally.

Bede Boyle founded HiValue Strategies Pty Ltd in 1994 as Strategic Advisor to Coal Industry and Government clients including AGL, Bayswater Colliery, BlueScope Steel, Exxaro Coal, Genesee Wyoming Inc., GVK Hancock Coal, Laing O'Rourke, Leighton Contractors NSW Coal Compensation Board, NSW Department of Mineral Resources, NSW FreightCorp, Newcastle Port Corporation, Powercoal, PWCS, Vale and Xstrata Coal.

Bede was Manager Technical Services with Coal & Allied Operations and as Manager Mining Holdings was instrumental in securing the Mt Pleasant Coal Area for Coal & Allied.

Contact Bede: M +61 (0) 419 213 010 E boyle.bede@bigpond.com

George Edwards has been involved with coal for some 50 years and has part owned and operated three export coal mines since starting up his own companies 30 years ago. He has over 100 clients worldwide and undertakes;

JORC Evaluations and Valuations (VALMIN)

Feasibility Studies

Project and Mine Asset Sales and Purchases, and

Coal Sales and Purchases through Edwards Global Services Pty Ltd.

George was Director Marketing with Coal & Allied Industries Limited, Chief Executive in Australia for Consolidation Coal Company of USA, Chairman and General Manager of Gollin Wallsend Coal Company Limited.

George is currently non-executive director of Atrum Coal [ASX: ATU]

Contact George: M +61 (0) 407 260 286 E gee1941@gmail.com

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1 Record 2017 Coal Prices sustaining into 2018 has boosted confidence in Australia's Export Coal Industry

Trade data from the Australian Bureau of Statistics demonstrates the strength of Australian coal exports in 2017 which were valued at \$56.5 billion, 35 per cent higher than 2016. This is the highest ever annual value of coal exports – the previous record was \$46.7 billion in 2011.

In 2017 metallurgical coal exports were 172 Mt with a value of \$35.7 billion while thermal coal exports were 200 million tonnes (Mt) worth \$20.8 billion. Metallurgical coal revenue averaged about \$200 per tonne whilst thermal coal averaged about \$100 per tonne.

Coal exports are from both Queensland and NSW and comprise metallurgical coal for steel making and thermal coal for power generation. Australia is the largest exporter of metallurgical coal in the world predominately from Queensland and second largest exporter of thermal coal predominately from NSW.

Overwhelmingly the destination of Australian coal exports continues to be Asia, spanning from the established Asian markets of Japan, Korea, Taiwan and China to the fast growing economies of Southeast Asia and India. Exports to this market were worth approximately \$2 billion in 2017.

energyminesandmoney[™]
AUSTRALIA Brisbane 20&21 June 2018

The conference was hosted by Queensland Government and Bede Boyle was chair for the Coal and Strategic Investments in Queensland sessions.

There is demonstrable investor appetite for Queensland metallurgical coal resources, with robust demand from Asia projected for decades to come. Over the medium term to 2023 the Office of the Chief Economist expects Australian metallurgical coal exports to increase by 3.5% per annum. Source: Resources and Energy Quarterly March 2018

Of most significance is the emergence of Private Equity Firms seeking investment in high value metallurgical coal assets and supporting acquisition of coal resources by junior miners from majors.

M&A activity in the Australian Export Coal Industry

My independent study of recent of M&A activity in the Australian Export Coal Industry highlights the significance of the Yancoal – Glencore deal to acquire Coal & Allied and also the acquisition of producing mines and projects by private Equity Firms together with USA and Indonesian coal companies and Japanese Traders. This will be the subject of my presentation to the Australian Coal Conference to be held in Sydney on 16&17 August 2018. My report is available free of charge boyle.bede@bigpond.com

2 Metallurgical Coal Demand from India will underpin Export Growth

Growth in India metallurgical coal imports is expected to be underpinned by the increased need for more metallurgical coal to support local steel production, given India's very small domestic coking coal reserves. The Indian Government's plans to attract more investment in the country and improve the domestic manufacturing industry, will require better domestic infrastructure and hence higher steel consumption.

Source: Resources and Energy Quarterly December 2016

Make in India Campaign was launched by Prime Minister Modi in 2014 and is transforming India into a Global design and manufacturing Hub.



In 2015 India was the top destination globally for foreign direct investment, surpassing the United States of America as well as the People's Republic of China with US\$63billion in FDI. International companies including Apple, Ford, GE, Sandvik and VW are establishing major manufacturing facilities in India.

Seaborne demand for Australian Metallurgical Coals is forecast by IHS Markit Independent Analysts to increase by 30Mt over the next decade. The forecast 30Mtpa increase in Metallurgical Coal Exports is underpinned by an expectation of higher demand from India. India is reliant on imports of high quality metallurgical coal and currently relies on about 50Mtpa imports of metallurgical coal mainly from Australia. India steel industry is expanding with blast furnace technology which will increase demand to over 90Mtpa.

George Edwards, who Trades Coal through Edwards Global Services Pty Ltd, observed to Coaltrans Australia delegates in August 2016 that *"India is seen to be a strengthening market for Australian high quality metallurgical coals. Imported metallurgical coal accounted for two-thirds of the total coal consumption by the India steel sector in 2015 and that percentage will increase, as domestic production cannot increase significantly and Indian quality is inferior to imported coals. India will need to increasingly rely on imported metallurgical coals for its steel industry requirements, which means importing about 50Mtpa in calendar year 2016 [a 14 per cent increase over 43.7Mt imported in 2015] and increasing thereafter as steel production increases, to over 90Mtpa."*

Amit Kumar, Head – Coal Sourcing and Power Trade, Jindal Steel & Power Limited, confirmed to Coaltrans Australia delegates that *"India has no alternative than to import increasing tonnages of metallurgical coal."*

3 Queensland's New Metallurgical Coal Project Development Pipeline

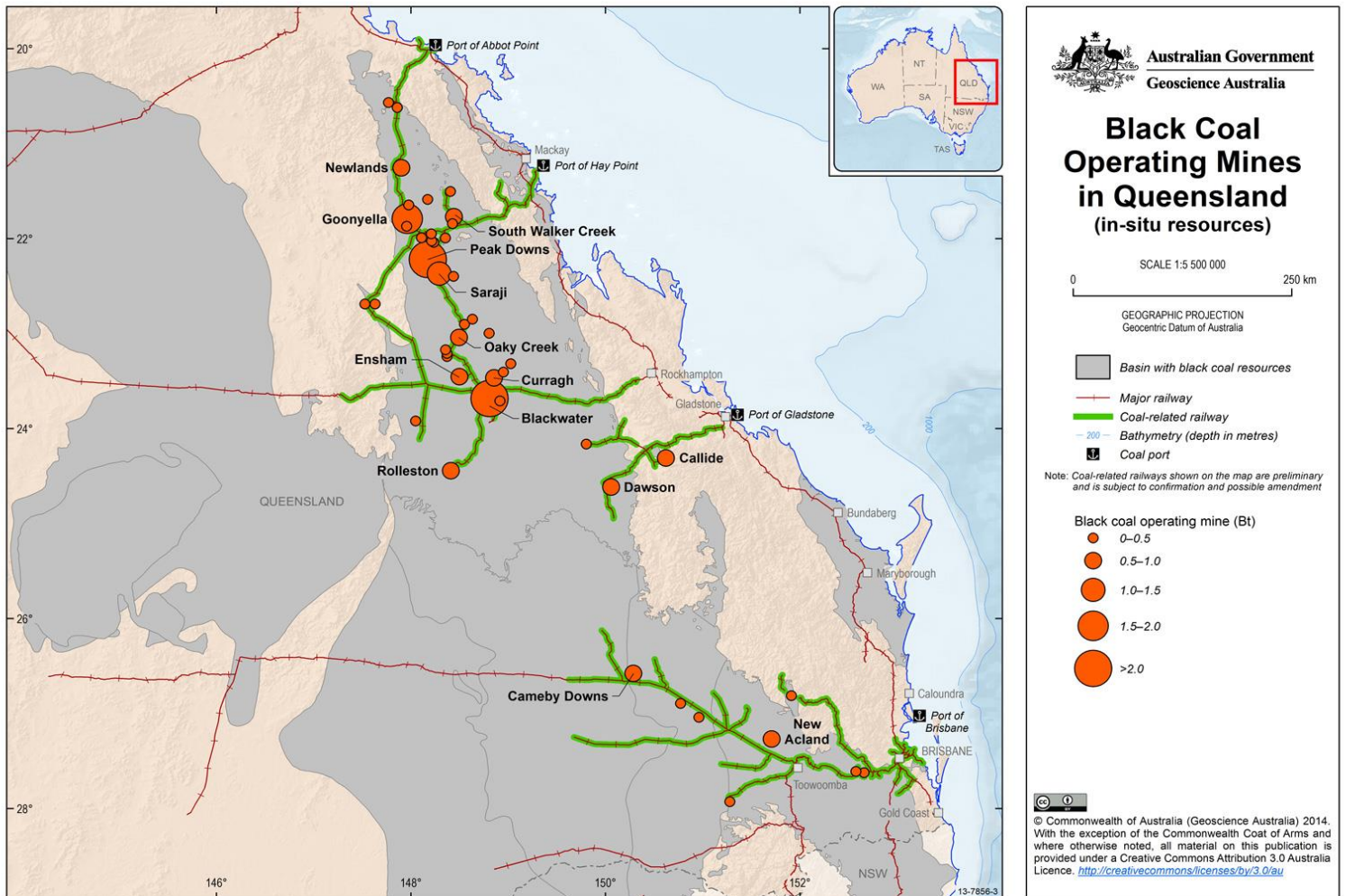
Queensland has responded to sustained Asia demand to become the World's largest exporter of metallurgical coal. The Bowen Basin contains almost all of Queensland's metallurgical coal reserves and producing mines.

Queensland has a \$6billion pipeline of metallurgical coal projects with capacity to produce 45Mtpa of Coking, PCI and by-product Thermal Coal.

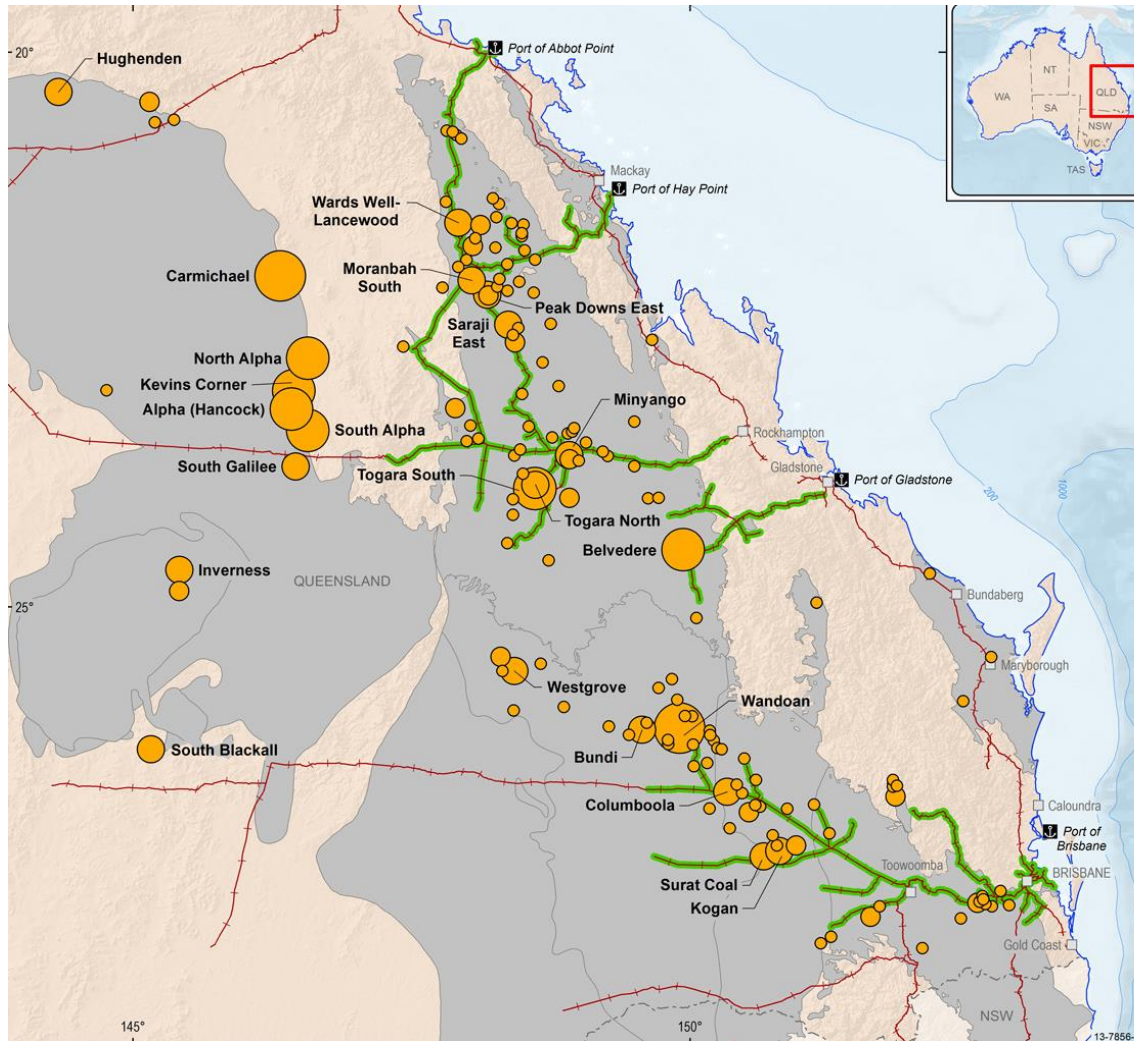
Queensland existing rail and port export infrastructure has over 70Mtpa available excess capacity for increased export tonnages. This 70Mtpa unused export capacity is a key enabler of rapid mine developments in response to market demand for metallurgical coals.

The strong long term demand fundamentals for metallurgical coal means a number of Queensland projects are in the feasibility / planning / construction / ramping up production pipeline some of which are illustrated in Table 4.

Map Black Coal Operating Mines in Queensland



Map Black Coal Deposits in Queensland



Black Coal Deposits in Queensland (in-situ resources)

SCALE 1:5 000 000
0 250 km

GEOGRAPHIC PROJECTION
Geocentric Datum of Australia

- Basin with black coal resources
- Major railway
- Coal-related railway
- Bathymetry (depth in metres)
- Coal port

Note: Coal-related railways shown on the map are preliminary and is subject to confirmation and possible amendment

Black coal mineral deposits (Bt)

- 0-0.5
- 0.5-1.0
- 1.0-2.5
- 2.5-3.0
- 3.0-5.0
- >5.0

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HiValue Strategies Business Intelligence - QLD Metallurgical Coal Projects

4 Table of Queensland Metallurgical Coal Projects

Project	Company	Comment	Proposed start-up	Est. cap expenditure	Resource New Saleable Capacity	Coal type	Proposed Port Destination
Byerwen (OC & UG)	Byerwen Coal Private Group QCoal in joint venture with JFE Steel	Well advanced project EIS approved and ML granted May 2017 Construction commenced	First coal 2018	\$1760m	10Mtpa	Hard Coking Coal	Abbot Point
Bluff	Wealth Mining a subsidiary of China Kingho Energy acquired Carabella Resources in 2014	New project MLA lodged; EA approved; FS completed; ML granted	NA	\$100m	1.2Mtpa	PCI	Gladstone
Dysart East Coal Project (UG)	Dysart Coal Management (Bengal Coal Pty Ltd)	New project – ML and EA issued	2018	\$100m	131Mt Resource 32Mt Reserves 1.5Mtpa	Hard Coking Coal Thermal	Dalrymple Bay Coal Terminal Gladstone
Isaac Plains East (OC)	Stanmore Coal	Extension Project – ML Granted; EIS complete; EA approved; FS Completed	Q1 FY2019	\$500m	1.2Mtpa	Coking, PCI, Thermal	Gladstone
Isaac Plains East (UG)	Stanmore Coal	Extension Project – FS underway; ML Granted	2018	\$100m	1.4Mtpa	Coking, PCI, Thermal	Gladstone
Comet Ridge Project (OC)	Bowen Coking Coal acquired the Comet Ridge project from Acacia Coal Limited	New project – EA approved; MLA lodged not yet approved.	2018	\$50m	0.2Mtpa (average) 0.35Mtpa (max)	Coking	Gladstone
South Styx Coal (OC)	CMR Coal	New project – Pre-FS complete, EIS and EM plan underway, MLA lodged; MDL granted; Future unknown as it is subject to QN liquidation proceedings.		\$250m	1.3Mtpa	Coking, Thermal	Dalrymple Bay Coal Terminal
Colton (OC)	New Hope Corp. Ltd	New project – ML approved and EA recommended for approval by land court	2019	\$300m	0.5Mtpa	Coking, Thermal	WICET
Teresa (UG)	New Emerald Coal Pty Ltd	New project – FS complete; EIS in progress; MLA lodged	2019	\$350 - \$370m	310Mt Resource 6.4Mtpa	PCI, Thermal	Gladstone
Springsure Project	Springsure Mining Pty Ltd (Terracom 35.78%)	New project – MDL granted; updated exploration plan in progress.	2019	n/a	148Mt Inferred 43Mt Indicated 1.55Mtpa	PCI, thermal	Variable Mackay / Gladstone
Grosvenor West Coal Project	Carabella Resources Pty Ltd	New project – MLA lodged 2012, Environmental studies commenced	2020 ?	\$500m approx.	3.5Mtpa	Coking, Thermal	Abbot Point Dalrymple Bay Coal Terminal
Olive Downs Complex Olive Downs South plus Willunga	Pembroke Resources Pty Ltd Denham Capital (USA) Major Shareholder	New project – Underassessment. MDL lodged and granted. Coordinated status declared January 2017.	Q3, 2020	\$1bn	514Mt Reserves Stage 1 6Mtpa Full 15Mtpa	Coking, PCI, Thermal	Abbot Point DBCT
Karin Basin (OC & UG)	Vitrinite Pty Ltd ITOCHU investment secures exclusive global marketing rights	New project	2020	\$200- \$250m	1.7Mtpa	Coking	Hay Point
Minyango (UG)	BOUNTY Mining acquired the assets of Caledon Coal including the established Cook Colliery and the Minyango Coking Coal project.	New project – EA issued. ML granted 2015. Pre-feasibility study in 2018 for bord and pillar underground mine utilising Cook Colliery Infrastructure	2020	NA	189.9 Mt Resource	Coking, Thermal	Wiggins Island (WICET)

HiValue Strategies Business Intelligence - QLD Metallurgical Coal Projects

Jellinbah Mine (Mackenzie North) (OC)	Jellinbah Group	Extension – FS underway; ML's granted.	2020	\$100m	2.5Mtpa Replacement	PCI	Gladstone
Baralaba South (OC)	Baralaba Coal Company Ltd	Expansion to Baralaba North Revised initial advice statement and draft terms of reference submitted 2017	2020	\$300m	3.5Mtpa	PCI 90%, Thermal	Gladstone
New Lenton (OC)	New Hope Corporation Ltd	New project – Pre-FS completed. EIS was due to be completed by June 2016, but has been post-phoned due to a revision of the project development timeline. Extension for the submission to June 2018 is being sought.	2022	\$400m	3.5Mtpa	Coking, PCI, Thermal	Dalrymple Bay Coal Terminal
Curragh Extension Project (previously Curragh South) (OC)	Corando Coal Group acquired Curragh from Wesfarmers Ltd	Extension – Pre-FS complete; ML granted.	2024	n/a	8.5Mtpa Coking 3.5Mtpa domestic Thermal	Coking, PCI, Thermal	Gladstone
Sarum (OC & UG)	NCA JV: Glencore Coal Queensland Pty Limited (55%), Itochu Coal Resources Australia Pty Limited (25%), ICRA NCA Pty Ltd (10%), Sumisho Coal Australia Pty Limited (10%)	New project – FS Progressing	NA	\$1000m	4.2Mtpa	Semi Soft Coking, Thermal	Abbot Point
Cooroora Coal Project	Bowen Coking Coal is the newest entrant to ASX:BCB	Planning exploration program			125Mt resource	Coking PCI	

FS = Feasibility Study

ML = Mining Lease

MLA = Mining Lease Application

MDL = Mineral Development Licence

MDLA = Mineral Development Licence Application

EIS = Environmental Impact Study

OC = Open Cut

UG = Underground

Source: Australian Coal Report 3 May 2017 updated with proponent information