

# Olive Downs Coking Coal Complex

**Sydney Mining Club**  
1 August 2019

**Barry Tudor, Chairman and CEO**



**PEMBROKE**



# PEMBROKE

## Important notice and disclaimer

This presentation has been prepared by Pembroke Resources Pty Ltd (ACN 169 037 307) for informational purposes only. By accessing/attending this presentation you acknowledge that you have read and understood the following statement.

### Forward-looking statements

This presentation contains statements that are, or may be deemed to be, “forward-looking statements” which are prospective in nature. Forward-looking statements involve known and unknown risks, uncertainties, assumptions and other factors set forth in this presentation. Such statements are qualified in their entirety by the inherent risks and uncertainties surrounding future expectations. Forward-looking statements are not based on historical facts, but rather on current predictions, expectations, belief, opinions, plans, objectives, goals, intentions and projections about future events, results of operations, prospects, financial condition and discussions of strategy.

Neither Pembroke Resources nor any of its associates or executives, officers or advisors, provides any representation, assurance or guarantee that the occurrence of the events expressed or implied in any forward-looking statements in this presentation will actually occur. Readers are cautioned not to put undue reliance on forward-looking statements. In light of these risks, uncertainties and assumptions, actual results could materially differ from projected future results expressed or implied in these forward-looking statements which speak only as to the date of this presentation.

Except as required by applicable regulations or by law, Pembroke Resources does not undertake any obligation to publicly update or review and forward-thinking statements, whether as a result of new information or future events.

### No offer

This presentation and the information contained herein do not constitute a binding offer to buy or sell any security, commodity or instrument or related derivative and do not constitute legal, regulatory, accounting or tax advice to the recipient. We recommend that the recipient seek independent third party legal, regulatory, accounting and tax advice regarding the contents of this presentation. This presentation does not constitute and should not be considered as any form of financial opinion or recommendation.

### Disclaimer

Neither this presentation, nor any question and answer session may be recorded, transcribed, distributed, published or reproduced in any form, except as permitted by Pembroke Resources.

To the maximum extent permitted by law, Pembroke Resources disclaim any and all liability for loss or damage suffered by any person, directly or indirectly, as a result of relying on the information provided in this presentation.

### Reliance on third party information

The views expressed in this presentation contain information that has been derived from publicly available sources that have not been independently verified. No representation or warranty is made as to the accuracy, completeness or reliability of the information. This presentation should not be relied upon as a recommendation or forecast by Pembroke Resources.

# Pembroke Resources

Established in 2014 to acquire and develop a portfolio of high quality, steelmaking coal assets

## Shareholders

Executive team

Denham Capital (USA)

## Pembroke Assets – Fully Funded to Production

Olive Downs Complex (Australia)

SAB (Indonesia)

## Executive Team



**Barry Tudor**  
Chairman / CEO



**Mark Sheldon**  
COO



**Amit Tyagi**  
CCO



**Alex Mitchell**  
CFO



**Attila Kovago**  
Exploration Director



**Kate Lindner**  
General Counsel

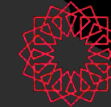


**PEMBROKE**



**SAB**

INDONESIA



**Olive Downs Complex**

AUSTRALIA

PACIFIC OCEAN

NEW ZEALAND

# Pembroke Resources



**PEMBROKE**

**A successful Executive team with a track record in creating significant value from steelmaking coal assets:**

**Identifying** unrecognised potential in met coal assets

---

**Advancing** metallurgical coal assets up the value chain

---

**Managing** production and cost of operations to suit market conditions

---

**Marketing and branding** to maximise the value of coal

---

**Resolving** the unique challenges associated with coal mining assets

---

**Leveraging networks** long-standing, valuable local and international networks across suppliers and customers

---

**Established relationships** manage permitting, development and marketing risk

---

**Developing** lasting relationships in local communities, to make a positive contribution to the lives of people within the communities and the broader society.



SAB

INDONESIA



Olive Downs Complex

AUSTRALIA

PACIFIC OCEAN

NEW ZEALAND



# Why Steelmaking Coal?



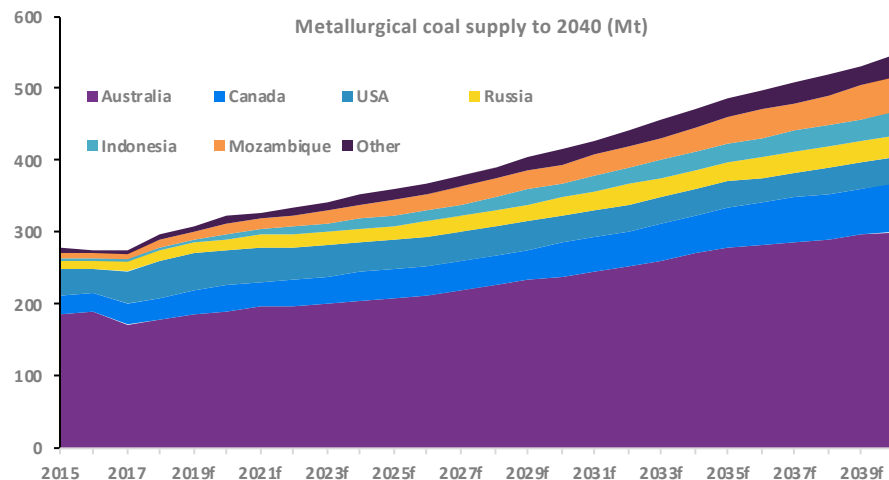
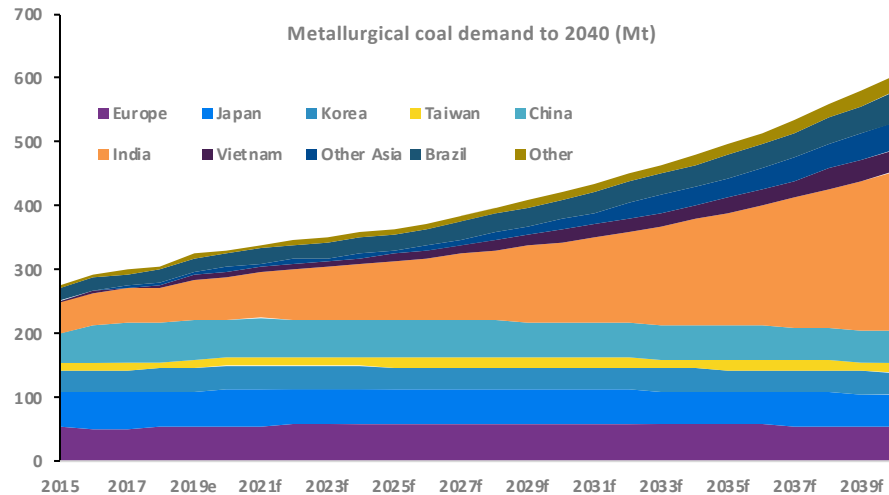
**PEMBROKE**

Different from thermal coal	Fundamentally different from thermal coal in its application, demand, supply dynamics and market structure
Scarce	It is a scarce commodity and occurrence is limited globally to just a few basins
Essential to steel making	Essential ingredient in the steel making process with no ready substitutes
Infrastructure constraints	Significant infrastructure constraints on supply side
Asset class structure	Structurally an excellent asset class <ul style="list-style-type: none"><li>• Highly concentrated on supply side (heavily influenced by one major)</li><li>• Fragmented customers (who encourage development of “independent” suppliers)</li></ul>
Marketed as a brand	Marketed with a specific brand = customer loyalty; unlike thermal, branding is important as value-in-use varies with customers
Inelastic demand	Highly levered to global (or regional) growth on the upside or supply shocks
Market opportunities	Offers good value accretive opportunities for niche/specialised projects
Pure met coal	Preference in the investment community for met coal

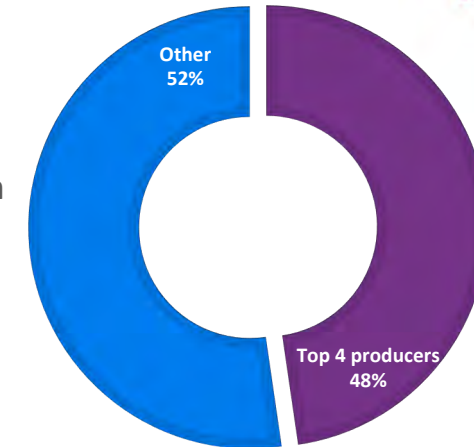
# Steelmaking Coal Supply and Demand



**PEMBROKE**

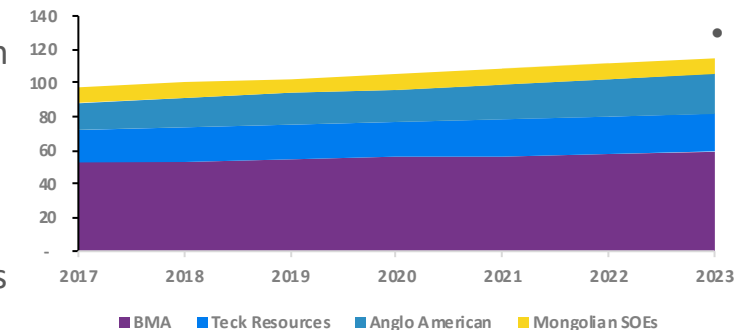


- **Total Demand** to grow at **3.2% CAGR** to 2040
- Biggest growth to come from **India (7.1% CAGR)**
- Significant growth also from Vietnam
- Australian supply is forecast to meet most of this growth in demand
- Assuming no bottlenecks to expansion, **Australian Supply** is expected to expand by **2.45% CAGR** to 2040
- However, there are significant bottlenecks to expansion of production from Australia
- The existing mines will get deeper / have higher SR
- Rail & Port infrastructure is close to capacity and requires extensive investment



Producers	Proportion of HCC production
BMA	25.9%
Teck Resources	9.5%
Anglo American	7.9%
Mongolia SOEs	4.4%
<b>Total Top Four</b>	<b>47.7%</b>

- Supply of steelmaking coal is **highly consolidated**
- **Top four** producers account for **48%** of total global supply of HCC
- **BMA** is the biggest with just under **26%** of global production of HCC under its control



- Annual average growth from the largest producers is expected to be around 2.8% over the next 5 years

# Target Asset Attributes



SAB



**PEMBROKE**

## Indonesian Specific

Low capital intensity ✓

Exploration and consolidation upside ✓

Flexibility ✓

INDONESIA

PACIFIC OCEAN

## Australian Specific

Large reserves & resources ✓

Low geological risk ✓

Large production capacity (flexible + scalable) ✓

AUSTRALIA



**Olive Downs Complex**

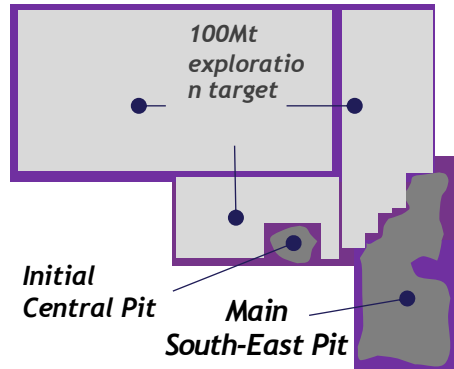
## Common Attributes

Sound technical foundations (geology and coal quality) ✓

Strategic location – infrastructure corridors and consolidation opportunities ✓

Open cut mining ✓

# Semesta Alam Barito

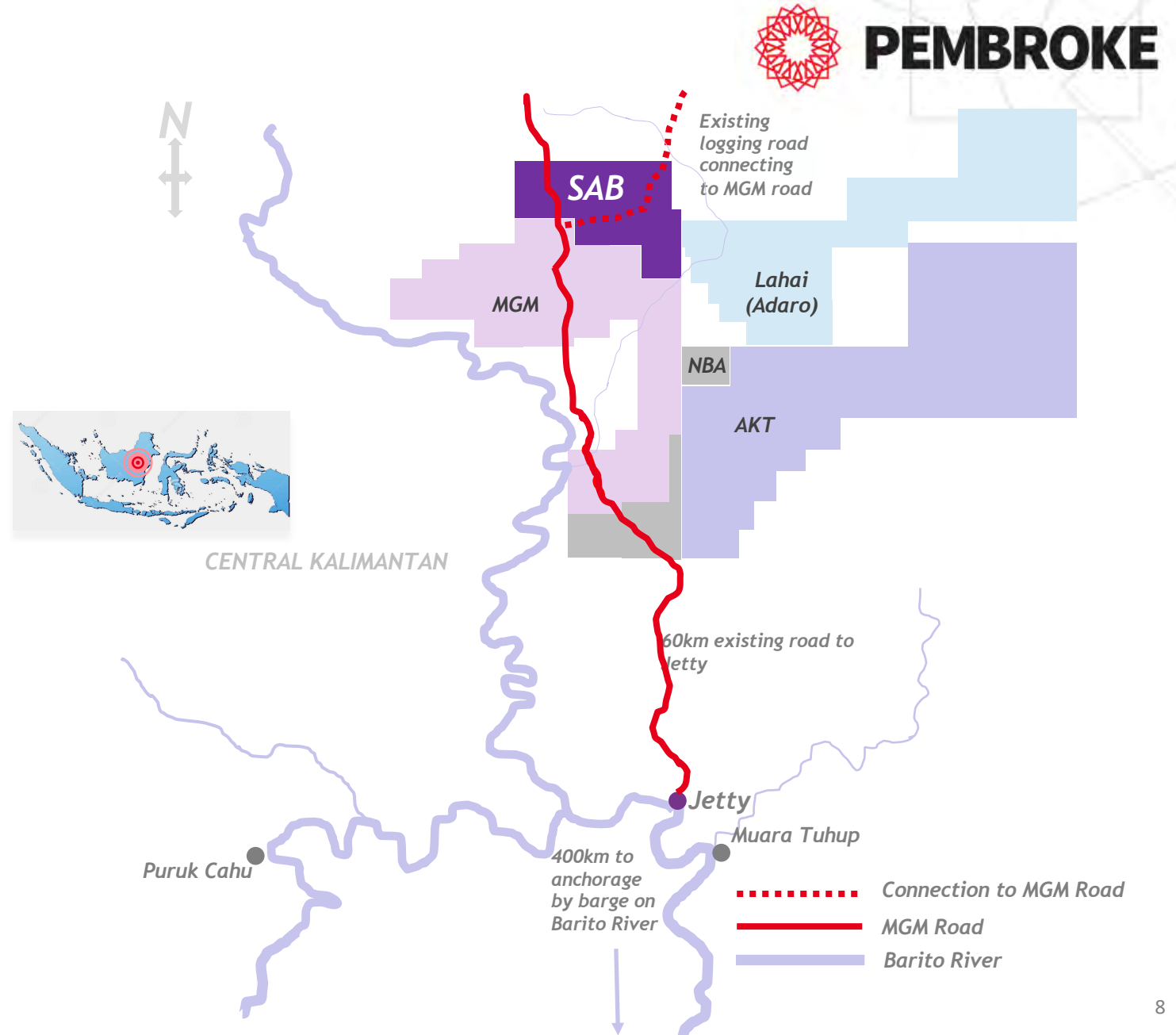


## Semesta Alam Barito

- Total Area: 5,000ha
- Semi Hard Coking Coal product
- JORC Resource of 36Mt (only 1,000ha of concession explored)
- Reserves of up to 30Mt
- Exploration target ~100Mt (3 known prospective locations)
- Up to 1Mtpa initial production, rapidly expanding to 3Mtpa

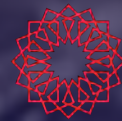
## Logistics

- 60km road to Jetty
- Jetty owned by SAB
- Barging by Barito River (with intermediate stockpile): approx. 400km to anchorage
- Ready for production – starts 2019





# Olive Downs



**PEMBROKE**

# Olive Downs Complex

A World Class and Rare Asset



**PEMBROKE**

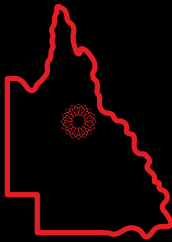


## Large Size & Scale

**514Mt OC JORC Reserve**

**838Mt OC JORC Resource**

Plus > 2 Billion tonne Underground target

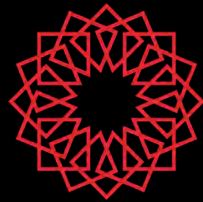


## Strategically Located

**Bowen Basin, Queensland**

Mining friendly jurisdiction

Surrounded by established infrastructure



**100%**

Interest Held by Pembroke



**> 90%**

Steelmaking Coal

HCC / SHCC / PCI



## High Volume & Long Life

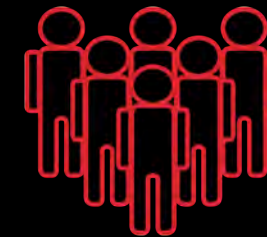
**15Mtpa Projected Production**

**> 75 years mine life**

Est Commencement Q3/4 2020

Develops to 15Mtpa

**High Yield**



## 1,000 + Workforce

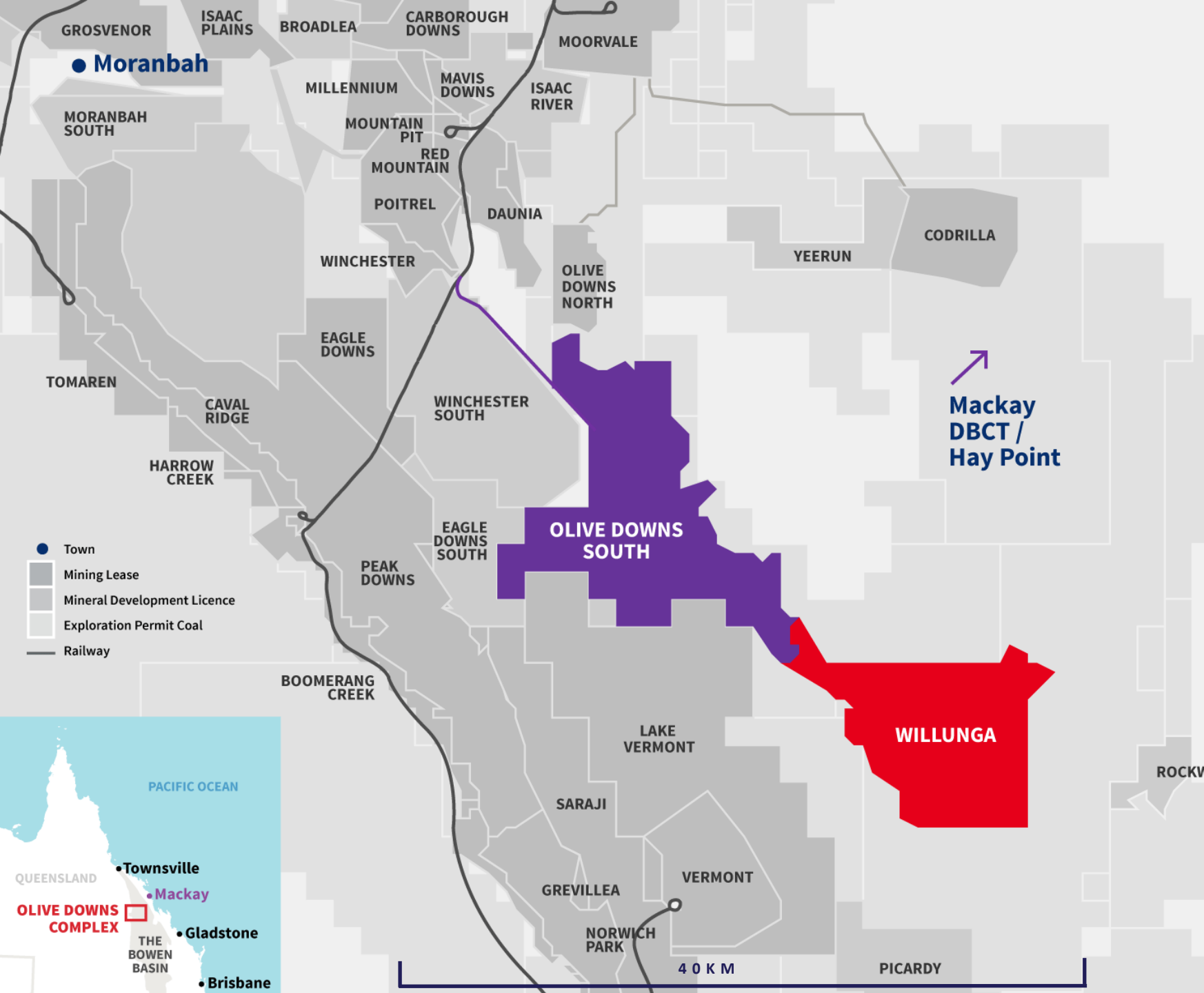
~500 – 700 during construction phase

**>1,000** at full production



## Approved

The Coordinator General has approved Olive Downs project EIS with conditions  
Approval covers Life of Mine of >75 years



**PEMBROKE**

## Olive Downs Coking Coal Complex

**Pembroke owns 100% interest in the Olive Downs Complex**

Has the potential to be one of the largest producers of steelmaking coal in the world

Approved for a life of mine of almost 80 years with maximum annual production of up to 20Mtpa ROM

Project has secured port and rail capacity for the first stage of production

### Olive Downs South

- JORC Reserves of 290Mt, mainly coking coal
- Stage-1 production of 6Mtpa ROM
- Stage-2 production of 12Mtpa ROM

### Willunga

- JORC Reserves of 224Mt, mainly PCI coal
- Production of up to 8Mtpa ROM

# Olive Downs

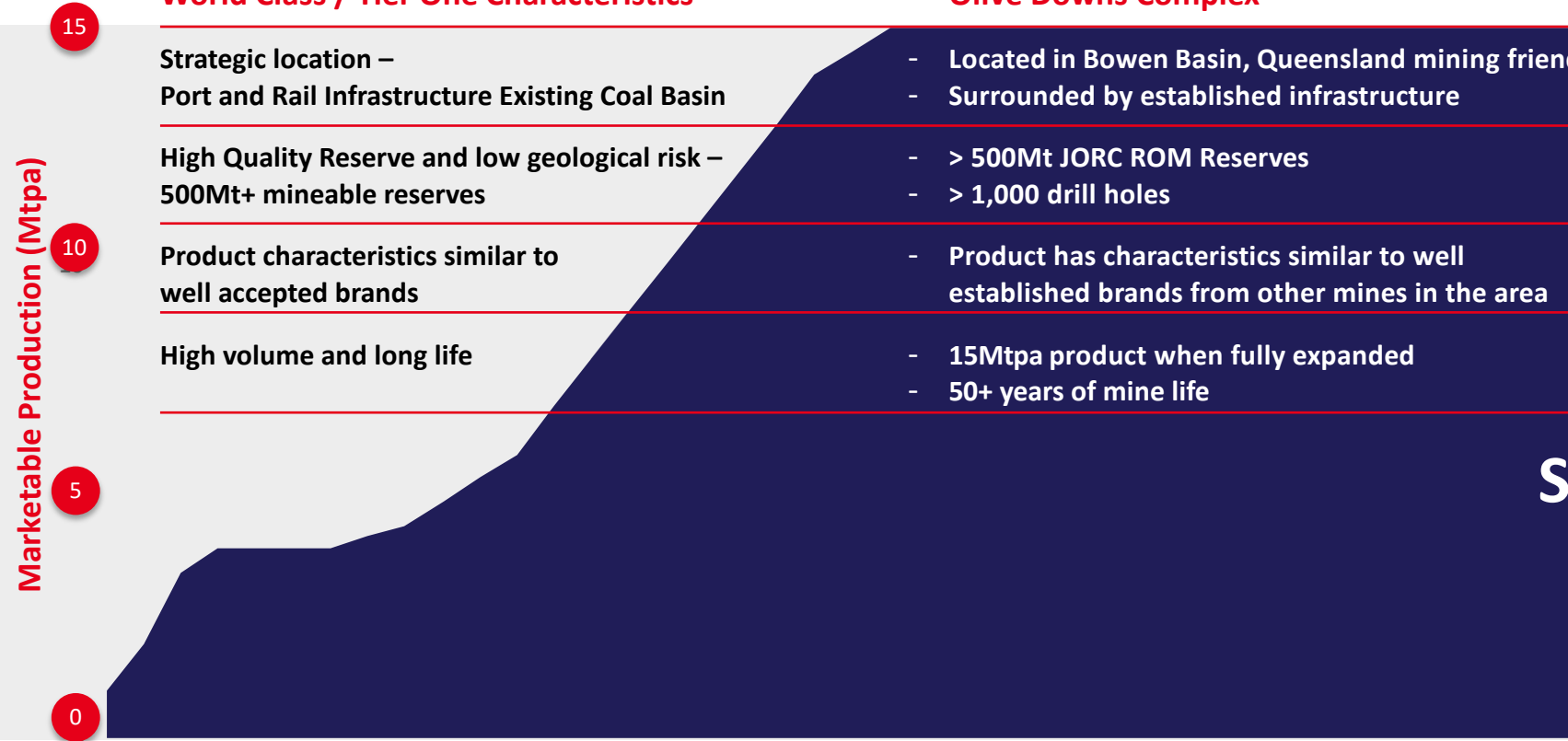
## A World Class Asset



**PEMBROKE**

### World Class / Tier One Characteristics

### Olive Downs Complex



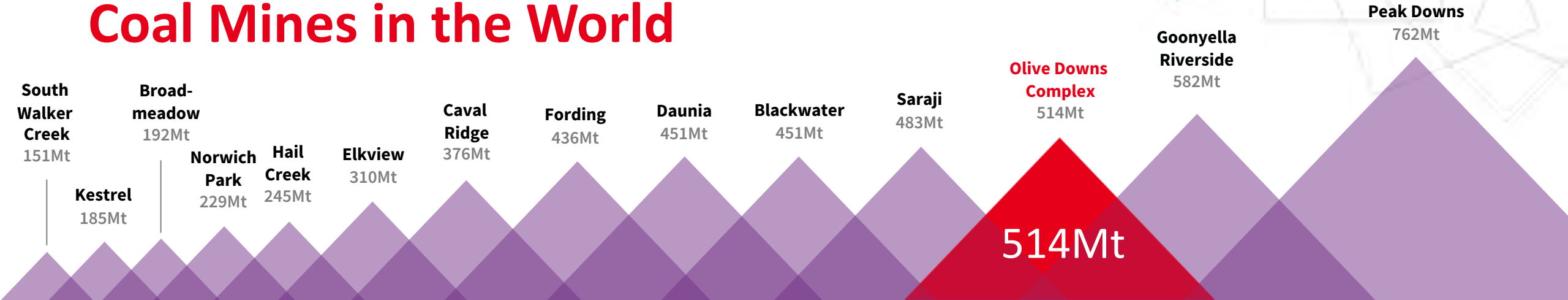
**Starting in 2020, with over  
75 years of mine life**



# One of The Largest Steelmaking Coal Mines in the World

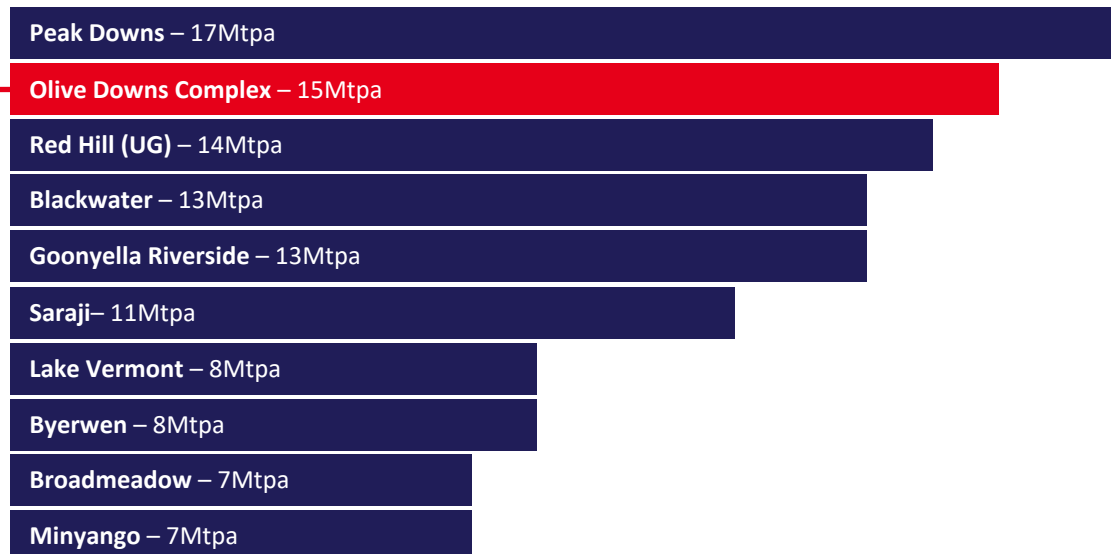


**PEMBROKE**

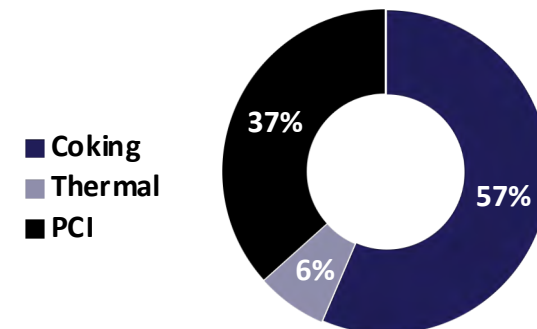


Source: JORC Reserves, Company Reports

**15Mtpa**  
**Annual Production Capacity**  
(Mt per annum)



**Product Profile**



**>90%**  
**of ODC's marketable production is steelmaking coal**



# Asset Attributes That Deliver High Profit Margin



**PEMBROKE**

**High Product Yield**

---

**Competitive Strip Ratio**

---

**Secondary Product Stream**

---

**Economies of Scale (25km Strike)**

---

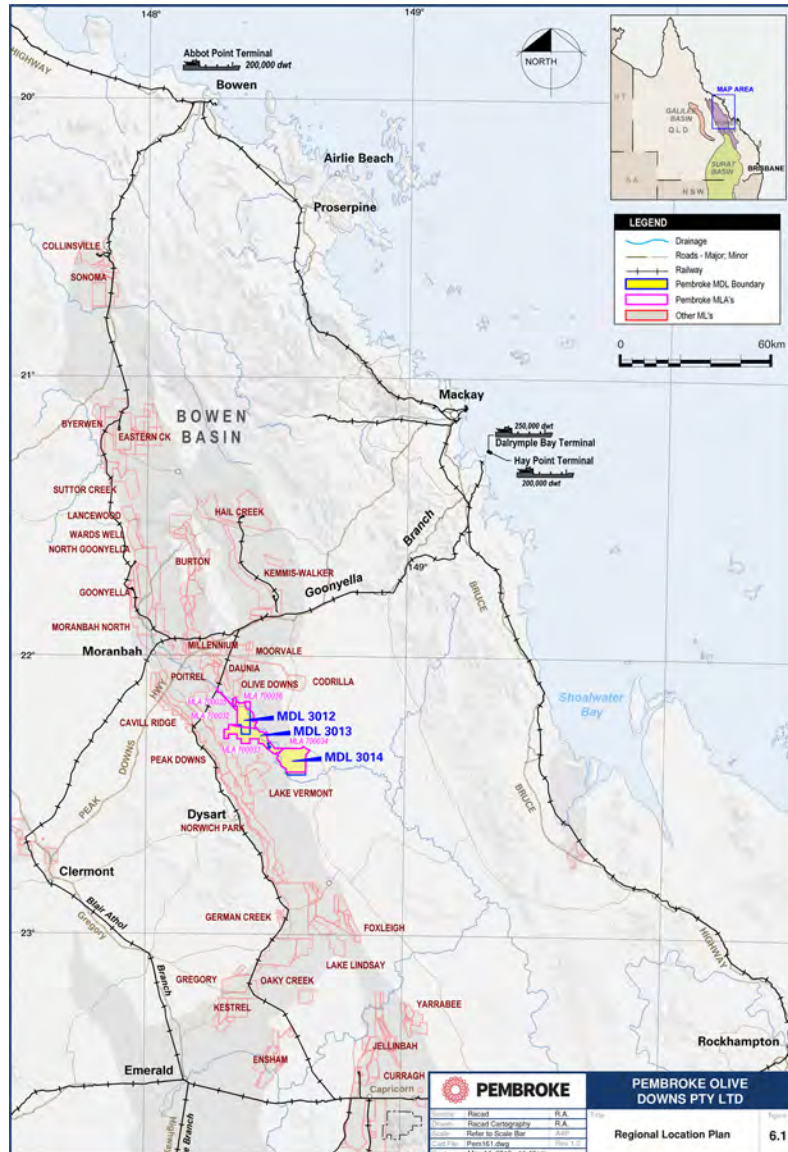
**High Product Value (>90% Steelmaking Coal)**

---

**Suited to Large Scale Mining with Latest Fleet Technology**



# Close to existing infrastructure



- A large project that supports standalone infrastructure
- 19km of Private Rail Infrastructure between Olive Downs South and Norwich Park Branch Railway
- Access to three Ports
  - Dalrymple Bay (DBCT)
  - Wiggins Island and
  - Abbot Point
- DBCT most optimal, with port and rail capacity secured for stage-1 (4.3Mtpa) of operations

## Infrastructure solutions

### Below Rail

The Project will commission construction of connecting infrastructure and then utilise Aurizon's existing below rail track to transport coal between the Olive Down Complex and Norwich Park Branch Railway

### Port

DBCT is the lowest cost port option (shortest distance and lowest tariffs)

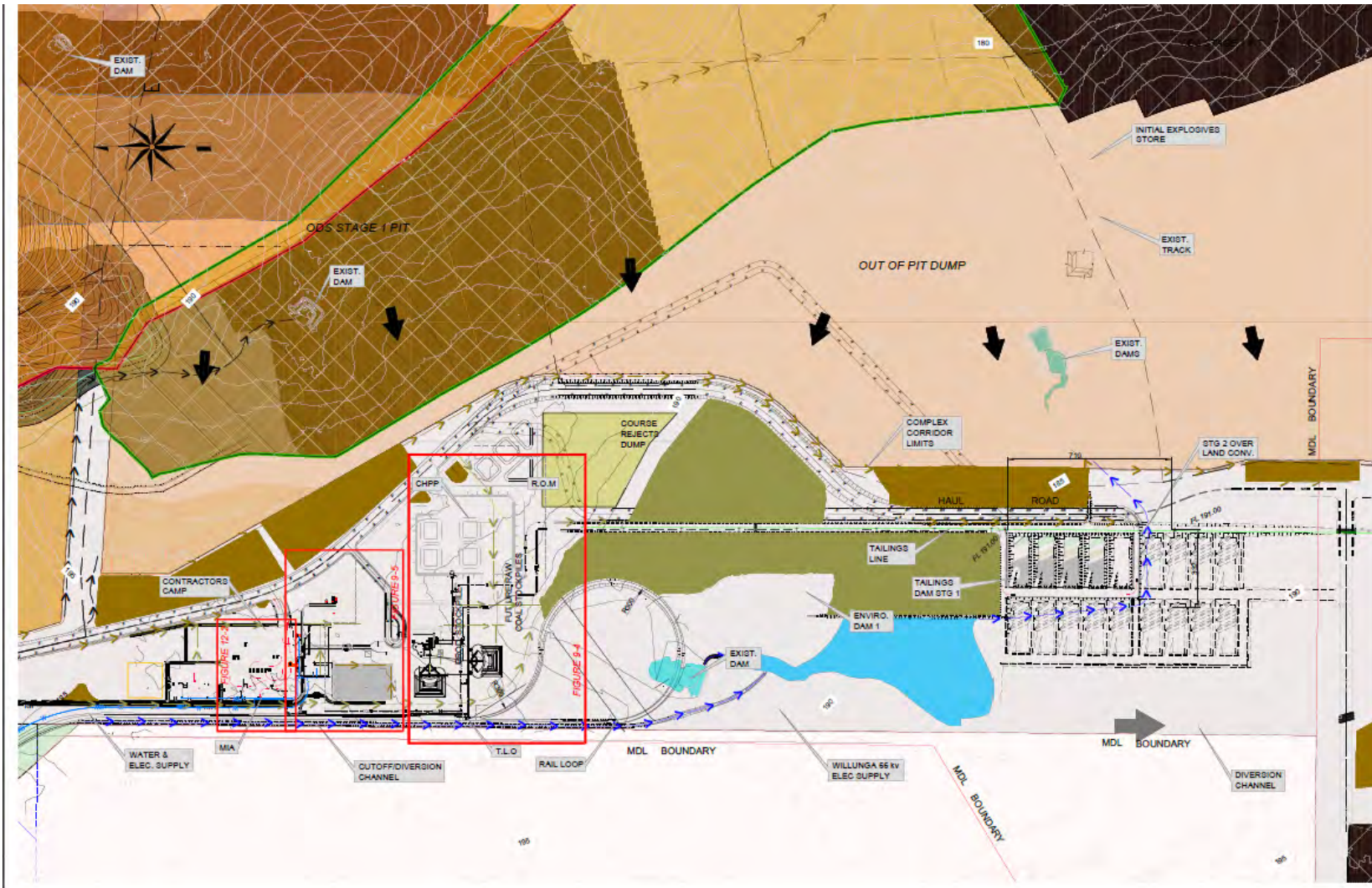
### Water

Leverage existing infrastructure and the same approach as rail.

### Electricity

Pembroke has engaged the local network service provider and is progressing on design and construction.

# Scalable Facilities



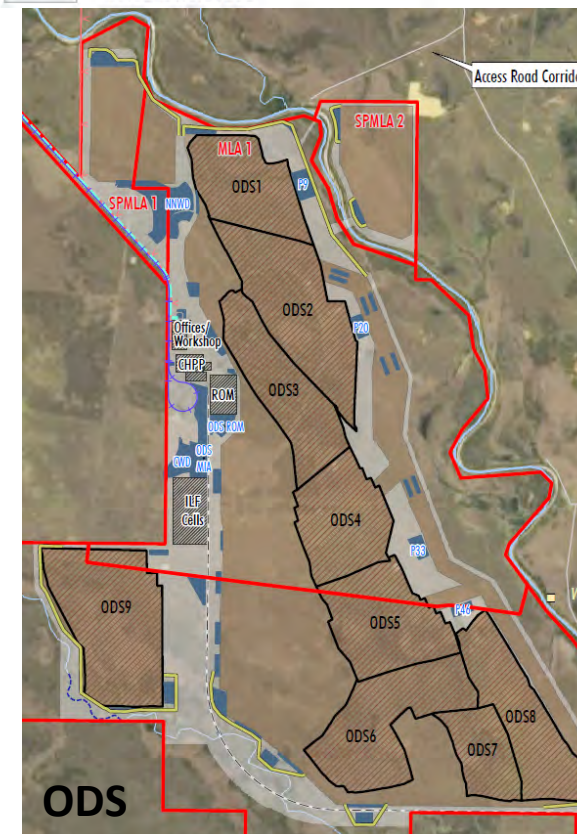
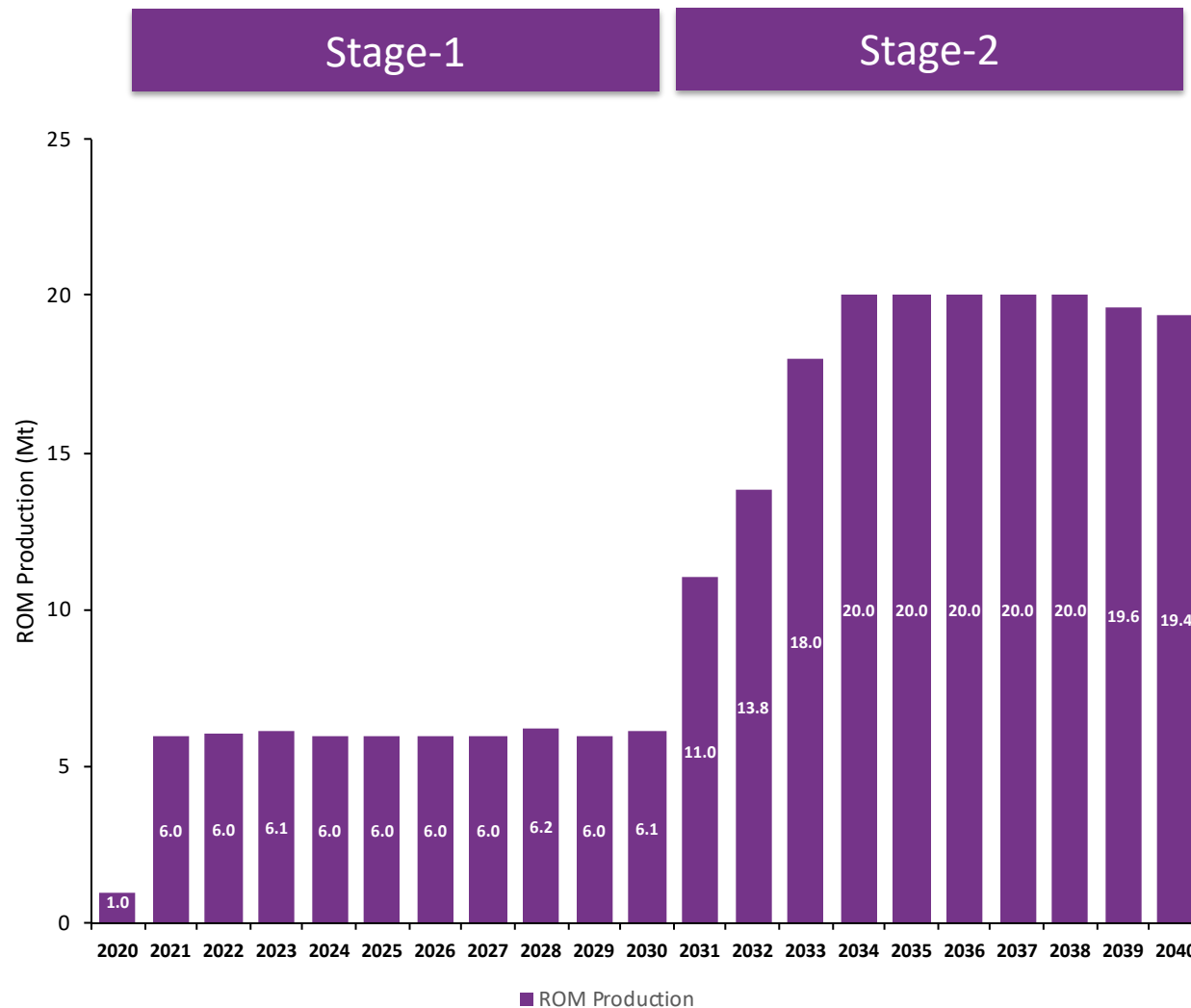
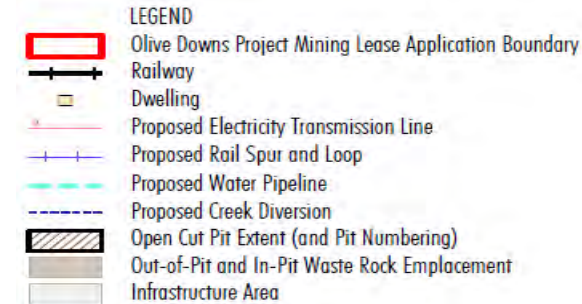
- The facilities have been designed to be easily scalable for expansion to 15mtpa product (20Mtpa ROM).
- The initial construction of CHPP and other supporting facilities will support stage-1 production of up to 4.3Mtpa product.



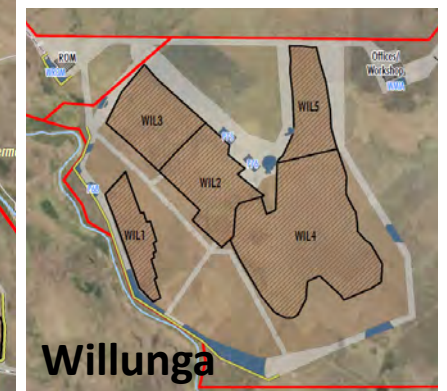
# Production Stages and Mine Optimisation



**PEMBROKE**



**Mine plan has been designed to optimise for waste haulage distances and strip Ratio**

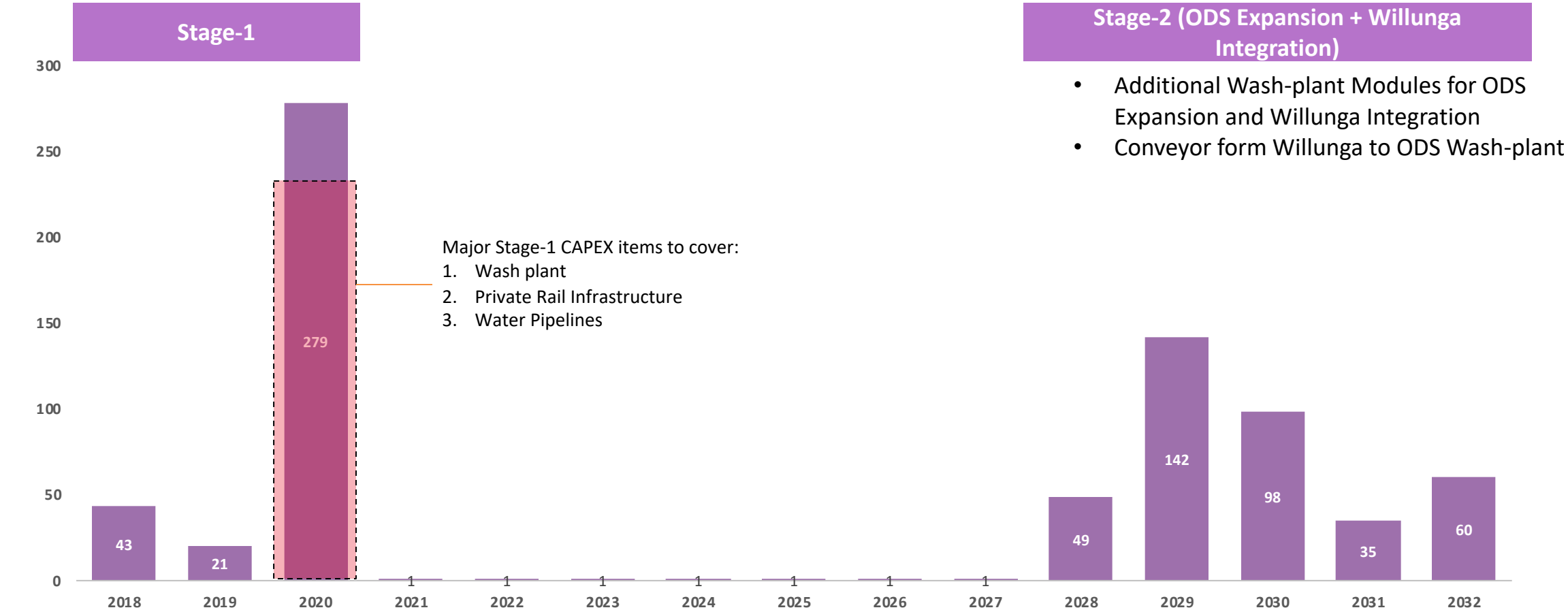


# Construction CAPEX requirements

Stage-1 Construction CAPEX is ~US\$343m (including the A\$50m land acquisitions in 2018)



**PEMBROKE**





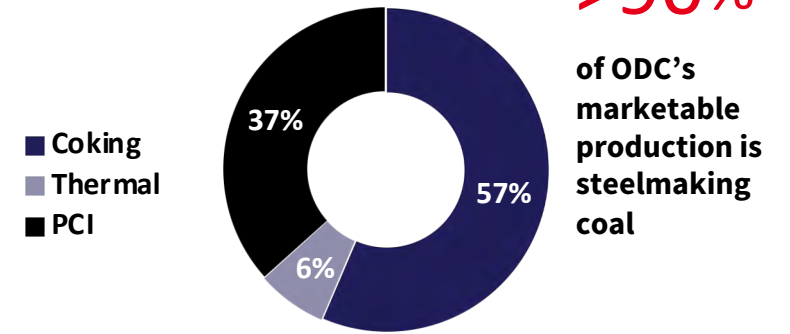
# Coal Quality



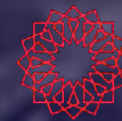
**PEMBROKE**

- ODS will predominantly produce Semi Hard Coking Coal (SHCC)
- CSR of ODS SHCC improves over time, and approaches 60 as mining progresses further south
- ODS has the option to produce a mid-vol PCI product
- Willunga will predominantly produce a low-vol PCI product
- Small amount of secondary thermal product from ODS and Willunga

## Product Profile



# Progress to Date



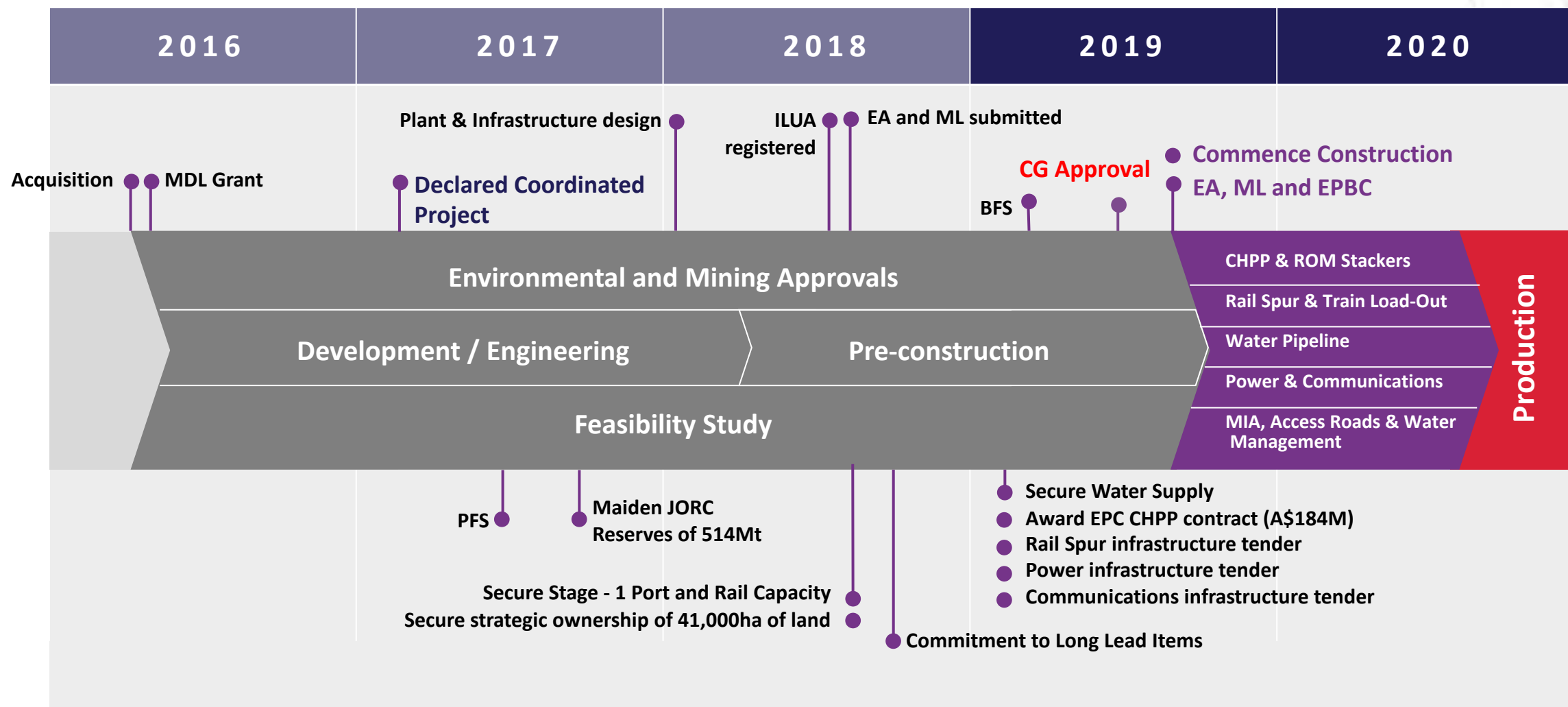
**PEMBROKE**

# Accelerated Development

Multiple workstreams in parallel



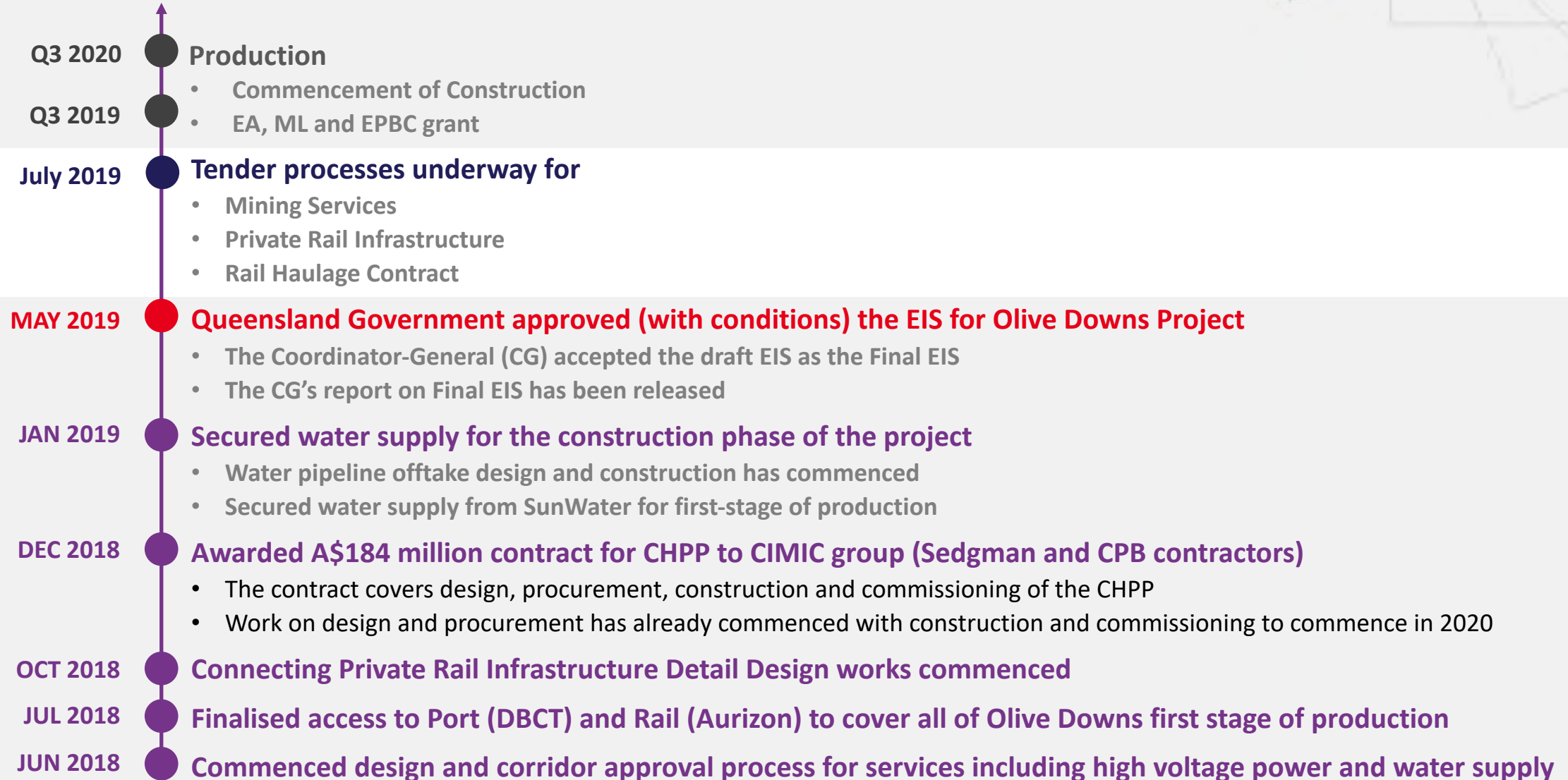
**PEMBROKE**



# Progress over last 12 months

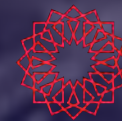


**PEMBROKE**





# Approvals Process



**PEMBROKE**

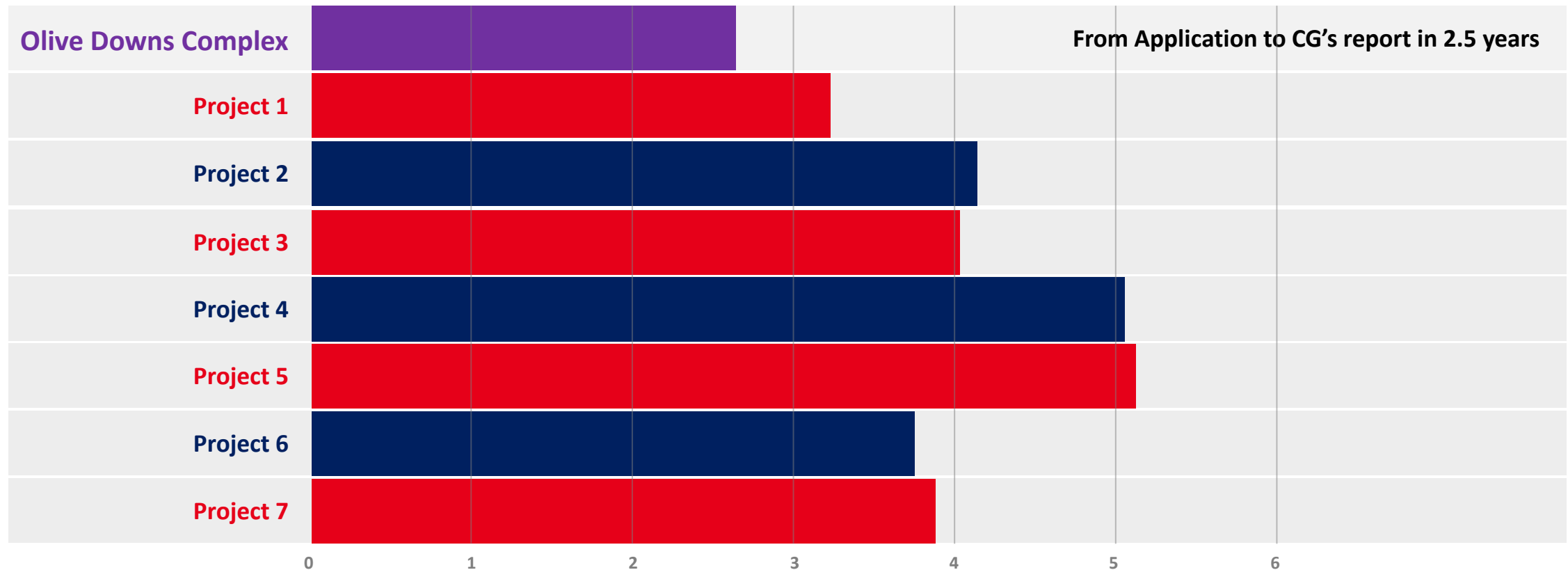


# Timely Approval

Project selection and characteristics aided approval



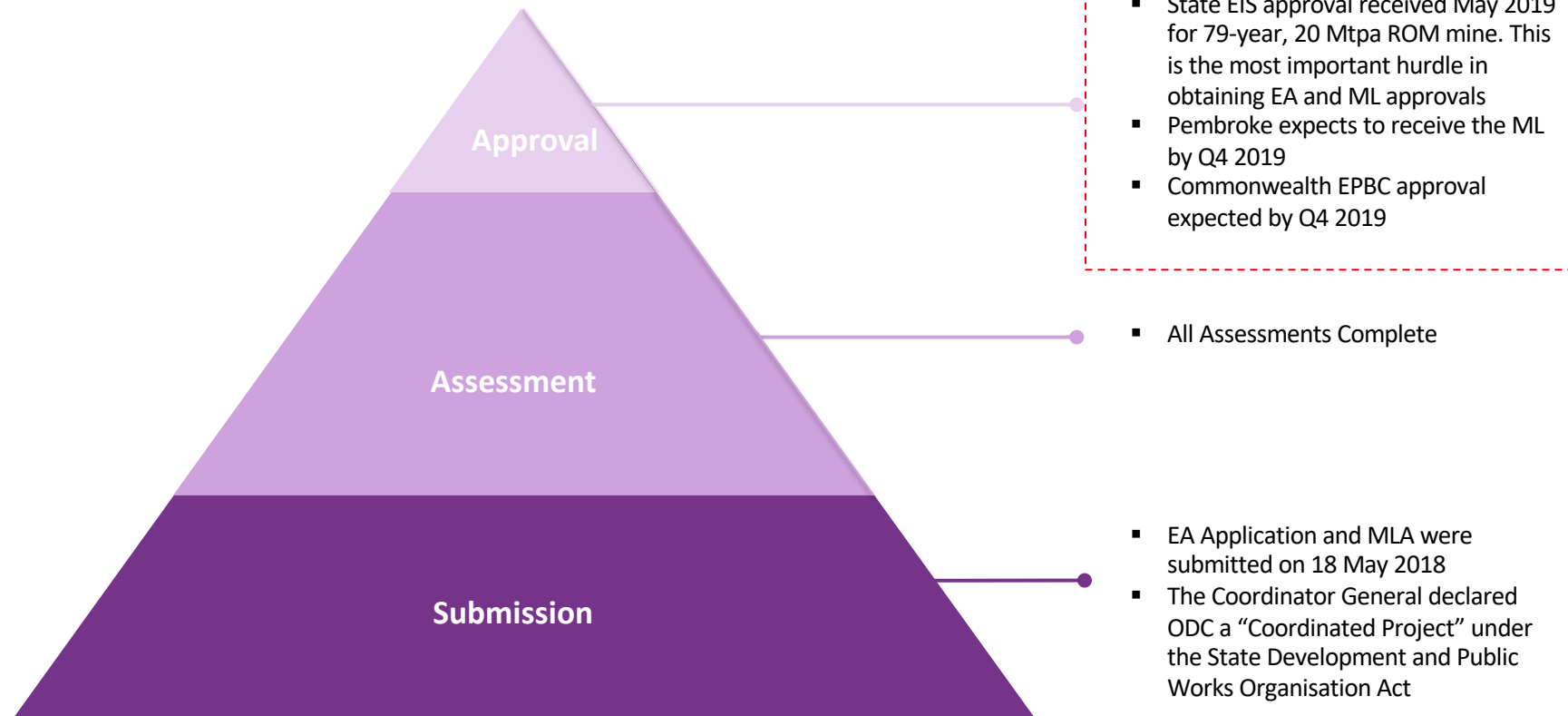
**PEMBROKE**



# EA and ML Process Overview



Pembroke is highly confident that ODC will receive all necessary environmental and mining approvals



# New Legislation



## **Mineral & Energy (Financial Provisioning) Act 2018**

### **Ensures Progressive Rehabilitation and Closure Plan (PRC Plan) for mining operations**

- Under the legislation, all rehabilitated land must be safe, stable and non polluting and returned to a post-mine land use or managed as a non-use management area (NUMA)
- A final void must meet these criteria if it is to be classified as a NUMA otherwise it must be rehabilitated to a safe, stable and non-polluting rehabilitated land use
- A final void can have a post-mining land use for example stock water if quality is suitable, habitat, general use water storage and transfer

## **Strong and Sustainable Resource Communities Act 2017**

### **ODC is the first project to be approved under the new Strong and Sustainable Resource Communities Act 2017**

- Completed a social impact assessment under the Act as part of the Environmental Impact Statement and applies to the construction phase
- Ensures that residents of communities near large resource projects benefit from the construction and operation of those projects
- Our intent is to provide opportunity for people to live locally and work at the mine, therefore Olive Downs will not be a FIFO mine
- We accept that the workforce will be a combination of FIFO, DIDO and local people and have no intent to exclude FIFO or DIDO workers.

## **Water Legislation Amendment Act 2015, Environmental Protection (Underground Water Management) and Other Legislation Amendment Act 2016 (EPOLA Act) – December 2016**

### **The EPOLA Act amends the EP Act and Water Act and aims to strengthen the environmental assessment process as well as approval commitments to groundwater management**

- Greater requirement for proponents of mine applications in regards to the collection of baseline data and environmental assessment
- 'Make good' obligations are strengthened in favour of landholders - where scientific uncertainty exists, there is an onus on the proponent to pay reasonable costs
- Groundwater impact predictions will need to be verified and updated within an Underground Water Impact Report (UWIR) three years following approval
- Increased public consultation and allowance for third party appeals during application of a groundwater licence in relation to predicted mine dewatering volumes

# Environment



## Best practice environmental programs have been formed

- The Olive Downs Complex is committed to managing its environmental performance to ensure that it is at the forefront of environmental management in the mining industry
  - Pembroke has considered guidelines, legislation and best practice to minimise the environmental impact of operations and provide a high standard of safe, stable, non-polluting and sustainable landform
  - The Project maximises backfill of final voids, isolates final voids from floodplains with large stable landforms, and has increased the offset of the mine from the Isaac River and riparian corridor
  - The Project has reduced waste emplacement slopes to improve rehabilitation outcomes and land use impacts through the employment of co-located infrastructure in existing easements and road reserves where possible
- The Environmental Impact Statement components include
  - An operational focus on managing natural resources, such as water and significant vegetation
  - Maintaining strong relationships with stakeholders including near neighbours, traditional owners and government departments
- Olive Downs Complex has an Environment Management System that satisfies legislative requirements
  - Covers water management, ecology, water resources and flooding, rehabilitation, cultural heritage, greenhouse gas and energy management, and waste management
  - Details the environmental controls to be employed at site, assists with communication and implementation, and facilitates auditing and review of environmental performance



# Benefits to Local & Regional Economy



**PEMBROKE**



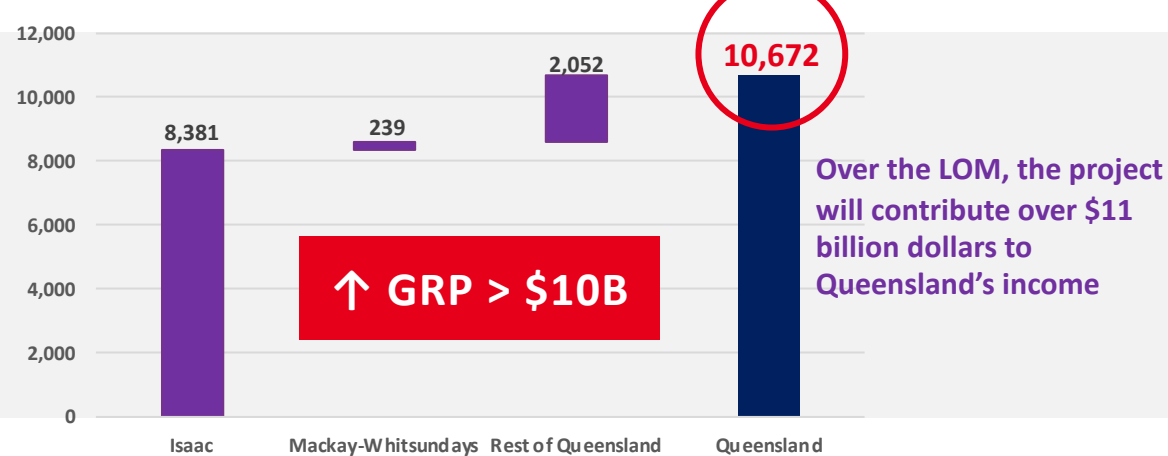
# Benefits to Local & Regional Economy

## Growth in Regional Income, Jobs and Wages

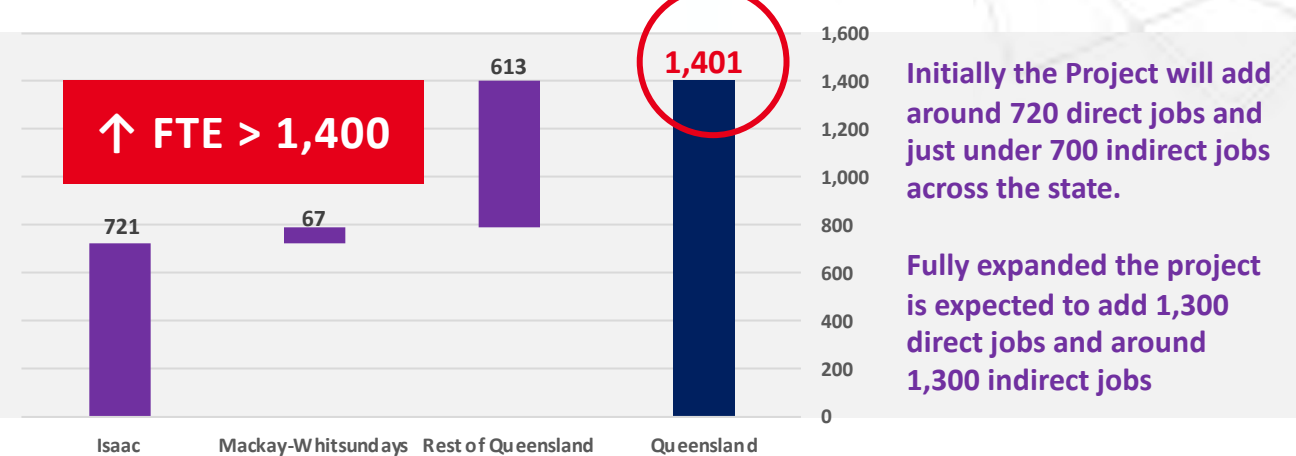


**PEMBROKE**

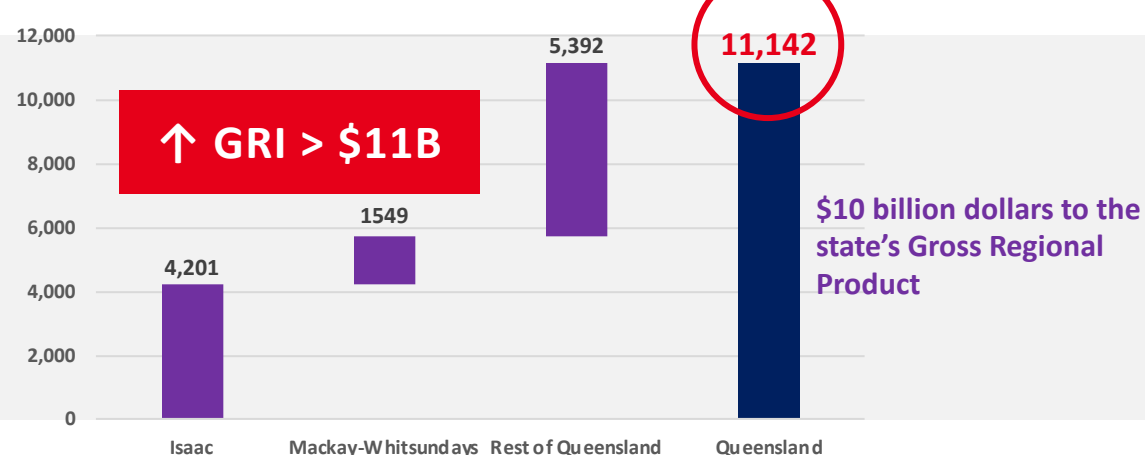
Gross Regional Product A\$ Million (NPV)



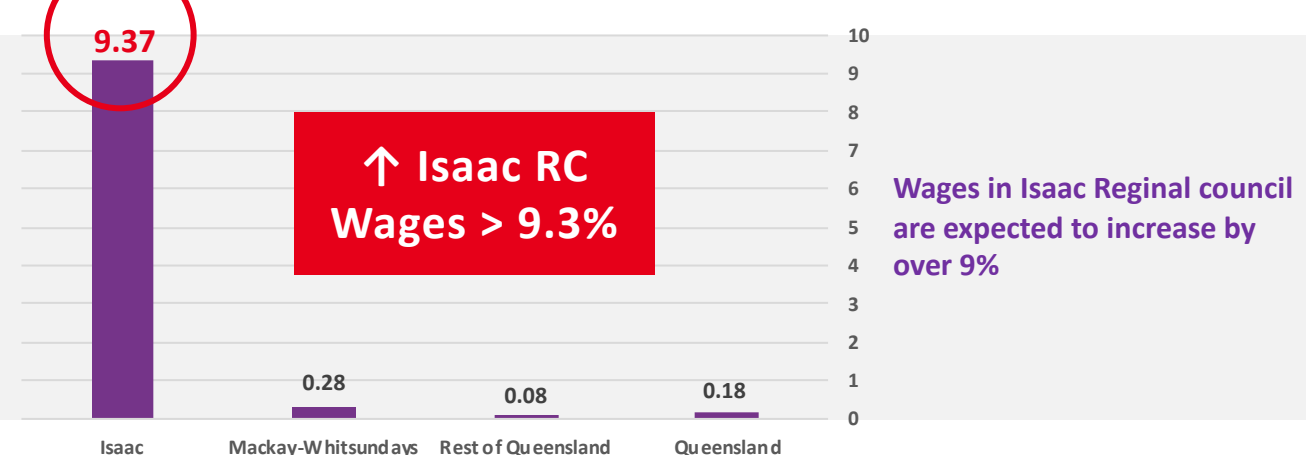
Employment (Average FTE)



Gross Regional Income A\$ Million (NPV)



Wages Growth (%)



# Indigenous People Engagement



Development of ODC will provide significant direct employment opportunities and long-term flow on social and economic benefit to the regional **communities**. Indigenous Land Use Agreement (ILUA) and Cultural Heritage Management Plan (CHMP) has been executed with the Barada Barna as Traditional Owners.





# Learnings and Success Factors



**PEMBROKE**



# Key Lessons Learnt



**PEMBROKE**

**Engage stakeholders early and keep them updated on progress**

Stakeholders appreciate being taken into confidence early (not only when you need them)

Stakeholders respond by being more constructive

**Apply highest level of rigour to environmental studies and approvals**

Short-cuts, re-works and re-submissions will cost more and take more time

Builds trust and confidence with regulators

**Proactively address key environmental requirements**

Minimise impact on environment and ecosystem through 21st century mining practices

Acquire land to permanently secure environmental offset areas so flora & fauna is protected forever

**Always deliver on commitments to stakeholders**

Carefully consider any commitments and be sure to deliver – builds confidence in any future negotiations

Signals sincerity and builds trust with stakeholders like community, land owners and traditional custodians

**Decisive and fast decision making**

Flat organisational structure ensures that stakeholders understand that they are talking to decision makers

Committed funding ensures that management can deliver fast on commitments made to stakeholders



# Key Success Factors



**PEMBROKE**

## Choosing the right project

- Located in an existing well developed coking coal basin
- Existing infrastructure (power, water and rail)
- Environmental and approvals risks assessed
- Significant scale, size, optionality and mine life

## Shareholder structure and capital funding from a committed partner

- Allows fast and proactive decision making, for example:
- Begin securing port/rail and design/construction contracts soon after acquisition
- Accelerated progress in parallel
- Expenditure on long lead construction before fully permitted
- A\$50M land acquisition to secure pathway to production as well as access to future offset obligations
- Executives also shareholders so decision making is hands on, strategic and fast

## Proactive stakeholder management

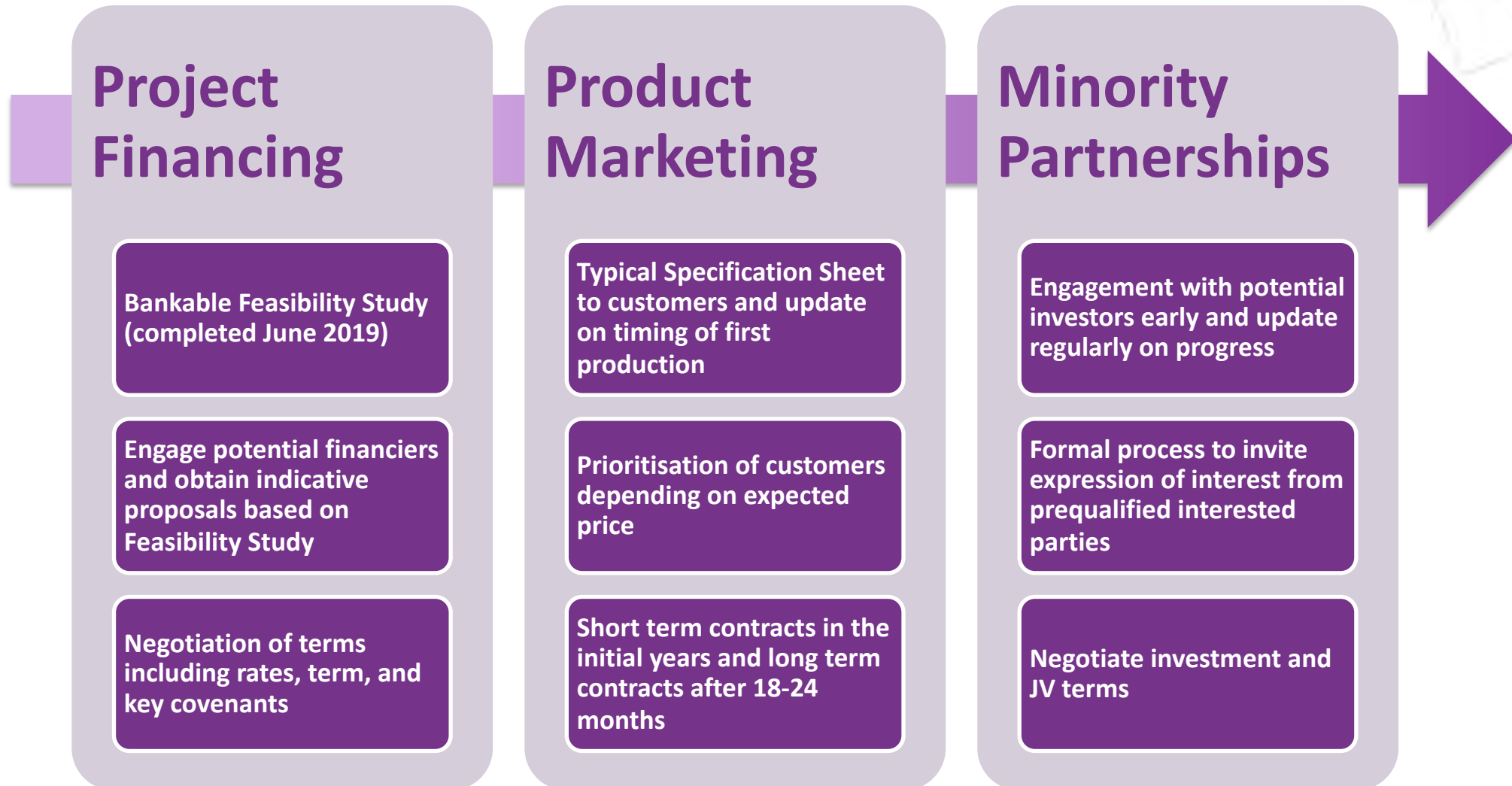
- Management approach is to anticipate stakeholder requirements rather than to be reactive
- Applied highest standards and rigour in environmental studies – target best-practice in all aspects of environmental management
- Established relationship with Barada Barna traditional owners straight after acquisition, agreeing the CHMA, CHMP and ILUA
- Constant and active land holder management and acquisition strategy to clear pathway to production
- Close working relationship with Isaac Regional Council (IRC) at all levels
- Philosophy of mining and grazing coexisting wherever possible on Olive Downs owned land

# Thinking Ahead

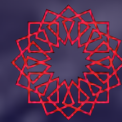
## Key work streams



**PEMBROKE**



# Olive Downs Coking Coal Complex



**PEMBROKE**