



INVESTMENT OPPORTUNITIES COAL

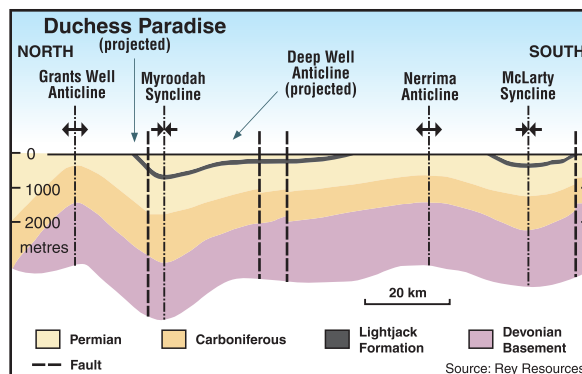
Western Australia has about 1 000 000 km² of under-explored, prospective Phanerozoic sedimentary basins

- History of producing thermal coal for local use for over 100 years
- Known lignite deposits with coal to liquids potential
- Extensive potential for Underground Coal Gasification (UCG) in deeper parts of the basins at depths of 100 – 1000 metres



Drilling at the Central West coal project, Eneabba.

Courtesy Aviva Corp. Ltd



Three phases of coal and lignite formation:

Permian

- Widespread: Perth Basin, Carnarvon Basin, Canning Basin
- Mostly sub-bituminous; some bituminous at Vasse and in the Canning Basin
- Specific energy contents of 14–25 million joules per kg (MJ/kg)
- Collie averages ~20 MJ/kg; ranges up to 31 MJ/kg at Vasse
- Collie coal is sub-bituminous, low ash (4%–9%), low sulfur (0.3%–0.8%) and used in power generation for over 70 years.

Early Jurassic

- Period of high humidity and lush forests
- Perth Basin (Hill River), Canning Basin
- Mostly sub-bituminous (14–25 MJ/kg)

Eocene

- Swampy margins of the Eucla Basin and related paleodrainage systems
- Lignite (~7 MJ/kg)
- Oil yield (dry basis) range of 70–175 litres/tonne (Fischer assay).

Sub-bituminous coal resources of Western Australia

Project Name	Resources (Mt)	Project Owners	Basin
Collie	800	Griffin Coal Mining, Wesfarmers Premier Coal	southern Perth Basin
Fitzroy Trough	535 *	Rey Resources	Canning Basin
Vasse Shelf	500 *	South West Coal, Vasse Coal	southern Perth Basin
Green Head	240	Thermal Energy Australia	northern Perth Basin
Sargon	194 *	Eneabba Gas, Cougar Energy	northern Perth Basin
Talisker	130	Intermin Resources	Carnarvon Basin
Boyup Basin	90	Griffin Coal Mining	southern Perth Basin
Central West – Eneabba	87 *	Aviva Corporation, Sword Nominees	northern Perth Basin
Irwin River	80	Asia Iron Holdings	northern Perth Basin
Eradu	50	Dover River	northern Perth Basin
Jurien East	13	W.A. White Energy	northern Perth Basin

* JORC Code compliant

Lignite resources of Western Australia

Project Name	Resources (Mt)	Project Owners	Basin
Salmon Gums	875 *	Spitfire Oil	Eucla Basin - Scaddan Embayment
Scaddan	860 *	Blackham Resources, Wesfarmers Premier Coal	Eucla Basin - Scaddan Embayment
Balladonia West	650	Epsilon Energy, Heron Resources	Eucla Basin - Balladonia Shelf
Zanthus – Balladonia	350 *	Blackham Resources	Eucla Basin - Balladonia Shelf

* JORC Code compliant

Note: Some resource estimates are historic and predate JORC



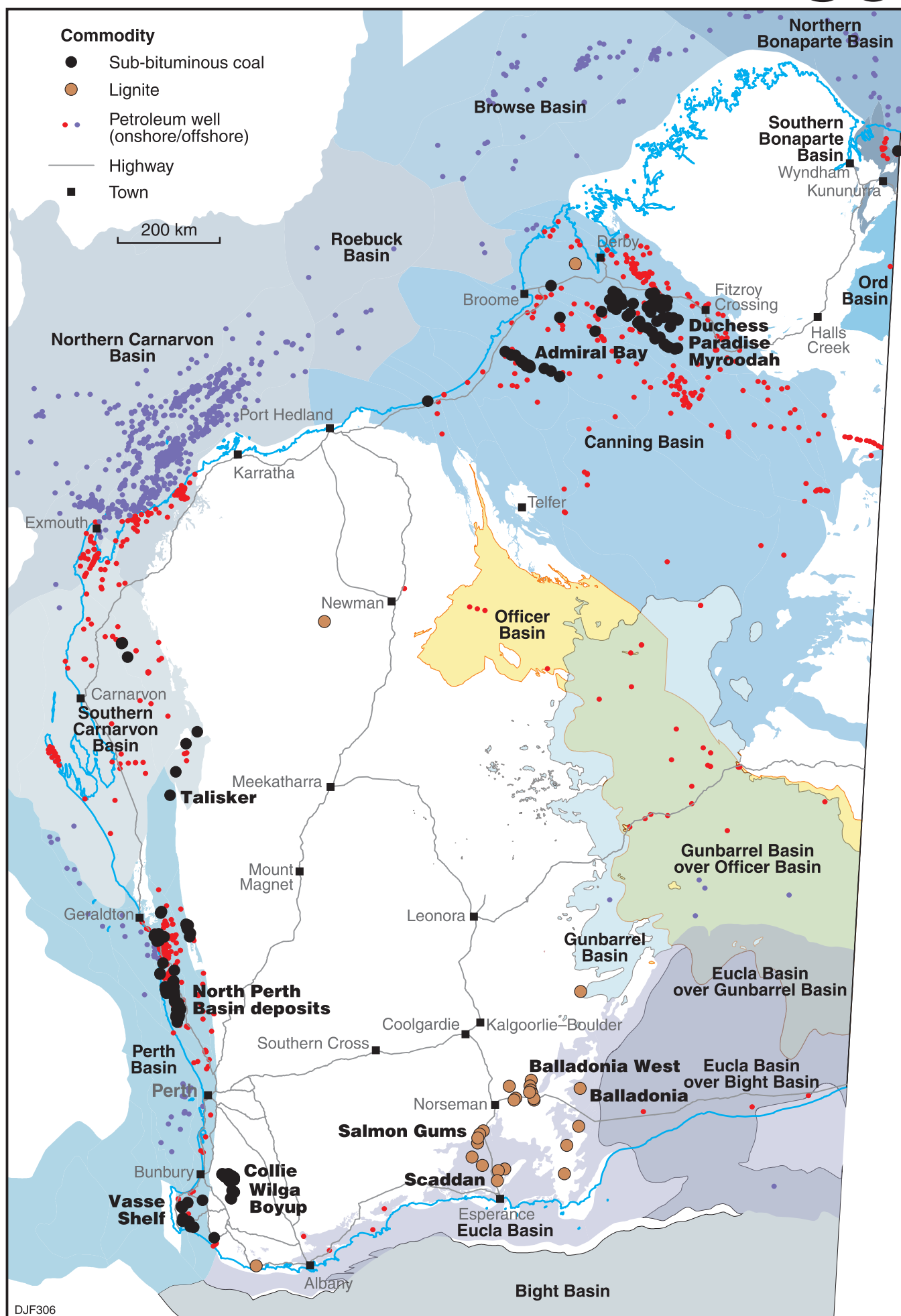
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Coal



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