



# Cooked by coal

## The global significance of Australia's Galilee Basin

Green Institute, June 2013

Australia's Galilee Basin, long eyed by coal miners but as yet un-mined, presents a globally important choice. If mining goes ahead, the destruction of its carbon stocks will account for more than 5% of the world's carbon budget. If protected, it will be a turning point on the path to a clean energy future. At minimum, the Australian government should comprehensively assess the impacts of opening the Galilee Basin to coal and CSG mining before approving any more mines or infrastructure.

### What and where

The Galilee Basin is a vast geological basin covering about 250,000 km<sup>2</sup> in central Queensland, west of Mackay. The Basin straddles the Great Dividing Range with rivers on its north-eastern margin flowing to the Coral Sea (Great Barrier Reef) and those in the west and south flowing inland to Lake Eyre. The Great Artesian Basin (GAB) underlies most of the Galilee Basin and beneath the GAB lie huge coal deposits laid down when Australia was part of Gondwanaland.

### Coal megamines

Companies have so far identified 27,750 million tonnes of coal in the Galilee Basin.<sup>1</sup> Six mines are in varying stages of environmental assessment, together with three railway alignments, two coal-fired power stations and two massive port expansions. A number of other mines are in earlier stages of development. Companies are also exploring for coal seam gas.

Mine	Company	Stage
Alpha	Hancock Coal PL (Gina Rinehart + GVK)	Qld EIS approved Federal EIS approved Environmental Authority under consideration (objections to be heard in the Qld Land Court, Sept 2013)
Kevins Corner	Hancock Coal PL (Gina Rinehart + GVK)	Qld EIS approved
China First	Waratah Coal PL (Clive Palmer)	Qld EIS in progress
South Galilee	Alpha Coal Management PI	Qld EIS in progress
Carmichael	Adani Mining PL (Indian-owned)	Qld EIS in progress
China Stone	Macmines Austasia (Chinese-owned)	Qld EIS in progress

### Issues

*Infrastructure.* Galilee Basin coal is destined for export. A large initial investment would be needed to build 500+ km of railways and greatly expand port capacity (Abbot Point near Bowen is the preferred location for most). If built, it will be very difficult to stop the entire Galilee Basin being opened for mining (as long as markets are available).

*Campaigns.* Most are focusing on the World Heritage listed Great Barrier Reef, port developments and to a lesser extent on the Galilee Basin itself. Bimblebox Nature Refuge (in the Galilee Basin) will be destroyed if mining proceeds and is the basis of a strong campaign.

*Timing.* Planned starting dates for Galilee projects continue to be set backwards but could be as early as 2014.

*Global significance.* Galilee Basin is a new coal province. If opened for mining it signals that climate change is not to be tackled seriously. If protected, it signals the beginning of the end of the coal era.

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<sup>1</sup> Resources identified to JORC (Joint Ore Resources Committee) standard – the standard required by the ASX. This is a fraction of the likely size of deposits.

## Impacts of mining the Galilee Basin

### Climate

The lifetime emissions of the six mines currently being assessed are, conservatively, 24.7 billion t CO<sub>2</sub>. Over 30 years they are 14.2 billion t CO<sub>2</sub>. These are respectively 5% and 2.9% of the 485 billion t CO<sub>2</sub> global emissions budget from 2010 to 2050 which would give the world an 80% chance of keeping global warming less than 2°C.<sup>2</sup> If all the 27.75 billion t coal identified to JORC standard were burned, it would account for 12% of the global CO<sub>2</sub> budget.

### World Heritage

The Great Barrier Reef will be endangered by huge increases in coal shipping as well as accelerating climate change.

### Indigenous Heritage

The Traditional Owners of the land are the Wangan and Jagalingou People who have claimed Native Title for the area.

### Water

The mines are in the headwaters of the Burdekin River. Sourcing water to process coal is problematic as is the disposal of polluted mine water. Building mines and infrastructure will require creeks to be moved, aquifers to be de-watered, and threatens recharge areas for the GAB.

### Biodiversity

The mines are in the Desert Uplands bioregion of which only 3.1% (215,000 ha) is protected. Mine construction and operation will cause 75,000 ha to be cleared and additional areas will suffer subsidence and other disturbance. Threatened species include Koala, Black-throated Finch, Squatter Pigeon etc. On the coast, the Kaili Valley wetlands will be severely impacted by the railway line and port expansion.

### Bimblebox Nature Refuge

Bimblebox is a private 8000 ha sanctuary with never-cleared native woodlands. Half will be destroyed completely by the China First mine. Subsidence, aquifer de-watering and other indirect effects threaten the remainder. [http://bimblebox.org/?page\\_id=2](http://bimblebox.org/?page_id=2)

### Social

About 6000 people live in the region around the proposed mines. The mine workforce will be primarily fly-in fly-out, not local, with consequent social and community impacts.

### More information

Map of the Galilee Basin and other coal deposits

[https://www.ga.gov.au/products/servlet/controller?event=GEOCAT\\_DETAILS&catno=74097](https://www.ga.gov.au/products/servlet/controller?event=GEOCAT_DETAILS&catno=74097)

Map of mines currently subject to EIS or with EIS approved

<http://www.dlg.qld.gov.au/assessments-and-approvals/coordinated-projects-map.html>

Why the Galilee Basin is worth worrying about

<http://theconversation.com/why-the-galilee-basin-is-worth-worrying-about-10959>

Greenpeace: Cooking the climate, wrecking the reef

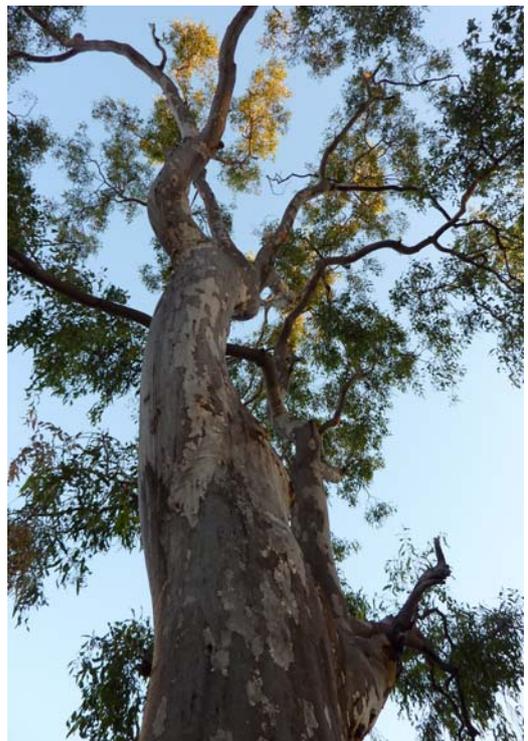
<https://p3-admin.greenpeace.org/australia/Global/australia/images/2012/Climate/Galilee%20Report%284.2MB%29.pdf>

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<sup>2</sup> Climate Change Authority *Caps and Targets Review*.

<http://climatechangeauthority.gov.au/sites/climatechangeauthority.gov.au/files/files/caps/13-030-CATRIP.pdf>

## Galilee Basin in pictures



*Images. Sonya Duus*