

# Slides for 'Making sense of the Adani coal mine in the midst of coral bleaching', GCI seminar, 27 April 2016.



## Lecture outline

1. Introduction
2. Background to the mine & approval processes
3. Fundamental failures in the approval process:
  - a) Groundwater: misuse of adaptive management principles
  - b) Black-throated Finch: misuse of environmental offsets
  - c) Climate change: the drug dealers' defence
  - d) Economics: throwing out basic principles of supply & demand
  - e) Common theme: getting away with wrong & exaggerated claims
4. Who is responsible?
5. Conclusion
6. Questions

**There are many more issues that could be covered.**

(e.g. misuse of the Precautionary Principle)

## 1. Introduction



Acknowledgement of the Traditional Custodians of this Land, Elders past and present & future generations on which we hold this Land in trust.

## Wangan and Jagalingou people's native title claim & fight to stop Carmichael Coal Mine

Aboriginal group fights to stop \$16bn Carmichael coalmine, Australia's largest

Indian firm Adani has appealed to the native title tribunal to bypass the traditional owners' rejection of the Queensland mine



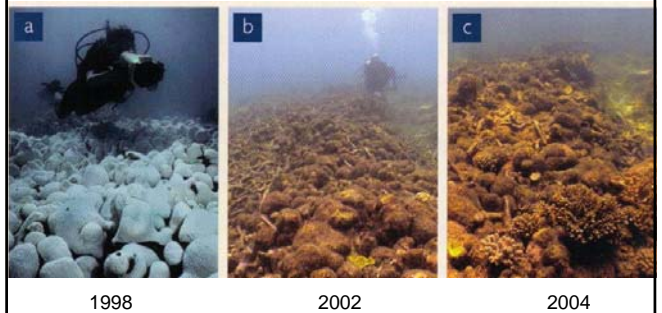
<http://www.theguardian.com/australia-news/2015/mar/26/aboriginal-group-fights-to-stop-16bn-carmichael-coalmine>



### Will we leave the Great Barrier Reef for our children?



### Coral bleaching at Pelorus Island, GBR



Photos: Schuttenberg and Marshall (2006) *Reef Manager's Guide to Coral Bleaching*

© CSIRO 1999                      *Mar Freshwater Res.*, 1999, 50, 839-66

### Climate change, coral bleaching and the future of the world's coral reefs

Ove Hoegh-Guldberg

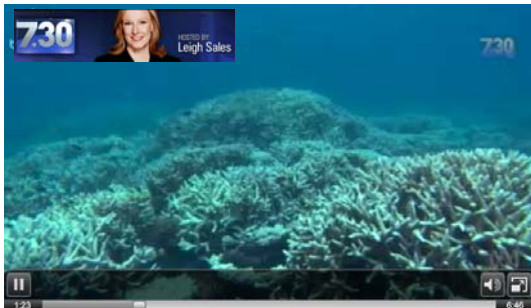
*School of Biological Sciences, A08, University of Sydney, NSW 2006, Australia.  
email: oveh@bio.usyd.edu.au*

**Abstract.** Sea temperatures in many tropical regions have increased by almost 1°C over the past 100 years, and are currently increasing at ~1–2°C per century. Coral bleaching occurs when the thermal tolerance of corals and their photosynthetic symbionts (zooxanthellae) is exceeded. Mass coral bleaching has occurred in association with episodes of elevated sea temperatures over the past 20 years and involves the loss of the zooxanthellae following chronic photoinhibition. Mass bleaching has resulted in significant losses of live coral in many parts of the world. This paper considers the biochemical, physiological and ecological perspectives of coral bleaching. It also uses the outputs of four runs from three models of global climate change which simulate changes in sea temperature and hence how the frequency and intensity of bleaching events will change over the next 100 years. **The results suggest that the thermal tolerances of reef-building corals are likely to be exceeded every year within the next few decades. Events as severe as the 1998 event, the worst on record, are likely to become commonplace within 20 years.** Most information suggests that the capacity for acclimation by corals has already been exceeded, and that adaptation will be too slow to avert a decline in the quality of the world's reefs. The rapidity of the changes that are predicted indicates a major problem for tropical marine ecosystems and suggests that unrestrained warming cannot occur without the loss and degradation of coral reefs on a global scale.

**Alarm bells rang loud & clear in 1998**  
for coral reefs, one of the Earth's  
most important ecosystems, which  
millions of people depend upon for  
food and livelihoods.



**Mass bleaching occurring now on the Great Barrier Reef driven by climate change: “this will change the GBR forever”**



ABC 7.30 Report 28 March 2016: <http://www.abc.net.au/7.30/content/2015/s4432792.htm>  
[play first 1:20 mins]

**We are witnessing a major step in the loss of the Great Barrier Reef happening right now.**

**It hardly causes a ripple in the news.**

**Our Federal Environment Minister, Greg Hunt, deflects attention by talking about “El Niño” without mentioning climate change.**



Photo: SMH

The Federal Environment Minister displays a **pattern of discounting links between extreme heat events and climate change**

Image: Greg Hunt MP, Minister for the Environment disputed any link between intense bushfires burning in NSW in October 2013 and climate change based on a Wikipedia search:  
<http://www.smh.com.au/federal-politics/political-news/greg-hunt-uses-wikipedia-research-to-dismiss-links-between-climate-change-and-bushfires-20131023-zw1w5.html>



**'I looked it up on Wikipedia'**  
Environment Minister Greg Hunt hoes down link between climate change and increased bushfire intensity after an online search. 399

## 2. Background to the mine & approval processes



**Carmichael Coal Mine** (approx. 1000km NW of Brisbane)

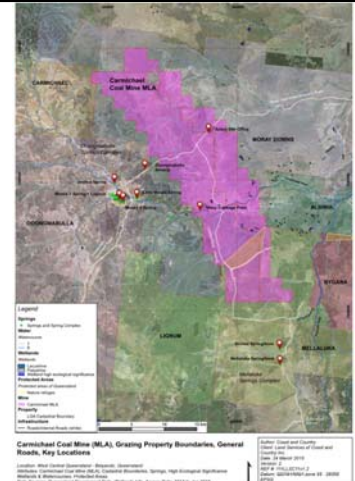
## Carmichael Coal Mine & Rail Project location

Source: Adani Mining Pty Ltd EIS, Exec Summary



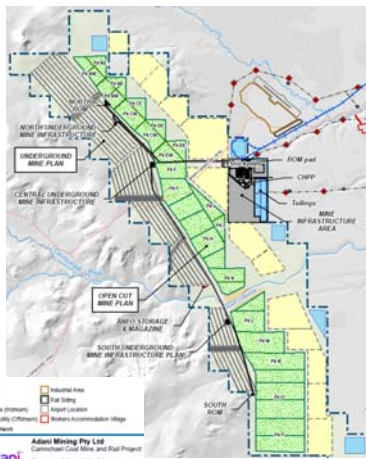
## Carmichael Coal Mine Lease area, surrounding pastoral properties & lagoons

Source: Coast & Country Association of Queensland Inc



## Carmichael Coal Mine layout

Source: Adani Mining Pty Ltd EIS, Project Description



## An open-cut coal mine in Queensland showing scale of operations.

This mine is the Curragh Coal Mine in the Bowen Basin near Blackwater, Queensland, approximately two hours west of Rockhampton.

Curragh is one of Australia's largest independent coal mines, producing around 8.5 Mt of export metallurgical coal and 3 Mt of domestic steaming coal every year. The mine employs around 600 permanent employees.

Source: Westfarmers Resources:  
<http://www.westresources.com.au/media-center/gallery/curragh>

Photo: Tony Nielsen (2008)



## Coal train

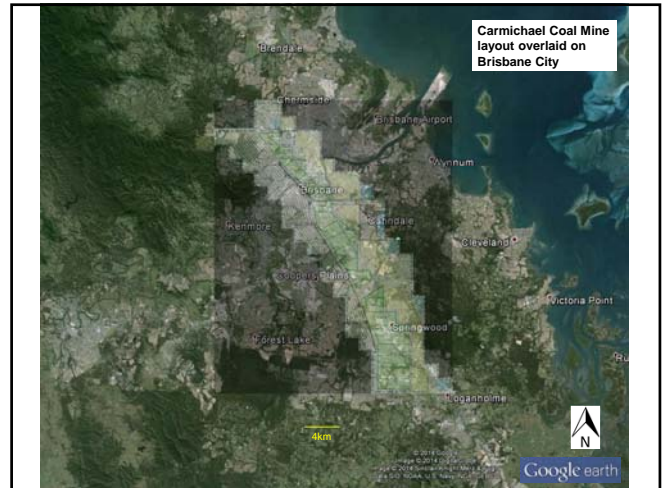
Source: iMingo, GVK and Hancock Prospecting Pty Ltd



Source: Australian Bulk Handling Review





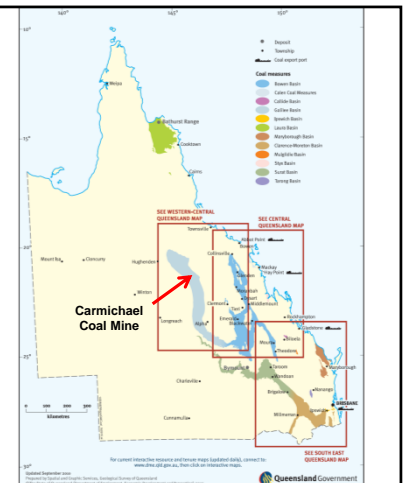


## Context of the mine & opening of the Galilee Basin in the Queensland coal industry

### Context of Carmichael Coal Mine

#### Map of Queensland's major mining areas – the Bowen Basin, Galilee Basin and Surat Basin

Source: Qld Govt



### Map of coal mines in Queensland's major mining area – the Bowen Basin

(mostly high quality coking coal)

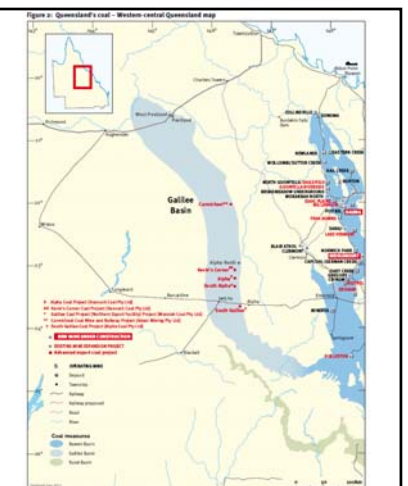
Source: Qld Govt



### Map of Queensland's new mega-mines in the Galilee Basin

(largely below average quality thermal coal)

Source: Qld Govt





## Main approvals for coal mines in Queensland:

1. Environmental authority under the *Environmental Protection Act 1994* (Qld)
2. Mining lease under the *Mineral Resources Act 1989* (Qld)
  - Environmental impact statement & Coordinator-General's report under the *State Development and Public Works Organisation Act 1971* (Qld)
3. Approval under the *Environment Protection & Biodiversity Conservation Act 1999* (Cth) (EPBC Act)

## Summary of litigation against mine & associated expansion of Abbot Point – 7 cases and counting

No.	Year	Litigant	Court	Issue
1	2014	NQCC	AAT	Dredge spoil disposal from Abbot Point in the GBR
2	2014	MCG	FCA	Dredging & disposal from Abbot Point in the GBR
3	2015	ASH	FCA	Disposal of dredge spoil in Caley Valley Wetlands
4	2015	Wangan & Jagalingou People	NNTT & FCA	Native title (ILUA)
5	2015	LSCC	Land Court	Objection hearing to environmental authority & mining lease
6	2015	MCG	FCA	First EPBC Act approval of mine
7	2016	ACF	FCA	Second EPBC Act approval of mine

## More information about litigation available online:

Environmental Law Australia

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### Carmichael Coal Mine Case in the Land Court of Queensland

This case involves a major dispute in the Land Court of Queensland over the environmental impacts and financial viability of the Carmichael Coal Mine proposed in the Galilee Basin of central Queensland.

Due to its enormous scale, its impacts on the local and regional environment, and the consequences for climate change if it proceeds, the mine has been strongly opposed by conservationists and has been the subject of multiple court cases. Some of those cases that have received heavy media coverage. Those cases are not the focus of this case study but are explained below to minimise confusion over the different cases against this mine and associated infrastructure.

Two cases in the Federal Court of Australia for judicial review of the Commonwealth Environment Minister's decisions to approve the mine are the subject of a separate case study.



Black Throated Finch (Poephila Cincta)  
Photo: Alex Maude, Black Throated Finch Recovery Team website

<http://envlaw.com.au/carmichael-coal-mine-case/>

## Separate case study on EPBC Act judicial review cases

Environmental Law Australia

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### Carmichael Coal Mine cases in the Federal Court

This case study examines two applications in the Federal Court of Australia for judicial review of the Commonwealth Environment Minister's decisions to approve the Carmichael Coal Mine under the EPBC Act.

The mine was proposed in 2010 by a subsidiary of the Adani Group (Adani). In 2013 the group's chairman, Gideon Adani, claimed, "It's the world's largest coal reserve". If approved, the proposed mine will be one of the largest coal mines in the world and the mining and burning of coal from it will generate an estimated 4.7 billion tonnes of greenhouse gas emissions.

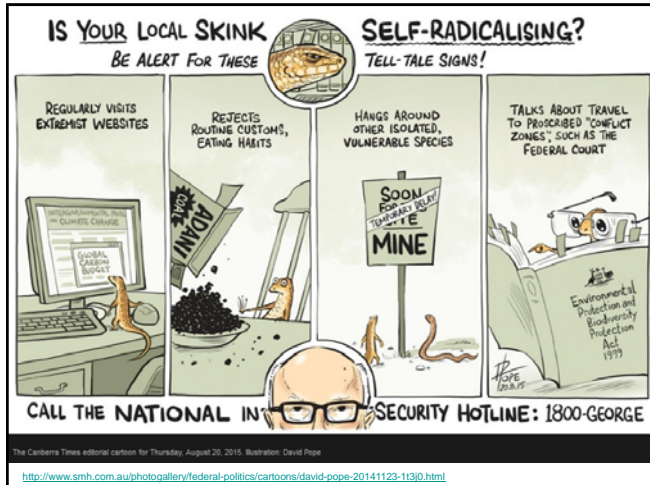
Due to its enormous scale, its impacts on the local and regional environment, and the consequences for climate change if it proceeds the mine has been strongly opposed by conservationists and has been the subject of multiple court cases.



<http://envlaw.com.au/carmichael-coal-mine-federal-court/>

The success of the first challenge to the EPBC Act approval (by MCG) led to wild claims of "lawfare" and some glorious cartoons.





Hearing of 2<sup>nd</sup> judicial review case  
(brought by the Australian Conservation  
Foundation) in the Federal Court at  
Brisbane on:

3 and 4 May 2016

### How to get Involved with ACF to unite for a healthy Great Barrier Reef

- ACF running on-ground community driven projects throughout Brisbane;
- LONG-TERM change, driven by community, for community and our environmental future;
- Join one of our local groups, activities, actions in suburbs around Brisbane;
- We need half an hour / week to 2-3 days / week.

k.goodsell@acfonline.org.au  
or 0422756848  
Karl Goodsell, ACF

**AUSTRALIAN CONSERVATION FOUNDATION**

The future of the mine remains  
highly doubtful despite approvals



“... this is an extremely risky project ...  
everybody knows that, I admit that.”

Mr Jon Stanford (Adani's economic expert),  
Land Court trial transcript 19-57, lines 21-22.



## Aussie coal mine Isaac Plains snapped up for bargain basement price, just \$1

July 31, 2015

Perry Williams  
Senior Reporter



Isaac Plains coal mine had been sold - for \$1

- Japanese steel maker Sumitomo purchased a 50% stake in Isaac Plains Mine for \$430 million in 2011 at the height of the coal boom.
- It sold its stake in mid-2015 for \$1.

## Top coal miner Peabody files for bankruptcy

April 13, 2016 - 5:11PM

The Sydney Morning Herald



The Helensburgh Colliery in the Wollara region of NSW is a Peabody subsidiary. Photo: Michele Moscop

Peabody Energy Corp, the world's largest privately-owned coal producer, has filed for Chapter 11 bankruptcy protection in the US.

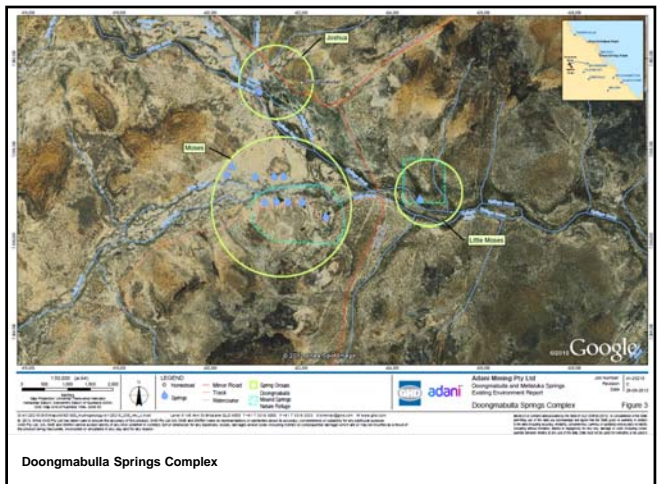
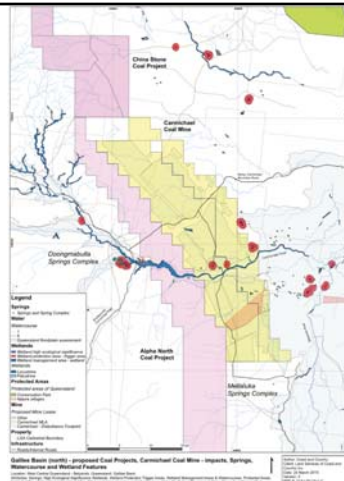
**Why would you spend ~\$16-22 billion on a new mine when you can buy an existing one for \$1?**

## 3. Fundamental failures in the approval process.

(a) Groundwater: misuse of adaptive management principles

**Carmichael Coal Mine Lease area, showing adjacent Doongmabulla Springs Complex & proposed mine areas of the Alpha North and China Stone projects**

Source: Coast & Country Association of Queensland Inc





**Screenshot from video of Moses 3 Lagoon, Doongmabulla Springs Complex**  
 Photo 34 to exhibit JRW-5 of the affidavit of Juanita Rose Williams, 2/3/15 (eDoc OL018)  
 Video by Tony Jenkins, 20 October 2014.



**Moses 3 Lagoon, Doongmabulla Springs Complex**  
 Photo 1.4.24 by Juanita Williams, 15 November 2014



**Main Moses Spring (Moses 1), Doongmabulla Springs Complex**  
 Figure 16 in the expert report of Dr John Webb (eDoc OL012). Photo by Dr John Webb (21/11/2014).

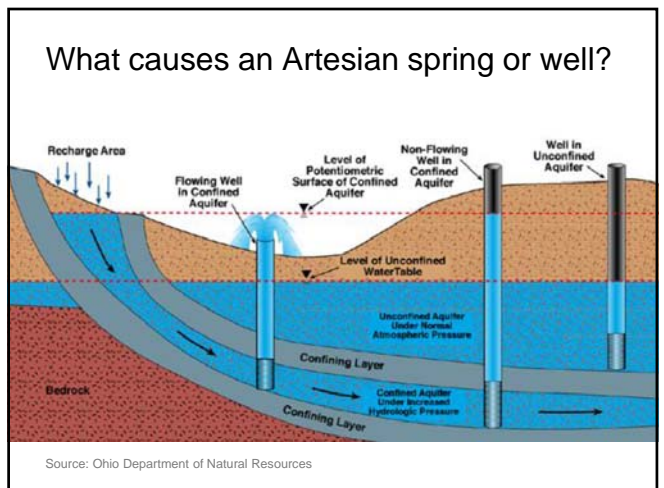


**Little Moses Spring, Doongmabulla Springs Complex**  
 Photo by Dr John Webb (21/11/2014).



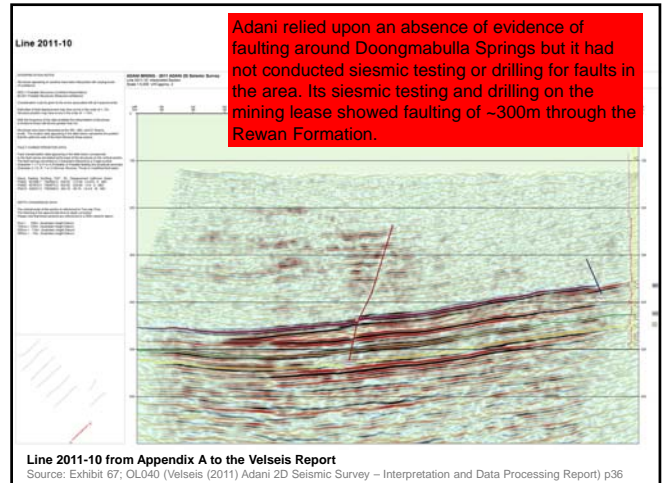
**One of the outflows from Joshua Spring, Doongmabulla Springs Complex.**

Figure 16 in the expert report of Dr John Webb (eDoc OL012).  
 Photo taken by Derec Davies (1/10/2014)

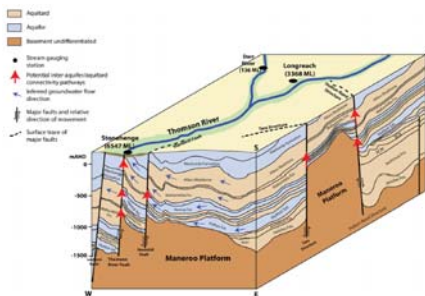




A critical question for assessing the groundwater impacts was whether the source of Doongmabulla Springs was above or below a regional aquitard, the Rewan Formation.



Faults are a common source of groundwater springs in GAB e.g. Thomson River Fault ~400km SW of Doongmabulla



Claudio Moya, Matthias Raiber and Malcolm Cox (2014) 'Three-dimensional geological modelling of the Galilee and central Eromanga basins, Australia: New insights into aquifer/aquitard geometry and potential influence of faults on inter-connectivity' *Journal of Hydrology: Regional Studies* 2: 119–139 at 133 [Stonehenge is ~400km SW of Doongmabulla]

The EPBC Act approval for the mine requires research into connectivity across the Rewan Formation (i.e. *after* the approval was granted). Only a plan for the research needs to be submitted before mining commences (not the results).

#### Rewan Formation Connectivity Research Plan

27. At least three months prior to commencing excavation of the first box cut, the approval holder must submit for the approval of the Minister a Rewan Formation Connectivity Research Plan ("Rewan Research Plan") that characterises the Rewan Formation within the area impacted by the mine. The Research Plan must be informed by the results of the groundwater flow model re-run (condition 23) and include but not be limited to the following:
- research aims
  - personnel responsible for conducting research and their qualifications
  - timeframes for research and reporting
  - methods, including, but not limited to, seismic surveys to determine the type, extent and location of fracturing, faulting and preferential pathways (including any fracturing induced by longwall mining subsidence, including any fracturing impacting on the Doongmabulla Springs Complex) and an examination of the hydraulic properties (including but not limited to petrophysical analysis and facies mapping) of the Rewan Formation, to better characterise the Rewan Formation and the contribution of fracturing, faulting and preferential pathways to connectivity, including a description of how research will be undertaken in a manner that does not cause impacts on Matters of National Environmental Significance (unless the activities will be undertaken in accordance with a plan approved pursuant to conditions of this approval)

Condition 27 of the 2<sup>nd</sup> EPBC Act approval for the Carmichael Coal Mine

A feature of virtually all of the groundwater conditions is the **absence of substantive limits for groundwater drawdown**

(e.g. EA granted on 2 Feb 2016. Nb. Second EPBC Act approval has interim threshold of 0.2m drawdown)

#### Groundwater Management and Monitoring Program

- E4 A Groundwater Management and Monitoring Program must be developed and certified by an appropriately qualified person which addresses all phases of the mining operation approved under this environmental authority. The groundwater management and monitoring program must be provided to the administering authority for approval with the baseline monitoring program in condition E3. The groundwater management and monitoring program must be developed to ensure that the plan meets the following objectives:
- Validation of groundwater numerical model (including review of boundary and recharge conditions) to refine and confirm accuracy of groundwater impacts predicted;
  - Groundwater level monitoring in all identified geological units present across and adjacent to the mine site to confirm existing groundwater flow patterns and monitor drawdown impacts;
  - Identification of groundwater drawdown level thresholds for monitoring the impacts to Groundwater Dependent Ecosystems (including spring complexes and Carmichael River alluvium);

"Adaptive management theory was born ... in the 1970s and its use has since been widespread in Canada, the United States and, more recently, Australia. Adaptive management is an approach to natural resource management that encourages learning from management. Fundamentally, it involves implementing management actions, monitoring and evaluating outcomes and systematically adapting those actions according to what is learned."

Jessica Lee, "Theory to practice: Adaptive management of the groundwater impacts of Australian mining projects" (2014) 31 *Environmental and Planning Law Journal* 251-287 at 252 (references omitted).

“Adaptive management should not be used as a tool to defer tough planning and management decisions and upfront EIA to opaque post-approval processes. Good adaptive management requires thorough front-end EIA and transparency in both its upfront design and its implementation.”

Jessica Lee, “Theory to practice: Adaptive management of the groundwater impacts of Australian mining projects” (2014) 31 *Environmental and Planning Law Journal* 251-287 at 282.

“Without substantive limits to guide and constrain it, adaptive management can become nothing more than mere process that fails to deliver substantive environmental outcomes.”

Jessica Lee, “Theory to practice: Adaptive management of the groundwater impacts of Australian mining projects” (2014) 31 *Environmental and Planning Law Journal* 251-287 at 247.

## A pattern of recent mine approvals

### MISSED OPPORTUNITIES

The key point is that both the Commonwealth and State regulators missed the opportunity to take the pre-approval baseline and predictive analysis conducted by the proponent (which was accepted as sufficient to determine that the project will not be likely to have an unacceptable impact on water resources) and use it to set substantive limits in the project approval as part of the upfront EIA process. For example, the pre-approval groundwater modelling results showed, and the Coordinator-General accepted, that there will not be any impacts on registered springs as a result of mine dewatering.<sup>17</sup> However, neither the Coordinator-General’s recommendations for the draft environmental approval or the water licence, nor the EPBC Act approval, contains conditions requiring this to be the case. Even the proponent’s revised commitments resiled from the groundwater modelling prediction and promised only to monitor whether the mine activities would impact on the groundwater discharge of the springs.<sup>18</sup>

Jessica Lee and Alex Gardiner (2014) ‘A peek around Kevin’s Corner: adapting away substantive limits?’ 31 *Environmental and Planning Law Journal* 247-250

## 3. Fundamental failures in the approval process.

(b) Black-throated Finch: misuse of environmental offsets



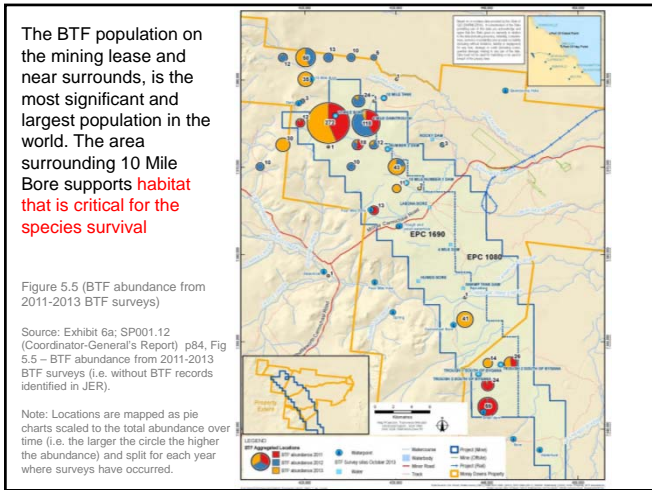
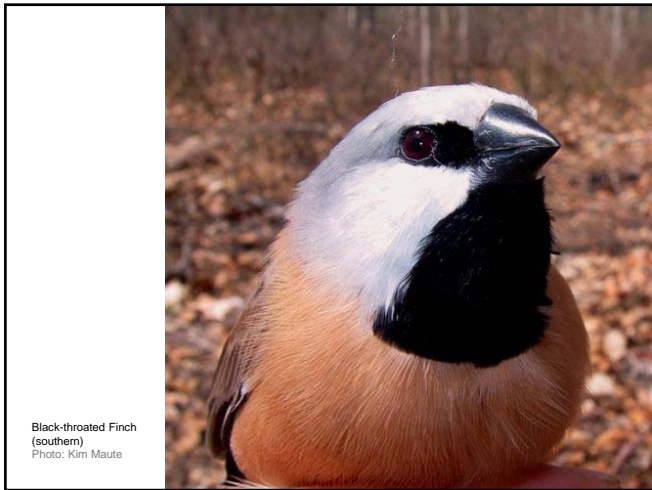
Adult Black Throated Finch feeding on edge of Carmichael-Moray Downs Road within central part of mine site close to Adani camp. Fig 3-2 to Lindsay Agnew (2015) Statement of Evidence on the Black-Throated Finch, eDoc OL024, Photo by Stanley Tang, 2013.

Listed as Endangered under the EPBC Act (Cth) and NCA (Qld) due to a severe reduction in numbers & severe decline in range.

Black-throated Finch (southern) (*Poephila cincta cincta*)  
Photographer: Kim Maute







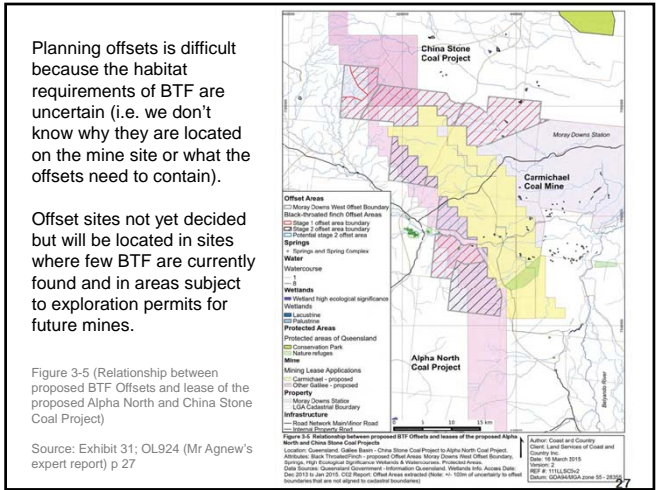
None of the consultants who conducted the BTF surveys for Adani were called as witnesses in the Land Court.

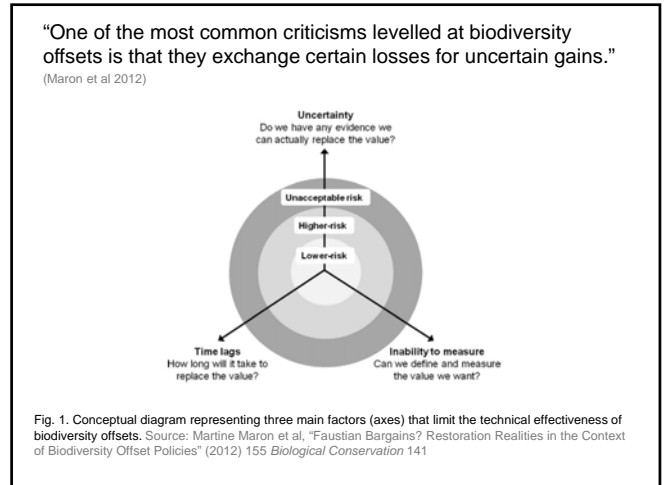
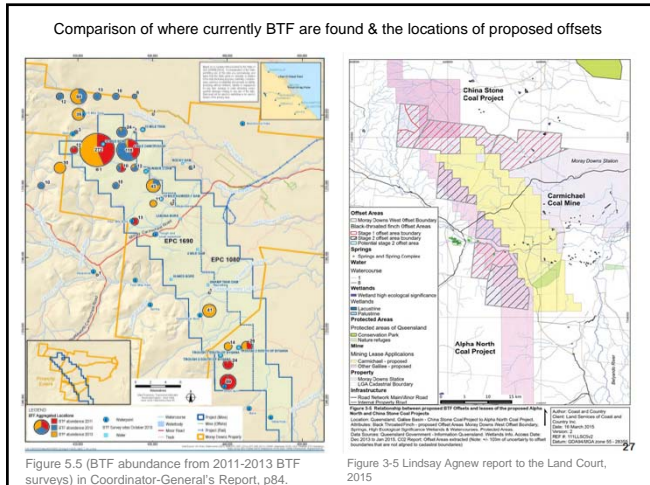
That appears to have been a litigation tactic to avoid them being questioned on choices made by them & Adani about the surveys.

The EIS & Coordinator-General's report downplayed the significance of the BTF population on the mine site by excluding large numbers of sighting records which were brought to light by the joint expert reporting process in the Land Court.

Key BTF Record Parameters	Applicant's BTF Records (within reporting)	Additional BTF Records (not within reporting)
Number of BTF record observations	125	40
Cumulative Total of BTF recorded	1025	1019
Number of flocks >30 BTF recorded	9	7
Number of flocks >50 BTF recorded	0	5
Number of flocks >100 BTF recorded	0	At least 3

Table 1 (Comparison of key data parameters of existing and additional BTF records)  
Source: Exhibit 28; JR009 (BTF JER2) p 7



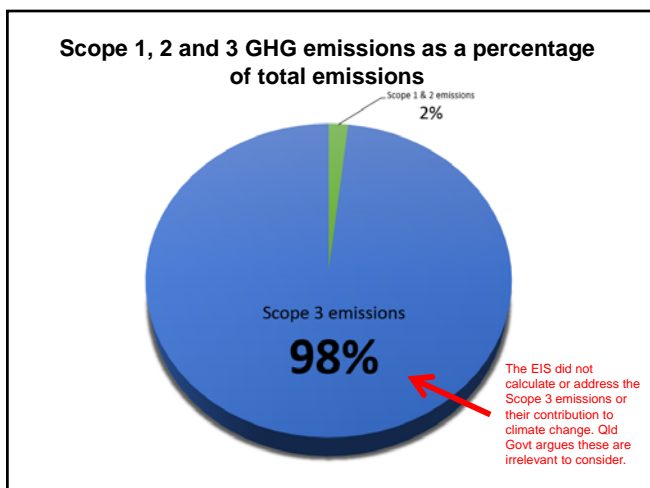


### 3. Fundamental failures in the approval process.

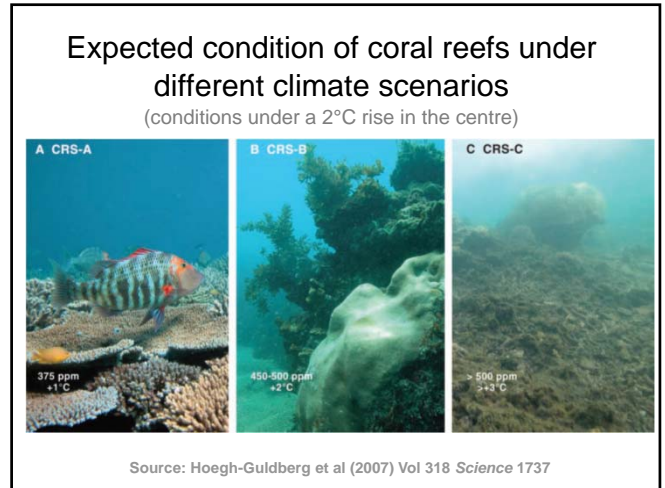
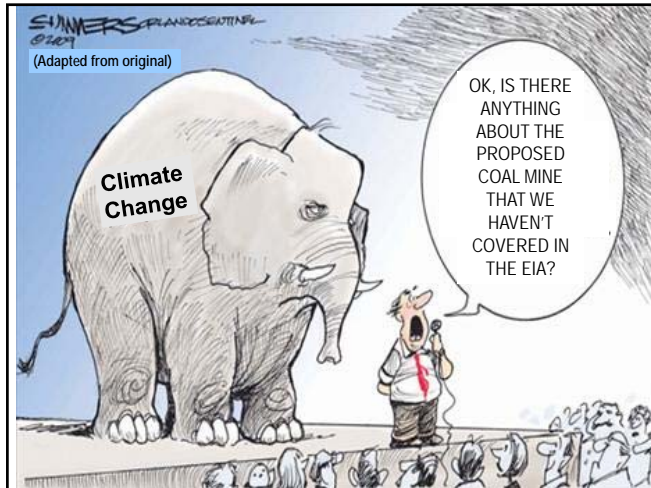
(c) Climate change: the drug dealer's defence

#### Some key facts:

- The mine is expected to produce 40-60 million tonnes of thermal coal per annum for electricity production.
- GHG emissions during mining (Scope 1 & 2) = 2% of total GHG emissions.
- Over the 30-60 year project life, the mine will produce 2.3 billion tonnes of thermal coal.
- When burnt, this will generate 4.7 billion tonnes of GHGs (Scope 3 emissions) = 98% of total emissions.
- This is 0.6% of the remaining global carbon budget (of ~850 GtCO<sub>2e</sub>) to 2050 to have a 50/50 chance of halting global temperature rises 2°C.







### The geographical distribution of fossil fuels unused when limiting global warming to 2 °C

Christophe McGlade<sup>1</sup> & Paul Ekins<sup>2</sup>

8 JANUARY 2015 | VOL 517 | NATURE | 187

“Our results suggest that, globally, a third of oil reserves, half of gas reserves and over 80 per cent of current coal reserves should remain unused from 2010 to 2050 in order to meet the target of 2°C.”

### The geographical distribution of fossil fuels unused when limiting global warming to 2 °C

Christophe McGlade<sup>1</sup> & Paul Ekins<sup>2</sup>

8 JANUARY 2015 | VOL 517 | NATURE | 187

Unburnable coal (Extract from Table 1)

Region	With CCS		Without CCS	
OECD Pacific	83 Gt	93%	85 Gt	95%
Global	819 Gt	82%	887 Gt	88%

Nb. Carmichael Coal Mine = 2.3 Gt of coal (2.8% OECD Pacific & 0.3% global stock)

The idea of leaving most (95%) of Australia’s coal in the ground is completely alien to Australian politics.



“The former Canadian environment minister Charles Caccia ... compared the country’s position on greenhouse gases – pledging to reduce emissions on the one hand while increasing tar-sands production on the other – to ‘attempting to ride two horses galloping in opposite directions.’”

Elizabeth Kolbert (2007) *Field Notes from a Catastrophe*

In recommending approval of the Carmichael Coal Mine, the Queensland Land Court’s avoided the issue of climate change impacts from the mine by accepting the **drug dealer’s defence**

[448] Mr Stanford’s<sup>144</sup> evidence in this case was that the supply of coal is governed by global demand which will not change as a result of the commissioning of the Carmichael mine. He said that, other things being equal, if the coal was not supplied by the Carmichael mine it would come from elsewhere. Global reserves of coal are very substantial. The first respondent criticized Mr Stanford’s reasoning, submitting that the effect of approving the mine would be to increase supply. I do not accept that that is a necessary consequence. The effect of the mine may equally be to fulfil increasing demand or to remove other suppliers from the market. I have accepted Mr Stanford’s evidence in this regard.

[449] It follows therefore that there will be no increase of greenhouse gas emissions if the Carmichael mine is approved. This is because alternative supply will be sourced elsewhere to meet global demand if the mine is not approved. In that sense then, the Scope 3 emissions into will not have an adverse impact on the public interest.

[456] However, as discussed above in relation to the public interest test under the MRA, the evidence is that there will be no increase in Scope 3 emissions if the mine is not approved because other coal will be obtained from elsewhere. On that basis, therefore, I do not consider that matters such as the public interest, intergenerational equity and the character, resilience and values of the receiving environment will be adversely affected by the approval of the mine, at least in the context of the impact of Scope 3 emissions.

The Court’s reasoning, if lawful, leaves the object of the EPA of achieving ecologically sustainable development in tatters.

It would shred criminal liability if applied to drug dealing or contract killing. “If I didn’t do it someone else will” would be a valid defence to liability.

This reasoning is being challenged in the Queensland Court of Appeal regarding another mine, the Alpha Coal Mine. The hearing is listed for Tuesday 7 June 2016.

**Similar treatment of GHG emissions in the EPBC Act approval of the Carmichael Coal Mine by Federal Environment Minister Greg Hunt.**



Image: Greg Hunt MP, Minister for the Environment disputed any link between intense bushfires burning in NSW in October 2013 and climate change based on a Wikipedia search:  
<http://www.smh.com.au/federal-politics/political-news/greg-hunt-uses-wikipedia-research-to-dismiss-links-between-climate-change-and-bushfires-20131023-2w1w5.html>

**'I looked it up on Wikipedia'**  
 Environment Minister Greg Hunt hoses down link between climate change and increased bushfire intensity after an online search. 399

Greg Hunt ignored scope 3 (98% of) emissions in the first EPBC Act approval for the Carmichael Coal Mine but acknowledged them in the second approval

140. I found that the quantity of overseas GHG emissions from the Carmichael Coal Mine and Rail project proceeding is subject to a range of variables. It is possible to determine a possible total quantity of these emissions that may occur, as provided under paragraph 136. However, determining the actual net emissions from transport by rail, shipping and combustion of the product coal that would occur as a result of the project, after taking account of the variables outlined above, is speculative at this stage. It is therefore not possible to draw robust conclusions on the likely contribution of the project to a specific increase in global temperature. As a result it is difficult to identify the necessary relationship between the taking of the action and any possible impacts on relevant matters of national environmental significance which may occur as a result of an increase in global temperature.

### 3. Fundamental failures in the approval process.

(d) **Economics: throwing out basic principles of supply & demand**



### The Land Court's acceptance of the drug dealer's defence is also **contrary to standard economics**

[448] Mr Stanford's<sup>14</sup> evidence in this case was that the supply of coal is governed by global demand which will not change as a result of the commissioning of the Carmichael mine. He said that, other things being equal, if the coal was not supplied by the Carmichael mine it would come from elsewhere. Global reserves of coal are very substantial. The first respondent criticized Mr Stanford's reasoning, submitting that the effect of approving the mine would be to increase supply. I do not accept that that is a necessary consequence. The effect of the mine may equally be to fulfil increasing demand or to remove other suppliers from the market. I have accepted Mr Stanford's evidence in this regard.

[449] It follows therefore that there will be no increase of greenhouse gas emissions if the Carmichael mine is approved. This is because alternative supply will be sourced elsewhere to meet global demand if the mine is not approved. In that sense then, the Scope 3 emissions into will not have an adverse impact on the public interest.

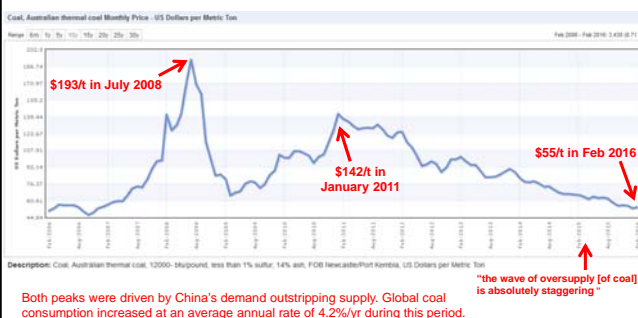
[456] However, as discussed above in relation to the public interest test under the MRA, the evidence is that there will be no increase in Scope 3 emissions if the mine is not approved because other coal will be obtained from elsewhere. On that basis, therefore, I do not consider that matters such as the public interest, intergenerational equity and the character, resilience and values of the receiving environment will be adversely affected by the approval of the mine, at least in the context of the impact of Scope 3 emissions.

The **Court's findings are incredulous** in terms of standard economics as the Carmichael Mine will be one of the largest coal mines in the world and will have a material effect on global coal supply, price and consumption.

The mine is estimated to increase world seaborne thermal coal supply by between 3.7% and 6%.

Tim Buckley (2015) First Energy Demand & Financial Analysis Expert Report, p 26, section 3.1

Arguing increased coal supply does not decrease global coal prices flies in the face of the past decade of global coal prices.



According to standard economics, increasing both supply and demand simultaneously will cause an **increased quantity of coal to be consumed (and, therefore, increased GHG emissions)**

It appears that the only reason Adani argues against this is that it contradicts the claim the mine will have no impact on climate change.

### 3. Fundamental failures in the approval process.

(e) **Common theme: getting away with wrong & exaggerated claims**

(e.g. missing BTF data)

10,000 jobs & \$22B in taxes and royalties claims



#### The Project

The Carmichael coal, railway and port project includes building Australia's largest thermal coal mine in the north Galilee Basin approximately 160km north-west of Clermont in Central Queensland, linked by a new 388 km standard gauge rail line to a new terminal at Abbot Point Port near Bowen. The combined mine, rail and port operations will provide over 10,000 direct and indirect jobs and supply opportunities for local businesses.

The project benefits will be felt locally, regionally and across Queensland providing much needed job opportunities and generating around \$22 billion in mining taxes and royalties in just the first half of the project life. This will assist in providing much needed public funding to help deliver schools, hospitals, roads and other services and stimulating activity throughout the economy.

<http://www.adaniaustralia.com/businesses/carmichael-coal-mine-and-rail-project>

Adani suffered a major public relations loss when its claim of creating 10,000 jobs and \$22 billion in royalties and State taxes was shredded by its own expert witness during the hearing.

Nov 23 2015 at 2:46 PM | Updated Nov 23 2015 at 6:34 PM

FINANCIAL REVIEW

## Adani 'distorted' jobs from Carmichael mine

Adani's expert admitted:

- Rather than 10,000 jobs, the mine would produce "not many jobs" being a net increase of only 1,464 direct & indirect jobs (<15% of original claim).
- Rather than \$22 billion, royalties would be \$3.8 to \$4.8 billion in NPV (~20% of original claim).

**Adani's discredited claims had no apparent effect on its approvals.**

## 4. Who is responsible?

### Federal Environment Minister Greg Hunt

Image: Greg Hunt MP, Minister for the Environment disputed any link between intense bushfires burning in NSW in October 2013 and climate change based on a Wikipedia search: <http://www.smh.com.au/federal-politics/political-news/greg-hunt-uses-wikipedia-research-to-dismiss-links-between-climate-change-and-bushfires-20131023-2wtw5.html>



**'I looked it up on Wikipedia'**  
Environment Minister Greg Hunt hoes down link between climate change and increased bushfire intensity after an online search. 399

### Politicians:

- (Hawke)
- Keating
- Howard
- (Rudd-Gillard)
- Abbott
- Turnbull



### Lobby groups:

- Institute of Public Affairs
- Business Council of Australia
- Minerals Council of Australia
- Queensland Resources Council



Michael Roche  
Queensland Resources Council (Photo: QRC)



**“We are in the coal business. If you want decent hospitals, schools and police on the beat we all need to understand that.”**

Queensland Premier Campbell Newman, 1 June 2012



Photographer: unknown

## **False choice between economy & jobs vs the environment**



Queensland Cabinet with Governor, Feb 2015



Dr Steven Miles MP, Qld Minister for Environment and Heritage Protection and Minister for National Parks and the Great Barrier Reef



Jackie Trad MP, Deputy Premier, Minister for Infrastructure, Local Government and Planning and Minister for Trade and Investment



Kate Jones MP, Minister for Education and Minister for Tourism and Major Events.

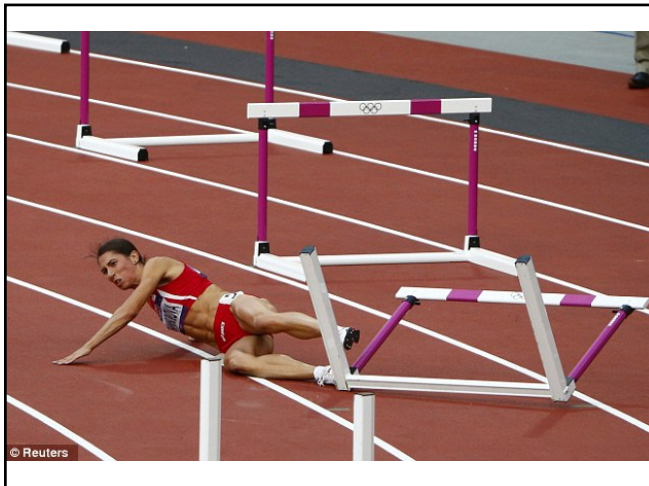
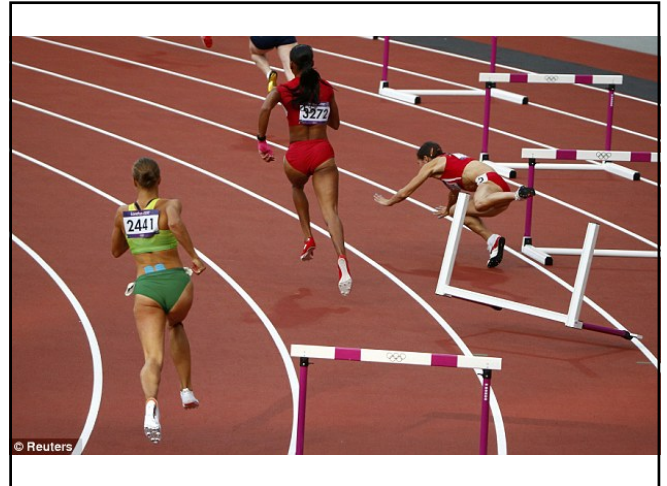
Photos: Qld Parliament website

## **5. Conclusion**

### **Lecture outline**

1. Introduction
2. Background to the mine & approval processes
3. Fundamental failures in the approval process:
  - a) Groundwater: misuse of adaptive management principles
  - b) Black-throated Finch: misuse of environmental offsets
  - c) Climate change: the drug dealers' defence
  - d) Economics: throwing out basic principles of supply & demand
  - e) Common theme: getting away with wrong & exaggerated claims
4. Who is responsible?
5. Conclusion
6. Questions

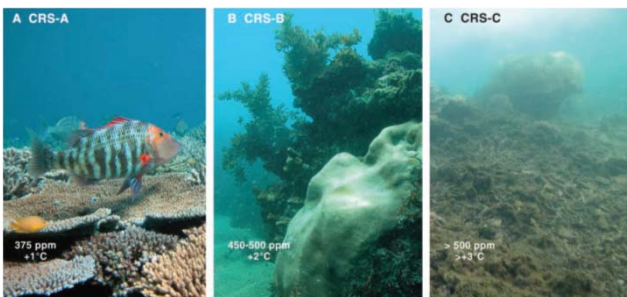
## Lessons



### Overarching lesson:

The Adani approval in the midst of coral bleaching **highlights systemic failure of government and our legal system to protect us.**

Current climate conditions are too high for healthy reefs. If we continue on our current path (e.g. Adani mine) we are certain to lose the Great Barrier Reef.



Source: Hoegh-Guldberg et al (2007) Vol 318 Science 1737

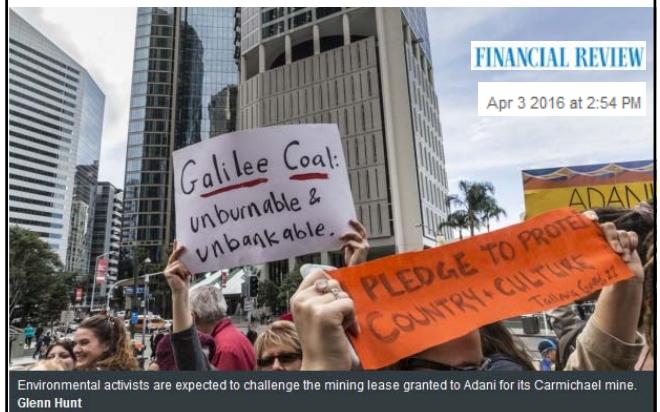
The grant of the final major approval for the Adani coal mine in the midst of coral bleaching indicates not only have we not learnt what we must do to protect the reef, **we are actively moving in the wrong direction** to protect it.





**Solving climate change & protecting the Great Barrier Reef are **major job creators**.**

**Continue to fight to protect the reef**

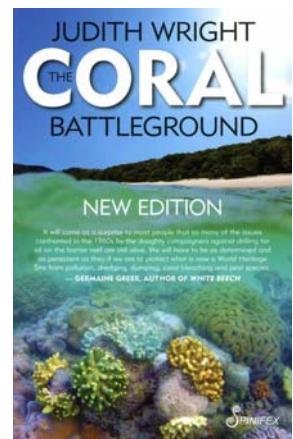


**Political will is a renewable resource.**

Al Gore

**Australia has protected the Great Barrier Reef from mining before.**

Exploring and mining for oil and minerals has been prohibited in the Great Barrier Reef Marine Park since the 1970s following a national campaign from groups like the ACF to protect it from proposals for limestone mining and oil drilling.



**Will we leave the Great Barrier Reef for our children?**



Photo: Greens MP

**6. Questions?**