



The **Australia Institute**
Research that matters.

Like water for cho-coal-ate

Queensland subsidises Galilee Basin coal mines by allowing them to take water worth around \$100 million.

Briefing Note

Rod Campbell
October 2016

ABOUT THE AUSTRALIA INSTITUTE

The Australia Institute is an independent public policy think tank based in Canberra. It is funded by donations from philanthropic trusts and individuals and commissioned research. Since its launch in 1994, the Institute has carried out highly influential research on a broad range of economic, social and environmental issues.

OUR PHILOSOPHY

As we begin the 21st century, new dilemmas confront our society and our planet. Unprecedented levels of consumption co-exist with extreme poverty. Through new technology we are more connected than we have ever been, yet civic engagement is declining. Environmental neglect continues despite heightened ecological awareness. A better balance is urgently needed.

The Australia Institute's directors, staff and supporters represent a broad range of views and priorities. What unites us is a belief that through a combination of research and creativity we can promote new solutions and ways of thinking.

OUR PURPOSE - 'RESEARCH THAT MATTERS'

The Institute aims to foster informed debate about our culture, our economy and our environment and bring greater accountability to the democratic process. Our goal is to gather, interpret and communicate evidence in order to both diagnose the problems we face and propose new solutions to tackle them.

The Institute is wholly independent and not affiliated with any other organisation. As an Approved Research Institute, donations to its Research Fund are tax deductible for the donor. Anyone wishing to donate can do so via the website at <https://www.tai.org.au> or by calling the Institute on 02 6130 0530. Our secure and user-friendly website allows donors to make either one-off or regular monthly donations and we encourage everyone who can to donate in this way as it assists our research in the most significant manner.

Level 5, 131 City Walk
Canberra, ACT 2601
Tel: (02) 61300530
Email: mail@tai.org.au
Website: www.tai.org.au

INTRODUCTION

In NSW, groundwater users must pay to take groundwater which is traded in a market. However, in Queensland there is generally no cost for the take of groundwater beyond , a nominal fee to obtain a licence.

The provision of access to a public resource like groundwater without payment can function as a hidden subsidy which transfers value from the public to private enterprises. This is particularly relevant for an industry such as mining which is dominated by a few large multi-national interests and which has far-reaching impacts on groundwater resources.

Mining often involves substantial interference with, or interception of, groundwater. This can be through accessing the resource in dewatering a pit, or obtaining groundwater for other necessary activities associated with mining operations, such as dust suppression.

This analysis seeks to assess the value of groundwater that is granted to coal mining companies in Queensland, to expose the hidden subsidy that it represents from the Queensland public to coal mining giants.

HOW MUCH IS GROUNDWATER WORTH?

The economic value of groundwater depends on where it occurs and what it is used for. Importantly, environmental values of groundwater should also be considered by economists, as it supports ecosystems, species and environmental services that directly or indirectly affect the wider environment and community.

Various studies have estimated the economic value of groundwater in Australia used by different industries. For example, a study for the National Centre for Groundwater Research and Training found that groundwater contributed to direct value of between \$30 and \$6,400 per megalitre across uses such as agriculture, mining, urban water supply, manufacturing and household use.¹ These direct production values are associated with differing contributions to GDP, again depending on the usage and industry.

Such studies value the use of the groundwater rather than the groundwater itself. How much groundwater is itself worth depends on how much people are willing to pay for it, how much is being used by other users including the environment, the duration and security attached to the right to extract it and many other factors.

Most economic assessments commissioned by coal companies use a general estimate of groundwater value of around \$2,000 for the right to extract a megalitre of water per year. This

¹ Deloitte Access Economics (2013) *Economic Value of Groundwater in Australia*

<http://www.groundwater.com.au/media/W1siZilsIjIwMTMvMTAvMTgvMDBfMidfMTzfOTIxX0Vjb25vbWljX1ZhbtHIVX29mX0dyb3VuZHdhGvYX0ZJTkFMLnBkZiJdXQ/Economic%20Value%20of%20Groundwater%20FINAL.pdf>

figure has been used by a coal industry consultant with experience working in both NSW and Queensland, for mines in a range of agricultural contexts.²

A similar figure is used by the economic consultants to Adani and New Hope coal in their assessment of the New Acland coal project, although his approach is different. In valuing the potential damage of that project to groundwater resources he estimates the present value of future income that would be destroyed by the project at \$6,000 per hectare.³ Given application rates in Queensland for pasture and cereal crops average 2-3 megalitres per hectare,⁴ this is in line with the above estimate of \$2,000 per megalitre.

SUBSIDY

Groundwater take in Queensland does not generally require groundwater users to pay more than a nominal fee to access the resource. However, in other states such as NSW, groundwater users pay to access associated groundwater which is traded in a market.

Therefore, the right to take this water free of charge represents a huge potential subsidy to Queensland's coal industry, in particular the proposed coal mines of the Galilee Basin.

There is little available data on the cumulative impacts of the coal industry on groundwater resources. However, some data has been compiled on the likely groundwater interception of the proposed Galilee Basin coal mines and this analysis utilises that information as the best available empirical data.

The Galilee Basin mine proposals would each dewater between almost 100 and 780 gigalitres over their mine life, according to their environmental impact statements, or estimates based on their environmental statements by former General Manager of Water Allocation in Queensland, Tom Crothers, and independent consultants Hydrocology.⁵ Their compilation of

² See Gillespie Economics (2012) *Cobbora Coal Project Economic Assessment*, <http://www.cobbora.com.au/Resources/Documents/EA/EA-Documents/Appendices/Appendix-R---Economic-assessment.pdf>, Gillespie Economics (2012) *Watermark Coal Project Economic Impact Assessment*, <http://www.ecolarge.com/wp-content/uploads/2013/05/Gillespie-2012-Watermark-assessment.pdf>, and for an example of this consultant's work in Queensland, see Gillespie Economics (2014) *Baralaba North Continued Operations Project Economic Assessment*, <http://www.baralabacoal.net.au/bar/assets/File/BNCOP%20EIS%20May%202014/Appendix%20N%20-Economic%20Assessment.pdf>

³ Fahrer (2016) *New Acland Coal Mine Stage 3 Economic Assessment*, expert evidence to the Queensland Land Court

⁴ ABS (2009) *WATER USE ON QUEENSLAND FARMS, 2007-08*, <http://www.abs.gov.au/AUSSSTATS/abs@.nsf/Lookup/1318.3Feature%20Article14Sep%202009>

⁵ Hydrocology Environmental Consulting and Crothers (2013) Draining the Lifeblood, https://d3n8a8pro7vhmx.cloudfront.net/lockthegate/pages/2111/attachments/original/1438045939/Final_Report_Draining_the_Lifeblood_Sept19th2013.pdf?1438045939 and Lock the Gate (2014) *Addendum to Draining the Lifeblood*, http://www.lockthegate.org.au/addendum_to_draining_the_lifeblood

Galilee Basin mine dewatering estimates and the value of this water at \$2,000 per megalitre is presented in Table 1 below:

Table 1: Galilee Basin mine dewatering and resulting subsidy

	Mine Life (years)	Dewater (GL)	Dewater ML	ML/yr	Subsidy
Alpha	30	100	100,000	3,333	\$6,666,667
Alpha North	45	190.03	190,030	4,223	\$8,445,778
Alpha West	45	98.29	98,290	2,184	\$4,368,444
China First	30	780	780,000	26,000	\$52,000,000
China Stone	40	98.29	98,290	2,457	\$4,914,500
Carmichael	90	355	355,000	3,944	\$7,888,889
Degulla	45	98.29	98,290	2,184	\$4,368,444
Keivns Corner	30	140	140,000	4,667	\$9,333,333
South Galilee	55	147	147,000	2,673	\$5,345,455
Total				51,666	\$103,331,510

Table 1 shows that over their lives these mines would dewater an average of at least 2,000ML per year and as much as 26,000 ML per year. Based on the groundwater values used by coal industry economics consultants, this free groundwater potentially represents a subsidy of over \$103 million to Galilee Basin coal proposals. The total subsidy to coal mining companies in Queensland in the form of groundwater take is likely to be at least double that.

The cost of this subsidy would be borne by other groundwater users and by the Queensland community through a degraded natural environment. It is in the public interest that the government charges an appropriate amount for the take or interference with our groundwater.

REGULATORY CONTROLS

If very large volumes of a public resource are being granted to private enterprises through a veiled subsidy that is not made transparent to the public, at the very least the community has a right to expect that regulatory controls on the use of that resource will be strict.

However, recent moves in Queensland are designed to entirely exempt new mining projects from being subject to the primary regulatory mechanism for regulating water use by miners – water licensing.

The Queensland Government is currently proposing amendments to the regulation of associated groundwater take and management in Queensland in relation to mining operations, including coal mining. Parts of the *Water Reform and Other Legislation Amendment (WROLA)* Act that will come into effect on or before 6th December 2016 will give new mines a statutory

right to take associated water from groundwater aquifers, without being subject to any water licensing process.

While a new Bill has been introduced by the Queensland Government to require advanced mining projects to obtain a new ‘associated water licence’ to provide for a transition to the new laws, this licence is subject to a weaker environmental assessment than the normal water licence under the law currently.⁶

Furthermore, earlier this week the Queensland Minister for Natural Resources and Mines, Anthony Lynham, declared the Carmichael coal project ‘critical infrastructure’. This provides the project with high priority development status, and hands considerable discretion to the Coordinator-General as to how water licensing processes are implemented.

The result of this ‘critical infrastructure’ status is likely to be that the assessment of the risks to groundwater are ‘fast-tracked’ and opportunities by the community to interrogate the impacts of the Carmichael mine on groundwater and surface water are lost.

Removing or weakening the water licensing process surrounding the grant of this groundwater both effectively increases the security of the subsidy and locks in future governments to maintain it whilst removing the key mechanism available to regulate groundwater take.

CONCLUSION

Valuing groundwater is difficult and this briefing note does not represent a definitive calculation of the economic value of groundwater accessed by the Queensland coal mining industry. It does, however, show that the mining industry reaps a huge financial benefit from accessing public groundwater resources effectively for free.

Queensland’s coal industry already receives great assistance from the Queensland community through government funded infrastructure, favourable tax treatment and unfunded environmental damage.⁷ Access to groundwater is an additional hidden subsidy identified by this analysis.

However, not content with providing subsidised access to groundwater worth an estimated \$100M in the Galilee Basin alone, the Queensland Government is now on the cusp of severely weakening the water licensing framework which regulates that extraction and of providing special status to the Carmichael mine to fast-track assessment processes.

⁶ Environmental Protection (Underground Water Management) and Other Legislation Amendment Bill 2016 (Qld).

⁷ See Peel, Denniss and Campbell (2014) *Mining the Age of Entitlement*, <http://www.tai.org.au/content/mining-age-entitlement>, Grudnoff (2013) *Pouring more fuel on the fire*, <http://www.tai.org.au/content/pouring-more-fuel-fire> and TAI (2016) *Another day, another \$100m subsidy to coal*, <http://www.tai.org.au/content/another-day-another-100m-subsidy-coal>

The commencement of the provisions of Part 4 of the *Water Reform and Other Legislation Amendment Act 2014* in early December will mean that all future coal mines will be entirely exempt from the requirement to obtain a licence for associated groundwater.

The Queensland Government should be moving to maximise the oversight and transparency about subsidies of this nature, not weakening or removing water licensing provisions which are the best tools available to them to regulate associated groundwater take by the industry.

This is particularly the case for an industry that needs to be wound back as the world seeks to decarbonise the economy.