

5 February 2016

Mr Stephen Hunter
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Dear Mr Hunter,

RE: Independent Review of the *Environment Protection and Biodiversity Conservation Amendment Act (EPBC Amendment Act) 2013* ‘water trigger’ legislation

APPEA welcomes the opportunity to provide comment on the independent review of the "water trigger" legislation. The review provides an overdue opportunity to consider the damaging impacts of this unnecessary legislation.

In 2013, "a water resource, in relation to coal seam gas and large coal mining development" was made a matter of National Environmental Significance under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The legislation was amended with relatively little parliamentary debate and without the usual regulatory impact assessment. There was no meaningful consultation with affected stakeholders.

The water trigger is highly selective as it applies to only two industries – coal seam gas and coal mining. In this respect, the water trigger is inconsistent with the regulation of all other matters of National Environmental Significance (NES) which are, rightly, focused on the possible risk to the environment, not a selective targeting of a particular activity or industry. As such, APPEA believes there is no sound scientific justification for the water trigger.

Water issues have long been managed under comprehensive approvals at the State level. This constitutional responsibility has required State Governments to develop detailed assessment processes for the impacts of an activity on water resources and for water use. State assessments require scientific, social and economic analysis of surface and groundwater at both a local and regional scale to ensure potential impacts are understood, mitigated and managed. Under Federal legislation, specific matters of NES (NES), flora or fauna relating to water resources (i.e. EPBC springs) are already managed under the EPBC Act without the Water Trigger Amendment. The independent review of the EPBC Act, undertaken by Dr Allan Hawke in 2009 supported this and considered the introduction of a specific water trigger unnecessary, concluding that "... including water extraction or use as a matter of NES under the Act is not the best mechanism for effectively managing water resources."¹

¹ Report of the Independent Review of the EPBC Act, October 2009. Page 109

There is no evidence that this system is broken to warrant the unilateral overruling of the State Governments.

Indeed, we endorse statements made by the Hon. Greg Hunt MP on the debate of the legislation that the water trigger is *“deeply duplicative of current state processes. In addition, the legislation adds a layer of bureaucratic tape. It increases approval times, and many have warned that it makes Australia a less desirable place in which to invest”*.² And in line with the recommendation of the Productivity Commission, *“if a properly conducted regulatory impact assessment cannot demonstrate that the trigger delivers net benefits to the community, it should be repealed”*³

I welcome the review of this legislation, which should find the trigger is inappropriate and inefficient. It has created uncertainty, complexity and duplication of efforts between jurisdictions for no additional environmental or social outcomes. Additional comments are attached for your consideration.

Regards,



Dr Malcolm Roberts
Chief Executive

² The Hon. Mr Greg Hunt MP, House of Representatives Hansard, 20 March 2013.

³ Productivity Commission, Major Project Development Assessment Processes Research Report, 2013. Recommendation 6.3

The “Water Trigger”

The *Environment Protection and Biodiversity Amendment Bill 2013 [Provisions]* passed through Parliament on Tuesday 20 March 2013. This bill introduced a ninth matter of National Environmental Significance: “a water resource, in relation to coal seam gas development and large coal mining development (the Water Trigger)”. The introduction of the Water Trigger was void of any meaningful analysis or consideration of its impacts on governments and businesses. This is despite the fact that the regulation directly affects an industry that provides one third of Eastern Australia’s natural gas, has around \$70 billion worth of projects recently or being completed, and employs more than 24,000 people in Queensland alone.

State Government regulation of water is comprehensive

The states have long standing constitutional responsibility for land use and natural resource management and, as a result, have established comprehensive regulatory arrangements for dealing with these issues.

Detailed Environmental Impact Statements (EIS) are required for all major projects and State governments only approve projects subject to thousands of strict conditions and requirements. In relation to water, the Queensland and New South Wales EIS processes include numerous studies and reviews by companies, regulators and independent scientific authorities to understand the potential impacts on water resources. In addition to the environmental approval processes, a number of policies and regulations further address specific issues in an approval. These include aquifer interference policies, groundwater monitoring requirements, water resource plans, and resource operations planning.

In Queensland, the legislative framework for the management of groundwater production, storage and disposal is primarily the *Water Act 2000* (the Act). The Act:

- requires petroleum tenure holders to undertake baseline assessments of water bores
- requires the preparation of baseline assessment plans (BAP)
- requires the preparation of underground water impact reports (UWIR)⁴
- provides for the declaration of cumulative management areas (CMA)
- establishes water monitoring strategy
- establishes ‘make good’ obligations for tenure holders—which include detailed water bore assessments
- establishes spring impact management plans, including requirements for monitoring and impact mitigation planning for MNES and non-MNES springs
- establishes the independent Office of Groundwater Impact Assessment (OGIA) to oversee the groundwater impacts of the petroleum and gas industry.

Other relevant policies and regulation include the:

- Coal Seam Gas Water Management Policy 2012
- *Environmental Protection Act 1994*
- *Petroleum Act 1923*

⁴ Approved UWIR <http://www.ehp.qld.gov.au/management/non-mining/approved-uwir.html>

- *Petroleum and Gas (Production and Safety) Act 2004*
- *Water Supply (Safety and Reliability) Act 2008*
- *Waste Reduction and Recycling Act 2011*
- *Environmental Protection (Water) Policy, Queensland 2009*
- *Blueprint for Queensland's LNG Industry (Queensland Government 2009)*
- *Water Resource (Fitzroy Basin) Plan 1999*
- *Water Resource (Great Artesian Basin) Plan 2006*
- *Great Artesian Basin Resource Operations Plan 2007*
- *Water Resource (Condamine and Balonne) Plan 2004, and Condamine and Balonne Resource Operations Plan 2008*
- *Moratorium Notice Condamine Catchment Underground Water Area 2008.*
- *Coal seam gas water feasibility study 2013*

Through the establishment of the OGIA, which is an independent entity established under the *Water Act*, the Queensland Government can declare an area to be a cumulative management area (CMA). When a CMA is declared, OGIA is required to prepare a cumulative assessment of impacts of water extraction, and develop integrated regional management arrangements. Importantly this includes detailed analysis and live water use models of all the water users in the system; not just coal and coal seam gas projects. The subsequent underground water impact reports (UWIR) are detailed and robust. OGIA also undertakes significant research activities to better understand the water systems.⁵

In New South Wales, the relevant legislative framework for the management of groundwater production, its storage and disposal is primarily *the Water Management Act 2000 (WMA 2000)*.

The WMA 2000 dictates how surface water and groundwater resources are managed in NSW. Its main objective is to ensure the future and present supply of water sources at a state level is managed in a sustainable manner. The WMA 2000:

- *requires that appropriate licences and approvals are in place for the extraction of water from any regulated water source*
- *requires approval for the movement of water from one water source to another water source, such as:*
 - *from an aquifer to an adjacent aquifer; or*
 - *from an aquifer to a river/lake; or*
 - *from a river/lake to an aquifer.*
- *ensures only sustainable volumes of water are allocated (allowable extractions) annually under licence within each regulated water resource*
- *controls how water can be used*
- *controls the construction of works such as dams and weirs and the carrying out of activities on or near water sources.*

Other relevant policies and regulation include the:

- *Environmental Planning and Assessment Act 1979*

⁵ <https://www.dnrm.qld.gov.au/ogia/research>

- *The Petroleum (Onshore) Act 1991*
- *Strategic Regional Land Use Policy (2012)* which includes:
 - The Gateway Process -
 - Coal Seam Gas Exclusion Zones.
- *Aquifer Interference Policy (AIP) (2012)*
- *Groundwater Policy Framework (1997)*
 - *Groundwater Quality Protection Policy (1998).*
 - *State Groundwater Dependent Ecosystems Policy (2002)*
- *Policy for Managing Access to Buried Groundwater Sources (2011)*

2011 National Partnership Agreement and the Independent Expert Scientific Committee

While it is largely accepted that State Governments have responsibility for land and water use issues, there is already Commonwealth engagement through the National Partnership Agreement on Coal Seam Gas and Large Coal Mining Development (the NPA). Unlike the water trigger, the NPA was developed and agreed collaboratively with State Governments in 2012.⁶

The NPA predates the water trigger and, as noted by the Department of Environment in their *submission on the review of the National Partnership Agreement*, the introduction of the water trigger did not change the process for seeking and considering advice from the IESC, nor does it provide any extra scientific information or assessment.⁷ As the trigger has not changed the operation of the IESC, it is unclear why the IESC is being considered in this review.

Coal Seam Gas is not a matter of National Environmental Significance.

Coal seam gas projects are modest users of water resources and, as many independent studies attest, are not a significant risk to water quality or supply. Numerous scientific studies, in Australia and worldwide, have concluded that natural gas operations like Coal Seam Gas pose no greater threat to water resources than any other industrial processes. These reports include:

- The independent report by the NSW Chief Scientist found that *“provided that appropriate engineering and scientific solutions are in place to manage the storage, transport, reuse or disposal of produced water and salts – the risks associated with CSG exploration and production can be managed.”*⁸
- The report by Allan Hawke AC for the Northern Territory Government (Hawke Inquiry) into hydraulic fracturing. While focusing on shale gas, the Hawke Inquiry found that the environmental risks associated with hydraulic fracturing - also used in certain coal seam gas wells - can be managed effectively, with a robust regulatory regime, and that there was *“no justification whatsoever for the imposition of a moratorium on hydraulic fracturing in the NT”*.⁹
- The Australian Council of Learned Academies (ACOLA) undertook a three year research program into unconventional gas funded by the Australian Research Council, conducted for the Prime Minister’s Science, Engineering and Innovation Council (PMSEIC) through the Chief Scientist and

⁶ <https://www.ehp.qld.gov.au/management/impact-assessment/pdf/partnership-agreement.pdf>

⁷ Department of the Environment (2015) *Submission Independent Review of the National Partnership Agreement on Coal Seam Gas and Large Coal Mining Development*.

⁸ NSW Chief scientist Final Report of the Independent Review of Coal Seam Gas Activities in NSW(2014) http://www.chiefscientist.nsw.gov.au/_data/assets/pdf_file/0005/56912/140930-CSG-Final-Report.pdf

⁹ Northern Territory Hydraulic Fracturing Inquiry (2014) <http://www.hydraulicfracturinginquiry.nt.gov.au/index.html>

his Office. While focused on shale gas, the ACOLA Report suggests that, provided appropriate monitoring programs are undertaken and a robust and transparent regulatory regime put in place (and enforced), there will be a low risk that gas production will result in contamination of aquifers, surface waters or the air, or that damaging induced seismicity will occur.”¹⁰

The water trigger applies if an action is likely to have a significant impact on a water resource (i.e. there is a real or not remote chance or possibility that a project will directly or indirectly result in a change to the quantity of a water resource, and / or quality of a water resource).¹¹ However the trigger is highly selective as it applies to only two industries – coal seam gas and large coal mining. In this respect, the water trigger is inconsistent with the regulation of all other matters of National Environmental Significance (NES) which are, rightly, focused on the possible risk to the environment, not a selective targeting of a particular activity.

Quantity of Water Resource (Hydrology)

The inclusion of water quantity (the amount of water available for human consumption or other uses) is inconsistent with the EPBC Act. It forces Commonwealth environmental regulators to consider non-environmental issues under environmental legislation and outside of State water resource planning.

Limiting an assessment of water consumption to a small proportion of water users is piecemeal, problematic and inefficient. State regulators have been required to build up an understanding of a water resource that incorporates all users of the system; agriculture, urban use, resource development and environmental. State regulators give full consideration to the differing geological characteristics of the coal seams, the proximity of the extraction site to available beneficial uses, the qualities and characteristics of the surrounding environment, and the quality of the CSG water. There has been no justification made to indicate that these State processes are not effective.

In this regard, it is important to note that the water used by natural gas operations is small (See Table 1) and no justification has been made to warrant its special consideration by the Commonwealth. The Great Artesian Basin (GAB) contains 65 million gigalitres (GL) of water, with an annual recharge of 880 GL.¹² Over the proposed life of the current projects (i.e. 30 years or more), the CSG industry in Queensland is likely to produce 1,701 GL of water from the coal seams, sourcing less than 0.03% (3 parts per 10,000) of the GAB’s water as recharge.

Studies collating data from the major Queensland CSG producers have found Surat Basin CSG operations’ water production will average 55 gigalitres (GL) a year. Recent evidence suggests that water production will be even less than this. By comparison, in Queensland on average 452 GL pa is used for agriculture, industry, urban, stock and domestic purposes (See Table 1).¹³

¹⁰ The ACOLA Engineering Energy: Unconventional Gas Production. Study of Shale Gas in Australia (2013)

<http://www.acola.org.au/PDF/SAF06FINAL/Final%20Report%20Engineering%20Energy%20June%202013.pdf>

¹¹ The Department of Environment, Significant Impact Guidelines. <https://www.environment.gov.au/resource/significant-impact-guidelines-13-coal-seam-gas-and-large-coal-mining-developments-impacts>

¹² Great Artesian Basin Coordinating Committee (2014) *Great Artesian Basin Strategic Management Plan - Progress & Achievements to 2008*

¹³ Great Artesian Basin Coordinating Committee (2010) *Great Artesian Basin Resource Study Update, 2010*

Table 1. Water use by industry / user in Queensland compared to CSG volumes

Purpose	Queensland (GL/year)
Stock and domestic (pastoral)	302
Stock and domestic wastage	54
Average Stock & Domestic use	356
Irrigation and intensive livestock industries	30
Town water use	32
Industrial, mining, commercial and other urban uses	24
Average non-S&D use	96
Average Annual Water Use	452
CSG Water Average Annual Production	55
CSG Annual Average Non-Productive Use (3% Brine)	1.6*
CSG Water Production as a proportion of Queensland GAB Production	12%
Total Consumption of Produced Water by CSG (brine)	0.37%

* Total Brine Production, of which 0.5GL pa is deducted due to brine re-injection projects¹⁴

Cumulative Impacts

Coal seam gas activities captured by the water trigger are required to consider the potential cumulative impacts *outside* of the industry (such as agriculture or urban use) and also attempt to predict *reasonably foreseeable developments* which may also have an impact on particular water resources and/or the overall development of a region. It is difficult to see how the Commonwealth can assess what is a reasonably foreseeable development without strongly relying on the State Government assessment. While APPEA agrees that a detailed understanding of the possible cumulative impact of numerous water users is vital to the planning of any development, it is not efficient to have this assessed at a Commonwealth level where only part of the picture is understood. State Governments are responsible for all water users and remain the appropriate body for considering the water system holistically.

The consideration of cumulative impacts is best achieved by State or Commonwealth regulators through explicit consideration of landscape scale effects in bioregional plans, strategic assessment and recognition of critical habitat in these plans and assessments, rather than through selective and partial case-by-case approaches. Advice from the Independent Expert Scientific Committee supports this point, the Committee noting that State regulators “*are in the best position to combine knowledge about total past, present and future developments, in conjunction with the outcomes of regional assessments and regional water balance models, to evaluate the scale of impact within a broader context.*”¹⁵

¹⁴ CSIRO, 2008. *Background report on the Great Artesian Basin. A report to the Australian Government from the CSIRO Murray-Darling Basin Sustainable Yields Project.* Contributing author Herczeg, A.L.

<http://www.clw.csiro.au/publications/waterforahealthycountry/mdbsy/technical/S-GreatArtesianBasin.pdf>

¹⁵ Independent Expert Scientific Committee Information Guidelines for Proposals Relating to the Development of Coal Seam Gas and Large Coal Mines where there is a Significant Impact on Water Resources

Beneficial use of produced water

The water trigger will also only allow consideration of the negative impacts, and does not provide a complete test of the impact. In Queensland, about 97% of the water produced from CSG wells is processed using technologies such as reverse osmosis, and is made available for beneficial use outside of the natural gas industry. More than half of recycled CSG is used by agriculture, which reduces the demand for water from the Great Artesian Basin's shallower, less saline aquifers. This, in itself, will help recharge these shallow aquifers over time.

Groundwater Monitoring and Management

Numerous Australian and international scientific studies have indicated that the risks to water and the environment posed by unconventional natural gas operations are similar to other industrial applications and can be managed. State Governments have established detailed regulatory processes to understand the potential impacts of an activity on the quality of a water resource.

In Queensland, regional aquifers that could be affected by CSG wells are carefully monitored. The government holds historical data from the monitored water pressure in more than 300 wells and the major CSG companies have also been required to establish a further network of 498 monitoring points over 142 monitoring sites. Landholders can search the results of the groundwater modelling and the potential impact on their registered bores. The Queensland OGIA has established an online search tool (links are available on the OGIA website and through *Queensland Globe*) where a *registered bore number* can be entered and the results of the predicted impacts are made immediately available.¹⁶

Landholders can raise any concerns about the impact of CSG operations on their bores directly with the OGIA via the Queensland CSG-LNG Hotline (13 25 23). In the event that there is found to be an impact on the landholder bore, then the CSG companies must "make good" the impact by repairing or deepening the bore, or by providing a new bore or an alternative source of good quality water.

Ultimately, landholders and the environment are protected through the extensive knowledge that is held by the State Government on geology, Codes of Practice for the drilling and completion of wells, and from the extensive ongoing research on aquifer protection.

Expanding the scope of the water trigger

The potential impacts of coal seam gas on water resources is comparable with many other industries and processes. APPEA wishes to clarify that while it is outside the scope of the review, we do not support recommendations to expand the water trigger to other industries, such as agriculture, or to other types of gas production.

The Water Trigger is an unnecessary burden on industry and government

Layers of regulation materially affect the viability, location and timing of project investment decisions. Even small changes in the process can make significant differences to the viability of a project. Unnecessary regulation has impacts on project profitability. In turn, this reduces the taxation

¹⁶ OGIA – Bore Search <https://www.dnrm.qld.gov.au/ogia/surat-underground-water-impact-report/bore-search>

revenue governments can expect to receive (such as resource taxes and company tax). All regulation increases costs and all regulation can undermine the overall profitability and economics of a project to some degree. The worst-case outcome is that a project fails to proceed, resulting in a major loss of revenue for government.

The financial impact of overlapping or duplicative regulations is generally viewed from two perspectives: the impact on project economics or through a direct increase in compliance costs. Both affect projects where delays and/or additional costs exist. Compliance costs are the direct additional costs to businesses of performing the various tasks required to comply with government regulation. However, it is through project delays where the most significant impact can occur. In its 2013 report on *Major Project Development Assessment Processes*¹⁷, the Productivity Commission estimated that the indicative cost of a one-year delay to a major liquefied natural gas project is in the order of \$500 million to \$2 billion, depending on assumptions made. The central estimate of \$1.1 billion represents a reduction in the net present value of the investment by about 9 per cent. The equivalent cost of delay for a major project of more average size (with capital expenditure of \$473 million) might be around \$26 million to \$59 million.¹⁸

Importantly, the Productivity Commission (PC) directly considered the water trigger during its consideration of Major Project Assessments, in which it concluded that: *“it is not obvious that existing laws are deficient or that the particular legislative amendment adopted by the Australian Government is the best approach to deal with any identified gap in the regulatory framework”*.

Duplicative assessment, as presented in the water trigger, are also an unnecessary burden on the resources of the Australian Government.

Efficiency and Effectiveness of Regulation

APPEA is aware of only four CSG projects that have been referred since the water trigger was enacted. In each case, the water trigger has added no additional environmental protection or conditions to the existing State processes.

- In 2013, Santos NSW (Eastern) Pty Ltd referred a proposal to undertake Coal Seam Gas (CSG) Exploration and Appraisal Program in the Narrabri area.¹⁹ This project was assessed under the water trigger. When considering the efficiency of the legislation, APPEA notes that the requirements placed on the 2013 Santos referral are duplicative of existing state processes. Specific requirements included the need for wells to be in accordance with the *NSW Aquifer Interference Policy*; and the *NSW Code of Practice for Coal Seam Gas Well Integrity*.²⁰ The NSW Aquifer interference policy commenced in 2012 – prior to the introduction of the water trigger.
- On the 17 April 2015, QGC referred a proposal for the development of 25 wells near Dalby, QLD. The water trigger was not a controlling provision of this assessment. The proponent

¹⁷ Productivity Commission (2013) Major Project Development Assessment Processes (page 201)

<http://www.pc.gov.au/inquiries/completed/major-projects/report>

¹⁸ *ibid*

¹⁹ EPBC Act referral 2013/6918 – accessed online at www.environment.gov.au

²⁰ NSW Aquifer Interference Policy https://www.nsw.gov.au/sites/default/files/nsw-aquifer-interference-policy_sd_v01.pdf

provided a high level of water modelling and understanding of groundwater. This was already required and assessed by the Queensland Government as part of the Surat Cumulative Management Areas Underground Water Impact Report. In its referral, the proponents noted they are also subject to *“obligations under State legislation and policies including those related to underground water impacts in Chapter 3 of the Water Act 2000 (Qld) which have already been implemented for this development area under the Underground Water Impact Report (UWIR) for the Surat Cumulative Management Area (CMA).”*

- A recent proposal in the Surat Basin by Senex Energy Limited has been considered a controlled action by the Commonwealth delegate, and is currently under assessment by the QLD Government under the bilateral assessment.²¹ The QLD assessment of this project indicates that the State Government has the appropriate capability to assess the project – and does not suggest a gap in regulation to warrant Commonwealth intervention.
- In 2012, the Santos Gas Field Development Project was referred under the EPBC Act. In October 2013, Santos GLNG was advised that an additional controlling provision in relation to the impact of CSG development on water also applied.²² This project is still under assessment.

APPEA is encouraged that, when applying the water trigger, the Commonwealth seeks to use State information and incorporates relevant State assessment processes to minimise duplication. The ongoing reliance by the Commonwealth on the information used in State assessments clearly demonstrates that no significant gap in the legislation has been identified. If the water trigger is to remain, APPEA strongly recommends that this process continues.

Summary of Additional Comments

APPEA supports the inquiry, which poses the right, fundamental question as to whether the trigger is necessary.

The trigger is not necessary. The trigger was introduced without proper regulatory assessment or stakeholder consultation. There was no demonstrated regulatory failure. The trigger does not introduce new science to the existing processes. The trigger has extended the scope of the Act beyond national environmental issues to target State managed issues for specific industries.

To date, there is still no evidence that the water trigger is justified, as scientific evidence has indicated that water impacts are manageable, and that the water extracted by coal seam gas developments amount to a fraction of the water used by other industries excluded from the scope of the water trigger.

The water trigger only adds regulatory uncertainty and costs without improving environmental protection.

²¹ EPBC Act referral [2015/7469](#) – accessed online at www.environment.gov.au

²² EPBC referral [2012/6615](#) – accessed online at www.environment.gov.au