

The Senate

Environment and Communications
Legislation Committee

Environment Protection and Biodiversity
Conservation Amendment (Independent
Expert Scientific Committee on Coal Seam
Gas and Large Coal Mining Development)
Bill 2012 [Provisions]

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Table of Contents

Committee membership	iii
Acronyms and abbreviations	vii
Chapter 1 - Introduction	1
Purpose of the bill.....	2
Outline of the bill.....	2
Note on inquiry.....	5
Report structure	6
Chapter 2 - Background.....	7
Coal seam gas mining.....	7
Coal mining	11
State and territory regulation	13
Commonwealth regulation	14
Coal seam gas projects approved by the Commonwealth.....	17
National approach to coal seam gas and coal mining	19
Chapter 3 - Discussion of key issues.....	23
Support for decision making to be based on evidence	23
Failure of the current regulatory approach	24
Duplication of regulation.....	25
Committee comment	26
Definitions	27
Committee comment	30
The independence and expertise of IESC members.....	30
Committee comment	32
Public notification	32

Committee comment	33
'Stop the clock'	33
Committee comment	35
Additional comments from the Australian Greens.....	37
Appendix 1 - Submissions and answers to questions taken on notice	41
Submissions	41
Answers to questions taken on notice	42
Appendix 2 - Public hearings	43

Acronyms and abbreviations

agreement, the	National Partnership Agreement on Coal Seam Gas and Large Coal Mining Development
AMEC	Association of Mining and Exploration Companies
ANEDO	Australian Network of Environmental Defender's Offices
APPEA	Australian Petroleum Production and Exploration Association
bill, the	Environment Protection and Biodiversity Conservation Amendment (Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development) Bill 2012 [Provisions]
CBM	coal bed methane
CMM	coal mine methane
COAG	Council of Australian Governments
committee, the	Senate Environment and Communications Legislation Committee
CSG	coal seam gas
CSIRO	Commonwealth Scientific and Industrial Research Organisation
department, the	Department of Sustainability, Environment, Water, Population and Communities
EIS	Environmental Impact Statement
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
IESC	Independent Expert Scientific Committee
LNG	liquefied natural gas
MDB	Murray Darling Basin
MNES	matters of national environmental significance
NELA	National Environmental Law Association
NFF	National Farmers' Federation

PJ	petajoule
RRAT	Senate Rural and Regional Affairs and Transport References Committee
Water Act	<i>Water Act 2007</i>

Chapter 1

Introduction

1.1 On 22 March 2012 the Senate referred the Environment Protection and Biodiversity Conservation Amendment (Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development) Bill 2012 [Provisions] (the bill) to the Environment and Communications Legislation Committee (the committee) for inquiry and report by 20 June 2012.¹

1.2 The provisions of the bill were referred on the recommendation of the Senate Selection of Bills Committee who wished for the committee 'to give careful examination to the detail of the legislation'.²

1.3 The bill was introduced to the House of Representatives on 22 March 2012 by the Minister for Sustainability, Environment, Water, Population and Communities, the Hon. Tony Burke.³ The bill passed the House on 29 May 2012 with one amendment (see 'Outline of the bill' in Chapter 2).⁴

1.4 The bill has yet to be introduced to the Senate.

1.5 In accordance with usual practice the committee advertised the inquiry on its website. In addition the committee wrote to relevant organisations inviting submissions. The committee received 30 submissions (see Appendix 1) and held one public hearing in Canberra on 7 June 2012 (see Appendix 2).

1.6 The committee would like to thank the organisations and individuals that made submissions to the inquiry and the representatives who gave evidence at the public hearing.

1 Commonwealth of Australia, *Journals of the Senate*, 22 March 2012, pp 2350–2352.

2 Senate Selection of Bills Committee, *Report No. 4 of 2012*, Appendix 7, [Hwww.aph.gov.au/Parliamentary_Business/Committees/Senate_Committees?url=selectionbills_ctte/reports/2012.htm](http://www.aph.gov.au/Parliamentary_Business/Committees/Senate_Committees?url=selectionbills_ctte/reports/2012.htm)H (accessed 24 May 2012).

3 Commonwealth of Australia, *House of Representatives Votes and Proceedings*, No. 101, 22 March 2012, p. 1375.

4 Commonwealth of Australia, *House of Representatives Votes and Proceedings*, No. 110, 29 May 2012, p. 1511.

Purpose of the bill

1.7 The bill seeks to amend the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) to create an Independent Expert Scientific Committee (IESC) on coal seam gas and large coal mining developments.⁵

1.8 The establishment of the IESC is part of an initiative announced by the Prime Minister, the Hon. Julia Gillard, on 21 November 2011 to provide independent scientific advice to the Commonwealth and designated state and territory governments on coal seam gas and large coal mining developments where they have a significant impact on water.⁶

1.9 In support of the IESC, the Commonwealth government has negotiated a National Partnership Agreement with relevant state and territory governments to ensure that they seek the advice of the IESC when considering applications for coal seam gas and large coal mining developments that have a significant impact on water.

Outline of the bill

1.10 The bill would establish an Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC).

1.11 The bill would require the Commonwealth environment minister to request and consider the advice of the IESC where a proposed action involves a coal seam gas development or a large coal mining development and is likely to have a significant impact on water resources and may have an adverse impact on a matter of national environmental significance.⁷ In these instances the minister would be required to take into account all relevant advice provided by the IESC before deciding whether to approve or not approve an action that impacts on a matter of national environmental significance.⁸

1.12 In circumstances where the minister has requested advice from the IESC, it is proposed that the "clock be stopped" for two months on the prescribed time in which

5 The Hon. Tony Burke, MP, Minister for Sustainability, Environment, Water, Population and Communities, *House of Representatives Hansard*, 'Second reading speech: Environment Protection and Biodiversity Conservation Amendment (Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development) Bill 2012', 22 March 2012.

6 The Hon. Julia Gillard, MP, Prime Minister, 'New focus on scientific evidence to build community confidence in coal seam gas and coal mining', Media release, 21 November 2011, p. 1.

7 Item 2, inserts a proposed new subsection 131AB.

8 Item 3.

the minister is required to make a decision.⁹ This would allow the IESC adequate time to prepare their advice.

1.13 The IESC is proposed to commence on 1 July 2012.¹⁰

Definitions

1.14 Under the bill, a coal seam gas development is defined as:

...any activity involving coal seam gas extraction that has, or is likely to have, a significant impact on water resources:

- (a) in its own right; or
- (b) when considered with other developments, whether past, present or reasonably foreseeable developments.¹¹

1.15 A large coal mining development is similarly defined as any coal mining activity that has, or is likely to have, a significant impact on water resources in its own right, or when considered with other developments.¹²

1.16 The term 'water resource' in the bill takes its definition from the *Water Act 2007* and relates to any surface water, ground water, watercourse, lake, wetland or aquifer (whether or not it currently has water in it).¹³ The term also includes all aspects of the water resource including water, organisms and other components and ecosystems that contribute to the physical and environmental value of the water resource.

1.17 The bill does not define the term 'significant impact'.

Membership

1.18 The IESC would consist of at least five, but not more than eight members. Members of the IESC are to be appointed by the minister on a part-time basis. The minister must also appoint one member of the IESC to be the Chair.

1.19 When appointing members (other than the Chair) the minister would have to ensure that each member possesses appropriate scientific qualifications that the minister considers relevant to the performance of the IESC, including but not limited

9 Item 1.

10 Item 2.

11 Item 7, proposed section 528.

12 Item 10, proposed section 528.

13 *Water Act 2007*, section 4.

to: ecology geology, hydrology, hydrogeology, natural resource management, and health.¹⁴

1.20 Following the successful passing of an amendment to the bill in the House of Representatives on 29 May 2012, the bill would require a majority of the members to hold scientific qualifications and expertise in one or more of the following areas: geology, hydrology, hydrogeology, and ecology.¹⁵

1.21 The minister would also have to ensure that each member's appointment is not being made to represent any particular body, group or community to ensure the independence of the IESC.¹⁶

1.22 The terms and conditions of appointment, termination and remuneration of the IESC would be consistent with those set out in Division 3 of Part 19 of the EPBC Act.¹⁷ This would ensure the IESC operates in a way that is consistent with other statutory bodies established under the EPBC Act (such as the Threatened Species Scientific Committee).¹⁸

Functions

1.23 The IESC would provide within two months of a request from either the Commonwealth environment minister or a minister of a declared state or territory, scientific advice in relation to proposed coal seam gas or large coal mining developments under their jurisdiction that are likely to have a significant impact on water resources.¹⁹

1.24 At the request of the Commonwealth environment minister, the IESC would also to provide advice relating to:

- how bioregional assessments should be conducted in areas where a coal seam gas development or large coal mining development is being carried out or is proposed;

14 While the Chair may also have scientific qualifications this is not considered to be a mandatory requirement as the person appointed to the position must possess the full range of skills and experiences that are necessary to chair a committee of the functions identified.

15 The Hon. Ian Macfarlane, *House of Representatives Hansard*, 'Consideration in detail: Environment Protection and Biodiversity Conservation Amendment (Coal Seam Gas and Large Coal Mining Developments) Bill 2012, p.56.

16 Item 4, inserts proposed new section 505C.

17 Item 4, inserts proposed new section 505C.

18 Explanatory Memorandum, p. 7.

19 Item 4, inserts proposed new section 505D.

A declared state or territory is one that has signed up to the National Partnership Agreement on Coal Seam Gas and Large Coal Mining Developments.

- priority areas in which bioregional assessments should be undertaken;
- bioregional assessments commissioned by the minister; and
- priorities for research projects to improve scientific understanding of the impacts of coal seam gas developments and large coal mining developments on water resources.

1.25 The functions of the IESC would also include:

- publishing information about improving the consistency and comparability of research in relation to the impacts of coal seam gas and coal mining developments on water resources;
- publishing information relating to the development of standards for protecting water resources from the impacts of coal seam gas and coal mining;
- collecting, analysing, interpreting and disseminating scientific information in relation to the impacts of coal seam gas and large coal mine developments on water resources;
- doing any other function prescribed by the regulations; and
- doing anything incidental or conducive to the performance of the functions above.

1.26 The IESC's role would be advisory only and it would have no responsibility for issuing approvals for projects or recommending whether a project should or should not be approved.

Note on inquiry

1.27 This inquiry has specifically examined the provisions of the bill (that is the establishment and operation of an independent expert scientific committee) and has not examined the wider issues of coal seam gas extraction and large scale coal mining.

1.28 The Senate Rural and Regional Affairs and Transport References Committee (RRAT) is examining the impacts of coal seam gas mining as part of a wider inquiry into the management of the Murray Darling Basin.²⁰ The inquiry's interim report tabled on 30 November 2011 focuses on the impacts of mining coal seam gas on the

20 See Senate Rural and Regional Affairs References Committee, Inquiry into the management of the Murray Darling Basin, [Hwww.aph.gov.au/Parliamentary_Business/Committees/Senate_Committees?url=rrat_ctte/mdb/index.htm](http://www.aph.gov.au/Parliamentary_Business/Committees/Senate_Committees?url=rrat_ctte/mdb/index.htm) (accessed 25 May 2012).

Murray Darling Basin.²¹ The RRAT committee is due to table its final report on 29 June 2012.

Report structure

1.29 This report is divided into two substantive chapters. Chapter 2 briefly outlines the background and policy context in which the legislation is proposed. Chapter 3 then discusses key issues raised during the course of the committee's inquiry and outlines the committee's recommendation.

21 Senate Rural and Regional Affairs References Committee, *Management of the Murray Darling Basin - Interim report: the impact of mining coal seam gas on the management of the Murray Darling Basin*, November 2011, [Hwww.aph.gov.au/Parliamentary_Business/Committees/Senate_Committees?url=rrat_ctte/mdb/interim_report/index.htm](http://www.aph.gov.au/Parliamentary_Business/Committees/Senate_Committees?url=rrat_ctte/mdb/interim_report/index.htm)H (accessed 25 May 2012).

Chapter 2

Background

Coal seam gas mining

What is coal seam gas?

2.1 Coal seam gas (CSG) is the name given to any naturally occurring gas trapped in underground coal seams by water and ground pressure.¹ The most common gas found in coal seams is methane and is also referred to as coal mine methane (CMM) and coal bed methane (CBM). Chemically, CSG is virtually the same as 'conventional' natural gas.

2.2 As an end use product, CSG is identical to natural gas and can be used for the same purposes including electricity generation, domestic heating and cooking, and commercial purposes.²

2.3 Coal seam gas has been promoted as being a cost-effective energy supply with lower greenhouse gas emissions than coal.³ There are however concerns over the impact of the gas extraction process on the environment, water resources, agricultural land and public health.⁴

How is coal seam gas extracted?

2.4 Coal seams store both gas and water. The water, which is under pressure from the weight of overlying rock material, holds the gas in place—when the water pressure is reduced the gas is released. In the extraction (or production) process, the water pressure is reduced when a well is drilled into a coal seam and the water is gradually pumped out of the seam. This allows the gas to flow to the surface in the well.⁵

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- 1 Geoscience Australia website, 'Australian mines atlas: Coal seam gas fact sheet', www.australianminesatlas.gov.au/education/fact_sheets/coal_seam_gas.html (accessed 25 May 2012).
 - 2 The Australian Petroleum Production and Exploration Association (APPEA), *Submission 28*, p. 1.
 - 3 New South Wales Parliamentary Library Research Service, *Regulation of the coal seam gas industry in NSW*, e-brief 1/2011, January 2011, p. 1, [www.parliament.nsw.gov.au/prod/parlment/publications.nsf/key/RegulationofthecoaleamgasindustryinNSW/\\$File/e-brief.coal+seam+gas.pdf](http://www.parliament.nsw.gov.au/prod/parlment/publications.nsf/key/RegulationofthecoaleamgasindustryinNSW/$File/e-brief.coal+seam+gas.pdf) (accessed 25 May 2012).
 - 4 New South Wales Parliamentary Library Research Service, *Regulation of the coal seam gas industry in NSW*, e-brief 1/2011, January 2011, p. 1.
 - 5 Arrow Energy website, 'What is coal seam gas?', www.arrowenergy.com.au/page/Our_Company/What_is_Coal_Seam_Gas/ (accessed 24 May 2012).

2.5 Not all water from a coal seam is removed during the extraction process. Only enough water is removed to reduce pressure in the target seam to a level that will allow the gas to flow.⁶

2.6 Hydraulic fracturing or 'fracking' is a process that is sometimes used in the coal seam gas production process to increase gas flow. Hydraulic fracturing of the coal seam is done by pumping large volumes of water, sand and some chemicals at high pressure down the well into the coal seam. This causes the seam to fracture for distances of up to 400 metres from the well. The sand carried in the water is deposited in the fractures to prevent them from closing when pumping pressure ceases. The gas then moves through the sand-filled fractures to the well.⁷

2.7 The fluids used in the fracking process are stored and handled separately from the rest of the water produced from CSG mining.⁸

2.8 According to the Australian Petroleum Production and Exploration Association (APPEA) CSG exploration and production can be divided into four basic stages:

- core wells are dug to take physical samples of rocks which are then analysed in laboratories for properties such as gas content;
- seismic surveying and testing is conducted if more information is required to understand the depth and geology of the resources underground;
- pilot test wells, also known as appraisal wells, are drilled to demonstrate that gas can flow to the surface in commercial volumes; and
- production wells (both vertical and horizontal) are drilled to supply gas to customers.⁹

Coal seam gas production in Australia

2.9 Although the presence of methane in coal deposits has been known ever since coal mining began, separate commercial production of coal seam gas is a relatively recent step. Exploration of CSG in Australia began in 1976 in Queensland's Bowen

6 Senate Rural and Regional Affairs References Committee, *Management of the Murray Darling Basin - Interim report: the impact of mining coal seam gas on the management of the Murray Darling Basin*, November 2011, p. 3, www.aph.gov.au/Parliamentary_Business/Committees/Senate_Committees?url=rrat_ctte/mdb/interim_report/index.htm (accessed 25 May 2012).

7 Geoscience Australia website, 'Australian mines atlas: Coal seam gas fact sheet', www.australianminesatlas.gov.au/education/fact_sheets/coal_seam_gas.html (accessed 25 May 2012).

8 Senate Rural and Regional Affairs References Committee, *Management of the Murray Darling Basin - Interim report: the impact of mining coal seam gas on the management of the Murray Darling Basin*, November 2011, p. 5.

9 APPEA, *Submission 28*, p. 2.

Basin. Australia's first commercial operation however did not commence until February 1996 at the Moura mine methane drainage project in Queensland.¹⁰

2.10 In Australia, large coal resources lie in geological basins over a large area of eastern Australia, predominantly in Queensland and New South Wales. Initially CSG was mainly sought within the coal seams of the Bowen (Qld) and Sydney (NSW) Basins. However since the early 2000s CSG exploration has also targeted the relatively shallow depths of the lower rank coal seams of the Surat and Clarence-Moreton Basins in Queensland.¹¹ Other prospective coal basins targeted by CSG explorers include the Gunnedah (NSW), Gloucester (NSW), Galilee (Qld), Murray (NSW, Vic and SA), Otway (Vic) and Perth (WA) Basins.¹²

2.11 In 2010 the *Australian Energy Resource Assessment* stated that Australia's identified CSG resources have grown substantially in recent years with 16 590 petajoules (PJ) of economic demonstrated resources.¹³ Queensland has 15 714 PJ (or 95 per cent) with the remaining 887 PJ in New South Wales. Australia's reserve life of CSG is more than 100 years at current rates of production.¹⁴

2.12 In Australia the commercial production of CSG was zero in 1995.¹⁵ In 2003 CSG production was 40 PJ and by 2006 CSG production had doubled to 80 PJ. In 2009 CSG production was 195 PJ.¹⁶

10 Geoscience Australia website, 'Australian mines atlas: Coal seam gas fact sheet', www.australianminesatlas.gov.au/education/fact_sheets/coal_seam_gas.html (accessed 25 May 2012).

11 Although these seams have less gas content than high rank Permian age coal, lower rank coal at shallow depths (100 to 600 metres) are more permeable and CSG can be more easily extracted.

12 Geoscience Australia website, 'Australian mines atlas: Coal seam gas fact sheet', www.australianminesatlas.gov.au/education/fact_sheets/coal_seam_gas.html (accessed 25 May 2012).

13 Geoscience Australia and Australian Bureau of Agricultural and Resource Economics (ABARE), *Australian energy resource assessment*, Australian Government, Canberra, 2010, p. 96, www.ga.gov.au/products/servlet/controller?event=GEOCAT_DETAILS&catno=70142 (accessed 25 May 2012).

A petajoule is a measure of energy equivalent to 10¹⁵ joules. One petajoule is the heat energy approximately equivalent to 43 000 tonnes of black coal or 29 million litres of petrol. See Department of Energy, Resources and Tourism, *Energy in Australia 2012*, Canberra, February 2012, p. xii.

Economic demonstrated resources are resources judged to be economically extractable and for which the quality and quantity are computed partly from specific measurements, and partly from extrapolation for a reasonable distance on geological evidence.

14 Geoscience Australia and ABARE, *Australian energy resource assessment*, Australian Government, Canberra, 2010, p. 96.

15 Geoscience Australia website, 'Australian mines atlas: Coal seam gas fact sheet', www.australianminesatlas.gov.au/education/fact_sheets/coal_seam_gas.html (accessed 25 May 2012).

2.13 Figures from the APPEA indicate that at the end of 2011 there were 3261 CSG wells in Queensland and 249 wells in New South Wales.¹⁷

2.14 Companies actively exploring for CSG include: AGL, Origin Energy, Santos, Metgasco, Arrow Energy, Eastern Star Gas, Molopo Australia and Queensland Gas Company.¹⁸

Environmental impacts of coal seam gas mining

2.15 The Department of Sustainability, Environment, Water, Population and Communities states that the environmental issues related to coal seam gas production largely relate to water.¹⁹ The issues include:

- Drawdown of groundwater from coal seams which are often 400–800 metres below the surface. Related to this is the potential for impacts to aquifers and groundwater-dependent ecosystems.
- The use of coal seam gas water above ground. Related issues include the management of salts which may be produced as a by-product of treating the coal seam gas water.

2.16 Also of concern is the risk that water supplies could be contaminated by chemicals used in the hydraulic fracturing process.²⁰

2.17 Coal seam gas mining may also have impacts on agriculture, public health and regional communities.²¹ As mentioned in Chapter 1, the Senate Rural and Regional

16 Geoscience Australia website, 'Australian mines atlas: Coal seam gas fact sheet', www.australianminesatlas.gov.au/education/fact_sheets/coal_seam_gas.html (accessed 25 May 2012).

17 APPEA, *Submission 28*, p. 6.

18 Geoscience Australia website, 'Australian mines atlas: Coal seam gas fact sheet', www.australianminesatlas.gov.au/education/fact_sheets/coal_seam_gas.html (accessed 25 May 2012).

19 Department of Sustainability, Environment, Water, Population and Communities website, 'Coal seam gas approvals – Frequently asked questions', www.environment.gov.au/epbc/coal-seam-gas/faq.html#all (accessed 24 May 2012).

20 New South Wales Parliamentary Library Research Service, *Regulation of the coal seam gas industry in NSW*, e-brief 1/2011, January 2011, p. 1.

21 For more information on possible impacts of coal seam gas mining see Senate Rural and Regional Affairs References Committee, *Management of the Murray Darling Basin - Interim report: the impact of mining coal seam gas on the management of the Murray Darling Basin*, November 2011.

Affairs and Transport References Committee has examined these issues in more detail as part of its inquiry into the management of the Murray Darling Basin.²²

Coal mining

What is coal?

2.18 Coal is a combustible rock of organic origin composed mainly of carbon (50–98 per cent), hydrogen (3–13 per cent) and oxygen, with lesser amounts of nitrogen, sulphur and other elements.²³ It also contains water and particles of other inorganic matter.

2.19 Coal is classified by rank, which is a measure of the amount of alteration it has undergone during formation. It is broadly separated into the low rank (low organic maturity) lignite or brown coal and the high rank (ultimately harder and more mature) black coals.²⁴

2.20 Coal occurs as layers or seams, ranging in thickness from millimetres to tens of meters.

2.21 The major use of black and brown coal is for generating electricity in power stations, where it is pulverised and burnt to heat steam-generating boilers.²⁵ Some types of black coal are also suitable for coke-making and used in the production of iron.

How is coal extracted?

2.22 Coal is mined by both surface or 'opencut' mining and underground or 'deep' mining methods. The type of method used depends on the local geology of the deposit. Opencut mines account for 80 per cent of Australia's coal production.²⁶

2.23 In opencut mining, rock covering the coal seam (the overburden) is blasted and removed by large draglines and/or machinery. Modern equipment allows opencut mines to be operated to depths of around 200 metres.²⁷

22 See Senate Rural and Regional Affairs References Committee website, 'Inquiry into the management of the Murray Darling Basin', www.aph.gov.au/Parliamentary_Business/Committees/Senate_Committees?url=rrat_ctte/mdb/index.htm (accessed 25 May 2012).

23 Geoscience Australia website, 'Australian mines atlas: Coal fact sheet', www.australianminesatlas.gov.au/education/fact_sheets/coal.html (accessed 14 June 2012).

24 Geoscience Australia and ABARE, *Australian energy resource assessment*, Australian Government, Canberra, 2010, p. 135.

25 Geoscience Australia website, 'Australian mines atlas: Coal fact sheet', www.australianminesatlas.gov.au/education/fact_sheets/coal.html (accessed 14 June 2012).

26 Geoscience Australia and ABARE, *Australian energy resource assessment*, Australian Government, Canberra, 2010, p. 135.

2.24 Underground coal mining in Australia is done by either the bord method (where coal is extracted in a series of parallel tunnels) or the longwall method (large blocks of coal are totally extracted to allow the mine roof to collapse behind the working face).²⁸

Coal production in Australia

2.25 Coal occurs and is mined in all Australian states. Queensland and New South Wales have the largest black coal reserves and production whereas Victoria hosts the largest reserves and the only production of brown coal.²⁹

2.26 Black coal has been mined in New South Wales for more than 200 years, while significant production of brown coal began in Victoria in the 1920s.

2.27 Australia's principal black coal producing basins are the Bowen Basin in Queensland (34 per cent) and the Sydney Basin in New South Wales (35 per cent).³⁰ In New South Wales significant underground mining also occurs in the Wollongong-Appin-Bulli area and the Lithgow-Mudgee area. The state also has opencut mines in the Hunter Valley and at Yarrawonga near Gunnedah.³¹

2.28 Brown coal mining in Victoria is predominantly located in the Latrobe Valley in Gippsland with smaller deposits in the Bacchus Marsh, Altona and Anglesea areas.³²

2.29 Australia is the fourth largest producer, the largest exporter, and has the fourth largest reserves of coal in the world.³³ Coal accounts for around three quarter of Australia's electricity generation.

2.30 Australia has substantial reserves of both black and brown coal. At the end of 2008, Australia's recoverable economic demonstrated resources of black coal

27 Geoscience Australia and ABARE, *Australian energy resource assessment*, Australian Government, Canberra, 2010, p. 135.

28 Geoscience Australia website, 'Australian mines atlas: Coal fact sheet', www.australianminesatlas.gov.au/education/fact_sheets/coal.html (accessed 14 June 2012).

29 Geoscience Australia and ABARE, *Australian energy resource assessment*, Australian Government, Canberra, 2010, p. 141.

30 Geoscience Australia website, 'Australian mines atlas: Coal fact sheet', www.australianminesatlas.gov.au/education/fact_sheets/coal.html (accessed 14 June 2012).

31 Geoscience Australia website, 'Australian mines atlas: Coal fact sheet', www.australianminesatlas.gov.au/education/fact_sheets/coal.html (accessed 14 June 2012).

32 Geoscience Australia website, 'Australian mines atlas: Coal fact sheet', www.australianminesatlas.gov.au/education/fact_sheets/coal.html (accessed 14 June 2012).

33 Geoscience Australia and ABARE, *Australian energy resource assessment*, Australian Government, Canberra, 2010, p. 131.

amounted for 6 per cent of the world's total recoverable amount.³⁴ At the current rate of production Australia has enough economic demonstrated resources of coal to support approximately 90 years of production.³⁵

2.31 According to the *Australian Energy Resource Assessment*, the potential for further discoveries of coal resources in Australia is significant and is likely over one trillion tonnes given that there are over 25 sedimentary basins with identified resources and significant areas that are under-explored.³⁶

2.32 As at the end of 2009 there were over 100 operating coal mines and more than 35 proposed new mines and expansions.³⁷

State and territory regulation

2.33 In Australia onshore mining operations, including CSG extraction and coal mining, are primarily licensed and regulated under state or territory legislation.

2.34 The states and territories are also responsible for matters such as land access to mining operations, landholder interests, waste management and regulating human health matters that may relate to coal mining and coal seam gas projects.

2.35 The Commonwealth government only becomes involved in approving and regulating mining activities when projects could have a significant impact on matters of national environmental significance protected under the *Environment Protection and Biodiversity Conservation Act 1999*.

2.36 In the states and territories the exploration and extraction of coal and CSG is regulated by mineral and petroleum resources legislation. The legislation is normally administered by a department of mines, minerals and energy, or equivalent, in each jurisdiction. While all states and the Northern Territory have their own laws governing mineral activities, in content and administration, they are very similar.³⁸

34 Geoscience Australia and ABARE, *Australian energy resource assessment*, Australian Government, Canberra, 2010, p. 131.

35 Geoscience Australia and ABARE, *Australian energy resource assessment*, Australian Government, Canberra, 2010, p. 131.

36 Geoscience Australia and ABARE, *Australian energy resource assessment*, Australian Government, Canberra, 2010, p. 132.

37 Geoscience Australia and ABARE, *Australian energy resource assessment*, Australian Government, Canberra, 2010, p. 132.

38 Department of Resources, Energy and Tourism, *Mineral and petroleum exploration and development in Australia: A guide for investors*, 'Chapter 9: Exploration and mining legislation – Onshore', p. 1, [www.ret.gov.au/resources/Documents/Minerals%20and%20Petroleum%20Exploration/Guide for %20Investors_9OnshoreLegislation.pdf](http://www.ret.gov.au/resources/Documents/Minerals%20and%20Petroleum%20Exploration/Guide%20for%20Investors_9OnshoreLegislation.pdf) (accessed 14 June 2012).

*The mining approval process*³⁹

2.37 In most jurisdictions anyone can lodge an application for a mining lease but holders of exploration or retention licences have a priority right. In Queensland, an applicant must be the holder of an appropriate pre-requisite tenure. Applicants must provide outlines or particulars of the mining development proposals.

2.38 Public notification of the application to mine is required in all jurisdictions except Tasmania, usually by publication in the Government gazette or in a newspaper circulated in the area.

2.39 On lodging an application to mine the applicant is also required to notify the public, including land owners and occupiers. There is provision for objection to the granting of a mining lease.

2.40 Upon receipt of the mining lease application, the relevant department forwards copies to the landowners, local councils and native title claimants for comment. In most jurisdictions consent of the owner or occupier of private land is required before mining operations can take place within 100–200 metres of residences and other improvements on private land.

2.41 Mining approvals are also subject to an environmental assessment, and details of mining proposals must be provided before mining activities can commence.

2.42 In New South Wales and Queensland all mining and petroleum production projects also require assessment under their respective environmental protection legislation.⁴⁰ In South Australia a mining and rehabilitation program must be submitted and approved by the Department for Manufacturing, Innovation, Trade, Resources and Energy before operations can begin.⁴¹

Commonwealth regulation

2.43 As previously stated, the Commonwealth government becomes involved only when projects could have a significant impact on matters of national environmental significance (MNES) protected under the EPBC Act. Matters of national

39 Information in this section has been drawn from the Department of Resources, Energy and Tourism, *Mineral and petroleum exploration and development in Australia: A guide for investors*, 'Chapter 9: Exploration and mining legislation – Onshore', p. 1.

40 For information on the environmental approval process for mining in New South Wales and Queensland see New South Wales Parliamentary Library Research Service, *Regulation of the coal seam gas industry in NSW*, e-brief 1/2011, January 2011, p. 6, [www.parliament.nsw.gov.au/prod/parlment/publications.nsf/key/RegulationofthecoaleamgasindustryinNSW/\\$File/e-brief.coal+seam+gas.pdf](http://www.parliament.nsw.gov.au/prod/parlment/publications.nsf/key/RegulationofthecoaleamgasindustryinNSW/$File/e-brief.coal+seam+gas.pdf) (accessed 25 May 2012).

41 Government of South Australia website, 'Mining operations', www.sa.gov.au/subject/Business%2C+industry+and+trade/Licensing+and+regulation/Licensing/Minerals/Mining+operations (accessed 14 June 2012).

environmental significance include nationally threatened and migratory species, wetlands of international importance, or national or world heritage places.

2.44 The Commonwealth government is also involved in approving actions that occur or may impact on Commonwealth land, or actions undertaken by Commonwealth agencies.

2.45 Such projects must undergo a thorough environmental assessment to determine whether their likely impacts are acceptable under the legislation.

EPBC Act environmental assessment process

2.46 Any proposed action that is likely to have a significant impact on a MNES must be subject to an environmental assessment process under the EPBC Act.

2.47 There are two broad stages to the overall environmental assessment process under the Act:

- the referral of the action to the minister to determine whether the proposed action is a 'controlled action' or not;⁴² and
- a detailed environmental assessment process for actions deemed to be controlled actions, followed by the minister's decision whether or not to approve the action, and what conditions to attach to any approval.⁴³

Referral of proposed developments

2.48 The EPBC Act environment assessment process commences when a proponent wishes to undertake an action that is likely to have a significant impact on a MNES, such as listed threatened species and ecological communities.⁴⁴

2.49 If the action is likely to have a significant impact on a MNES, the proponent must make a referral to the minister via the department.

2.50 The minister then must make a decision within 20 business days on whether the proposed development constitutes a 'controlled action' and hence whether assessment and approval for the action is required.

2.51 The minister may decide that approval is not required as the proposed action will not have or is not likely to have a significant impact on a MNES. No restrictions are placed upon the proposed development. The minister may also decide that an

42 See EPBC Act, s. 75.

43 See EPBC Act, s. 19, 81, 82, 130, 133, and 134.

44 Matters of national environmental significance include: world heritage properties, national heritage places, wetlands of international importance, threatened species and ecological communities, migratory species, the Great Barrier Reef Marine Park and nuclear actions.

action is not a controlled action provided the project is undertaken in a particular manner.⁴⁵

2.52 If the minister decides that an action will have or is likely to have a significant impact upon a MNES, the minister may declare the action a 'controlled action'. The controlled action must then be subject to an assessment and approval process.

Assessment of proposal and decision to approve

2.53 Under the EPBC Act there are several methods for assessing a proposed development which has been determined to be a controlled action. An assessment may be conducted by using:

- a state/territory assessment process accredited under a bilateral agreement;
- an accredited assessment process (case by case);
- referral information;
- preliminary documentation;
- an Environmental Impact Statement (EIS);
- a public environment report or
- a public inquiry.

2.54 In general, once an assessment by one of these methods has occurred the department must prepare a recommendation report for the minister.⁴⁶ The minister must then make a decision whether to approve, approve with conditions or not approve the proposed action.

2.55 On receiving final documentation, the minister must make this final decision within:

- 40 business days for assessments by public environment report, EIS, preliminary documentation or public inquiry;
- 30 business days for assessments by a state or territory assessment process; or
- 20 business days for assessments by referral information.⁴⁷

2.56 Ultimately the minister may decide to approve an action subject to conditions or in rare circumstance, may decide not to approve the proposed development.

45 EPBC Act, s. 75.

46 Except in the cases of public inquiries, where the commission is required to report to the minister, and assessment under a bilateral agreement or accredited assessment process, where the minister receives an assessment report from the relevant State or Territory on the impacts of the action. See EPBC Act, s. 47, 87, 93, 95C, 100, 105 and 122.

47 EPBC Act, s. 130.

Commonwealth responsibilities under the Water Act 2007

2.57 The Commonwealth *Water Act 2007* relates to the management of water in the Murray Darling Basin (MDB). Under the Act, a Basin Plan is being developed that will set sustainable diversion limits, or limits for water 'take' from the MDB water resources by users, including mining operations, within the overall sustainable diversion limit.⁴⁸ In the MDB state water resource plans will have to comply with limits in the Basin Plan.⁴⁹

2.58 Under section 255AA of the Water Act an independent, expert study must be undertaken prior to licenses being granted for subsidence mining operations on floodplains which have an underlying groundwater system that is part of the MDB inflows.

Coal seam gas projects approved by the Commonwealth

2.59 Three coal seam gas projects have been approved under the EPBC Act to date, all of which are in Queensland. The three projects are the:

- Gladstone LNG Project, undertaken by Santos (approved 22 October 2010)—this project includes the construction of coal seam gas production fields, a gas transmission pipeline, an LNG processing plant on Curtis Island, and associated marine facilities;
- Queensland Curtis LNG Project undertaken by British Gas and the Queensland Gas Company (approved 22 October 2010)—this project includes the construction of coal seam gas production fields, a gas transmission pipeline, an LNG processing plant on Curtis Island, associated marine facilities and shipping activities; and
- Walloons gas fields project undertaken by Australia Pacific LNG (22 February 2011)—this project includes developing, constructing, operating and decommissioning the coal seam gas resources in the Walloons gas fields within the Surat Basin with up to 10 000 CSG wells.⁵⁰

2.60 Prior to the minister approving the projects, the Department of Sustainability, Environment, Water, Population and Communities commissioned Geoscience Australia to analyse the potential risks of coal seam gas projects on ground water in

48 See Murray Darling Basin Authority website, 'Draft Basin Plan', www.mdba.gov.au/draft-basin-plan (accessed 25 May 2012).

49 Department of Sustainability, Environment, Water, Population and Communities website, 'Coal seam gas approvals – Frequently asked questions', www.environment.gov.au/epbc/coal-seam-gas/faq.html#all (accessed 24 May 2012).

50 Department of Sustainability, Environment, Water, Population and Communities website, 'Gladstone coal seam and dredging projects – Frequently asked questions', www.environment.gov.au/epbc/notices/gladstone.html (accessed 28 May 2012).

the Surat and Bowen Basins.⁵¹ This research recommended precautionary measures to mitigate the potential impacts on groundwater.⁵² The cumulative impacts of all known likely coal seam gas proposals in southern Queensland were considered in approving the projects.⁵³

2.61 In response to the report and other relevant advice, the minister approved the developments with approximately 300 conditions imposed on each project. The conditions imposed include:

- limiting the maximum number of production wells to be drilled;
- limiting where infrastructure may be placed within the permit area;
- developing species management plans for any threatened species or ecological community that may be affected by the project (which must be approved by the minister);
- the provision of offsets for matters of national environmental significance that are impacted by the project;
- developing detailed plans for water management and monitoring which outline how impacts on aquifers, groundwater and surface water will be minimised;
- creating drawdown limits for water extraction; and
- developing detailed plans of constituent components and toxicity of any hydraulic fracturing agents and other reinject fluids.⁵⁴

2.62 The conditions also require the projects to be implemented in stages with detailed management plans to be approved by the minister before the commencement of each stage.⁵⁵

2.63 There will be continuous monitoring of developments throughout the life of the project to ensure any potential risks are managed.

51 Geoscience Australia, *Summary of advice in relation to the potential impacts of coal seam gas extraction in the Surat and Bowen Basins, Queensland*, Geoscience Australia and Dr M. A. Habermehl, Canberra, 29 September 2010, p. 1, www.environment.gov.au/epbc/notices/pubs/gladstone-ga-report.pdf (accessed 28 May 2012).

52 Geoscience Australia, *Summary of advice in relation to the potential impacts of coal seam gas extraction in the Surat and Bowen Basins, Queensland*, Geoscience Australia and Dr M. A. Habermehl, Canberra, 29 September 2010.

53 Department of Sustainability, Environment, Water, Population and Communities website, Gladstone coal seam and dredging projects – Frequently asked questions', p. 3.

54 Department of Sustainability, Environment, Water, Population and Communities website, Gladstone coal seam and dredging projects – Frequently asked questions', pp 1–3.

55 Department of Sustainability, Environment, Water, Population and Communities website, Gladstone coal seam and dredging projects – Frequently asked questions', p. 1.

National approach to coal seam gas and coal mining

2.64 On 21 November 2011, the Prime Minister, the Hon. Julia Gillard, announced details of a new national plan to build community confidence in coal seam gas and coal mining that is based on scientific evidence.⁵⁶ According to the Prime Minister the new framework is intended to:

...provide certainty for regional communities around coal seam gas and large coal mining developments, jobs and investment, as well as protection of water resources.⁵⁷

2.65 The framework includes:

- funding of \$150 million to establish a new Independent Expert Scientific Committee (IESC) to provide scientific advice and research to governments about relevant coal seam gas and large coal mining approvals where there are significant impacts on water;
- establishing a new National Partnership Agreement with the states through the Council of Australian Governments (COAG) agreeing that the Commonwealth and state governments have to take into account the advice of the Independent Expert scientific committee in their assessment and approval decisions; and
- providing \$50 million in incentive payments to the states to deliver this outcome.⁵⁸

Interim committee

2.66 On 27 January 2012, the Minister for Sustainability, Environment, Water, Population and Communities announced the establishment of the Interim Independent Expert Scientific Committee on Coal Seam Gas and Coal Mining.⁵⁹

2.67 The interim committee was put in place pending formal establishment of the IESC under legislation. The interim committee is intended to continue until it hands over to the IESC on 1 July 2012.

56 The Hon. Julia Gillard, MP, Prime Minister, 'New focus on scientific evidence to build community confidence in coal seam gas and coal mining', Media release, 21 November 2011, p. 1.

57 The Hon. Julia Gillard, MP, Prime Minister, 'New focus on scientific evidence to build community confidence in coal seam gas and coal mining', Media release, 21 November 2011, p. 1.

58 The Hon. Julia Gillard, MP, Prime Minister, 'New focus on scientific evidence to build community confidence in coal seam gas and coal mining', Media release, 21 November 2011, p. 1.

59 The Hon. Tony Burke, MP, Minister for Sustainability, Environment, Water, Population and Communities, 'Interim committee to advise on coal seam gas and large coal mining', Media release, 27 January 2012.

2.68 The current members of the interim committee and their areas of expertise are:

- Professor Craig Simmons (Chair) (hydrogeology);
- Professor John Langford (agricultural engineering, water);
- Jane Coram (hydrogeology);
- Associate Professor David Laurence (mining engineering);
- Professor Chris Moran (natural resources, water management); and
- Emeritus Professor Peter Flood (geology).⁶⁰

2.69 The terms of reference of the interim committee are similar to the functions that the IESC would have if established.⁶¹

2.70 The interim committee is supported by the Office of Water Science, a section of the Department of Sustainability, Environment, Water, Population and Communities.⁶²

National Partnership Agreement

2.71 The National Partnership Agreement on Coal Seam Gas and Large Coal Mining Developments (the agreement) came into effect on 14 February 2012.⁶³ The agreement is signed by the Commonwealth government and the governments of Queensland, New South Wales, South Australian and the Northern Territory.⁶⁴

2.72 In signing the agreement, the Commonwealth, states and territory governments recognise they have a mutual interest in:

- the long term health, quality and viability of Australia's water resources; and

60 Interim Independent Expert Scientific Committee on Coal Seam Gas and Coal Mining website, 'The committee', www.environment.gov.au/coal-seam-gas-mining/about.html (viewed 29 May 2012).

61 Interim Independent Expert Scientific Committee on Coal Seam Gas and Coal Mining website, 'Terms of reference', www.environment.gov.au/coal-seam-gas-mining/pubs/coal-seam-interim-committee-tor.pdf (accessed 14 June 2012).

62 Interim Independent Expert Scientific Committee on Coal Seam Gas and Coal Mining website, 'About', www.environment.gov.au/coal-seam-gas-mining/about.html (accessed 7 May 2012).

63 Standing Council on Federal Financial Relations website, 'National Partnership Agreement on Coal Seam Gas and Large Coal Mining Developments', www.federalfinancialrelations.gov.au/content/national_partnership_agreements/environment/csg_and_icmd/NP.pdf (accessed 14 June 2012).

64 Western Australia, Tasmania and the Australian Capital Territory do not have coal mining activity and have therefore not been part of the National Partnership Agreement negotiations.

- the sustainable development of coal seam gas and coal mining industries, given their potential contribution to Australia's energy security and balance of international trade.⁶⁵

2.73 As part of the agreement the Commonwealth government has agreed to:

- provide a financial contribution to the states to implement the agreement;
- monitor and assess performance in the delivery of actions under the agreement;
- establish and maintain the IESC;
- consult with the states regarding the membership of the IESC;
- provide input to the IESC's research agenda; and
- seek advice from IESC at appropriate stages of the approval process for a CSG or coal mining development likely to have a significant impact on water and which the Commonwealth is intending to make a decision.⁶⁶

2.74 In the agreement the states have agreed to:

- provide input into the IESC's research agenda;
- amend relevant laws, regulations and guidelines as necessary so that they provide the following outcomes:
 - coal seam gas or coal mining developments that are likely to have a significant impact on water resources are referred to the IESC for advice; and
 - decision makers on applications which have been referred to the IESC take account of the IESC's advice in a transparent manner; and
- seek advice from the IESC at appropriate stages of the approvals process for a CSG or large coal mining development.⁶⁷

2.75 The Commonwealth government has agreed to establish the IESC by 1 July 2012. The signatory state governments have agreed to amend relevant legislation, regulations and guidelines by 31 March 2013.⁶⁸

65 Council of Australian Governments (COAG), *National Partnership Agreement on coal seam gas and large coal mining development*, p. 2.

66 Council of Australian Governments (COAG), *National Partnership Agreement on coal seam gas and large coal mining development*, p. 4.

67 Council of Australian Governments (COAG), *National Partnership Agreement on coal seam gas and large coal mining development*, pp 2–3.

68 Council of Australian Governments (COAG), *National Partnership Agreement on coal seam gas and large coal mining development*, p. 5.

Chapter 3

Discussion of key issues

3.1 The proposed establishment of an Independent Expert Scientific Committee (IESC) drew comment from environmental organisations, agricultural bodies, mining organisations, community action groups and government.¹

3.2 Environmental organisations, agricultural bodies and community groups were generally supportive of the establishment on the IESC.² The IESC was seen as a way of providing greater information about coal seam gas (CSG) mining and creating a more transparent and thorough approval process for CSG and large coal mining developments.

3.3 Mining companies and peak bodies were opposed to the establishment of the IESC because in their opinion, it would create additional regulatory burden in the environmental approval process and delay significant projects.³

3.4 A number of key issues were raised by submitters regarding the bill, including the definitions of key terms contained in the bill, the independence and expertise of the IESC's members, and the 'stop the clock' provisions.

Support for decision making to be based on evidence

3.5 There was broad support from submitters for environmental decision making in respect to CSG and large coal mining developments to be based on scientific evidence.⁴ It was argued that not enough is known about CSG mining and its potential impact on people, the environment and regional communities. According to the Friends of Felton:

1 For a list of individuals and organisations that made submissions see Appendix 1.

2 For example see: National Farmers' Federation (NFF), *Submission 3*; Caroon Coal Action Group, *Submission 5*; Australian Lot Feeders' Association, *Submission 7*; and Basin Sustainability Alliance, *Submission 18*.

3 For example see: Association of Mining and Exploration Companies (AMEC), *Submission 6*; AGL Energy, *Submission 13*; and Australian Petroleum Production and Exploration Association (APPEA), *Submission 28*.

4 For example see: Mr Jim Leggate, *Submission 1*, p. 1; National Environmental Law Association (NELA), *Submission 15*, p. 2; Basin Sustainability Alliance, *Submission 18*, p. 1; Australian Network of Environmental Defender's Offices (ANEDO), *Submission 24*, p. 1; and Cotton Australia, *Submission 27*, p. 3.

CSG is often touted as cleaner than coal and an ideal pathway for transitioning from coal to renewable; this is accepted as a "given" by virtually everyone. In truth we don't yet know enough about the life cycle of CSG to say anything definitive about its relative cleanliness.⁵

3.6 Australian Pork held similar concerns over the unknown impacts of CSG mining on agricultural and water resources, stating:

...the approach of State and Federal Governments to implement adaptive management regimes for CSG projects in the absence of sufficient science may have irreversible environmental, economic and social impacts on rural communities. It may be decades before the current and cumulative impacts of CSG activity on our water resources is fully understood. By this time it will be too late to reverse these impacts through 'make good' or other legislative provisions.⁶

3.7 In light of the lack of research and understanding of CSG mining, many submitters felt that the establishment of the IESC would help ensure future decision making is based on the best available scientific evidence.⁷ For example, the Basin Sustainability Association submitted that it:

...supports the principles behind the EPBC amendment because of the urgent need for independent scientific investigation into the numerous serious environmental concerns held by rural and regional communities about the long term cumulative impact of the massive scale of the CSG industry.⁸

3.8 Similarly the Australian Lot Feeders' Association stated that it:

...believes that the proposal for the Committee to be able to provide advice to the Minister about research priorities will improve scientific understanding of the impacts of coal seam gas and/or coal mining developments on water resources.⁹

5 Friends of Felton, *Submission 2*, p. 2.

6 Australian Pork, *Submission 4*, p. 2.

7 For example see: Friends of Felton, *Submission 2*, p. 2; Australian Pork, *Submission 4*, p. 1; Basin Sustainability Alliance, *Submission 18*, p. 1; and ANDEO, *Submission 24*, p. 1.

8 Basin Sustainability Alliance, *Submission 18*, p. 1.

9 Australian Lot Feeders' Association, *Submission 7*, p. 2.

Failure of the current regulatory approach

3.9 It was the opinion of community groups and environmental organisations that the current state regulation of CSG and large coal mining developments is not working.¹⁰ For example the Friends of the Earth informed the committee that:

We believe very strongly that the status quo, which is the state based approvals, is simply not working at present. In Victoria our government has a very cavalier and piecemeal approach to approvals. Industry complains around the so-called green tape and the need to consult with multiple departments, yet what we are finding is that it is a very piecemeal process which does not adequately assess in particular the impacts on food security, ground water, surface water and greenhouse gases.¹¹

3.10 The Wilderness Society and the Northern Inland Council for the Environment concurred:

...the development assessment process for mining in New South Wales can probably best be described as a juggernaut—it rolls across our communities and seems to quash our legitimate concerns with the power, money and influence of mining companies, the sheer volume of environmental assessment reports which they produce and an unbalanced planning system that is heavily weighted towards approval. In New South Wales, something like 99 per cent of proposed large mining developments are approved.¹²

3.11 These submitters felt that the establishment of the IESC by the Commonwealth government would give more transparency to the environmental approvals process. The greater involvement of the Commonwealth in the area of CSG mining and large coal mining was seen to be a positive step.¹³

Duplication of regulation

3.12 Concerns were raised by mining companies and peak bodies that the proposed legislation will duplicate regulation in the environmental approval process.¹⁴ For example the Association of Mining and Exploration Companies (AMEC) submitted

10 For example see: Caroon Coal Action Group, *Submission 5*, p. 5; The Wilderness Society and Northern Inland Council for the Environment, *Submission 30*, p. 1; and Mr Cam Walker, National Liaison Officer, Friends of the Earth Australia, *Proof Committee Hansard*, 13 June 2012, p. 3.

11 Mr Cam Walker, National Liaison Officer, Friends of the Earth Australia, *Proof Committee Hansard*, 7 June 2012, p. 3.

12 Ms Carmel Flint, Spokesperson, Northern Inland Council for the Environment, *Proof Committee Hansard*, 7 June 2012, p. 1.

13 Mr Timothy Duddy, Spokesman, Caroon Coal Action Group, *Proof Committee Hansard*, 7 June 2012, p. 13.

14 For example see: AMEC, *Submission 6*, p. 2; Minerals Council of Australia, *Submission 12*, p. 2; AGL Energy, *Submission 13*, p. 4; Santos, *Submission 25*, p. 2; and APPEA, *Submission 28*, p. 8.

that the bill '...effectively adds another regulatory layer to the environmental approvals and assessment [process]'.¹⁵

3.13 The industry submitted that the requirements placed on proponents to obtain environmental approvals for mining and CSG extraction in Australia is already extensive. According to mining company Santos, '...CSG would be one of the most highly regulated industries in Australia.'¹⁶

3.14 The Minerals Council of Australia similarly argued that there is a significant potential risk of duplication between Commonwealth and state or territory processes in the assessment of water impacts.¹⁷ For example, it was noted that a number of jurisdictions have developed, or are developing, new approaches to the assessment of water resource impacts (such as the New South Wales Draft Aquifer Inference Policy).¹⁸

3.15 The duplication between state or territory and Commonwealth assessment processes is an area of ongoing concern for the mining industry.¹⁹ The industry argued that the bill contradicts the commitment made by Australian governments through the Council of Australian Governments (COAG) Business Advisory Forum to address duplicative and cumbersome environment regulation and to streamline the process for approvals of major projects.²⁰

3.16 The Minerals Council of Australia informed the committee that:

...there is always an opportunity for continuous improvement in the way in which regulation is applied and that there are real opportunities to remove some of the duplication and inefficiency. If that were to occur, that would potentially free resources to be used to improve the scientific information base on which decisions are made.²¹

3.17 In response to the possible duplication of Commonwealth and state and territory approvals the Minerals Council of Australia did note that the Commonwealth

15 AMEC, *Submission 6*, p. 2.

16 Santos, *Submission 25*, p. 2.

17 Minerals Council of Australia, *Submission 12*, p. 2.

18 Minerals Council of Australia, *Submission 12*, p. 2.

19 Minerals Council of Australia, *Submission 12*, p. 2.

20 Council of Australian Governments (COAG), 'COAG Meeting, Canberra, 13 April 2012, Communiqué', p. 2, www.coag.gov.au/coag_meeting_outcomes/2012-04-13/index.cfm (accessed 13 June 2012).

21 Ms Melanie Stutsel, Director, Health, Safety, Environment and Community Policy, Minerals Council of Australia, *Proof Committee Hansard*, 7 June 2012, p. 30.

government '...should be the standard setter and the state governments should be responsible for the implementation of those standards.'²²

Committee comment

3.18 Mining and coal seam gas extraction is primarily licensed and regulated by the states and territories. The Commonwealth government is only involved where an action may have a significant impact on a matter of national environmental significance (MNES) under the EPBC Act.

3.19 The committee believes that the National Partnership Agreement signed by the Commonwealth government and the governments of New South Wales, Queensland, Victoria, South Australia and the Northern Territory recognises the mutual interest of all governments in the long term health, quality and viability of Australia's water resources and the sustainable development of CSG and coal mining industries.

3.20 The National Partnerships Agreement and the establishment of the IESC will go some way to ensuring that all governments signed up to the agreement will receive consistent independent and expert advice on CSG and large coal mining developments.

3.21 The National Partnerships Agreement and the IESC provide a solid framework for greater cooperation between the governments in the environmental approval of CSG and coal mining developments and the streamlining of regulation.

Definitions

3.22 There was some discussion by submitters concerning the definition of terms contained in the bill and how these would be applied.²³ In particular submitters called for clarity about the definition of the terms 'large coal mining' and 'significant impact' in relation to water resources.

Large coal mining

3.23 The National Environmental Law Association (NELA) opined that the definitions of 'coal seam gas development' and 'large coal mining development' '...are very broad and are capable of different interpretations resulting in potential uncertainty of application.'²⁴ According to the NELA, the use of the word 'large' in

22 Ms Melanie Stutsel, Director, Health, Safety, Environment and Community Policy, Minerals Council of Australia, *Proof Committee Hansard*, 7 June 2012, p. 37.

23 For example see: NSW Irrigators Council, *Submission 8*, p. 5; Minerals Council of Australia, *Submission 12*, p. 2; NELA, *Submission 15*, p. 2; and Government of Western Australia, *Submission 26*, p. 1.

24 NELA, *Submission 15*, p. 2.

relation to coal mines is '...misleading as the definition includes no qualifiers on the size of the proposed mine.'²⁵

3.24 The NSW Irrigators Council and the National Farmers' Federation (NFF) requested that the definitions of large coal mining development and coal seam gas development be supplemented to include all forms of mining or sub-surface activity that could impact on water.²⁶ The Irrigators Council strongly advocated for the protection of all water resources and '...hence proposes that the scope of responsibilities for the Committee is extended to include all Coal Seam Gas and Mining activities.'²⁷

3.25 The NFF shared this view:

...it should be noted that while the coal seam gas and coal mining industries are the targets, other energy and mining sectors might also have similar impacts. For example it is understood that geothermal energy production will use significantly more water than may be extracted by the coal seam gas industry.²⁸

Significant impact on water resources

3.26 The term 'significant impact' in relation to water resources drew comment from submitters over its definition and how it would be applied. The AMEC put to the committee that:

The term 'significant impact' relating to water resources is not defined. AMEC has long advocated for a clearer definition of significant impact in order to provide increased clarity and certainty to proponents on their environmental responsibilities.²⁹

3.27 The Australian Network of Environmental Defender's Offices (ANEDO) suggested that:

...further detail could be provided to clarify what constitutes a 'significant impact' on water resources. The current Significant Impact Guidelines apply to current listed matters of national environmental significance and not specifically water resources. We submit that a new Significant Impact Guideline be developed to clarify this. This could be a priority task for the new Committee.³⁰

25 NELA, *Submission 15*, p. 2.

26 NFF, *Submission 3*, p. 1; and NSW Irrigators Council, *Submission 8*, p. 5.

27 NSW Irrigators Council, *Submission 8*, p. 5.

28 NFF, *Submission 3*, p. 3.

29 AMEC, *Submission 6*, p. 4.u

30 ANEDO, *Submission 24*, p. 2.

3.28 Although the bill itself does not contain a definition of 'significant impact' in relation to water resources, the National Partnership Agreement (the framework between the Commonwealth government and the signatory state and territory governments allowing them to seek the advice of the IESC) does contain a lengthy definition.³¹ However The National Partnership Agreement does not have legal status.³²

3.29 According to the Department of Sustainability, Environment, Water, Population and Communities (the department) the definition of 'significant impact' as it relates to the bill is expected to be developed over time:

The definition of 'significant impact' in the EPBC Act probably has a long history in itself. When we went back and reviewed the EPBC Act and how it has evolved, there is actually no definition of significant impact for other issues in relation to the EPBC Act. Over time there has been experience built up in terms of the actual specific assessments about particular projects—for example, on threatened species, wetlands and World Heritage areas—that has enabled a body of work to be developed that can provide a really sound basis for coming up with a detailed definition of 'significant impact' for those specific things, and some significant impact guidelines have subsequently been released to help make better assessments about whether something is likely to be significant or not. I guess we are expecting that in this field the same thing will happen. At the moment there have been very few decisions and assessments taken that can help inform a very robust and defensible definition of 'significant impact' in every single circumstance, so the objective here is to try to use the national partnership agreement definition of 'significant impact' as the initial filter. Then, through the body of work that is built up as individual projects come through, as advice is provided and as we get some practical experience in the actual impact of coal seam gas and coalmining operations when they are in place, you can start to have a much more informed view about that and start to produce some public information that would help clarify that in much more detail. I do not think the science is there yet to be able to definitively say one way or another in every circumstance that something is going to be significant or not, so we are probably trying to take a bit more of a cautious, risk-averse approach at the moment.³³

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- 31 An explanation of the National Partnership Agreement is contained in Chapter 2. The National Partnership Agreement definition of 'significant impact on water resources' can be found in Council of Australian Governments (COAG), *National Partnership Agreement on Coal Seam Gas and Large Coal Mining Development*, p. 8, www.federalfinancialrelations.gov.au/content/national_partnership_agreements/environment/csg_and_lcnd/NP.pdf (accessed 13 June 2012).
- 32 Ms Alexandria Rankin, First Assistant Secretary, Office of Water Sciences, Department of Sustainability, Environment, Water, Population and Communities, *Proof Committee Hansard*, 7 June 2012, p. 45.
- 33 Ms Alexandria Rankin, First Assistant Secretary, Office of Water Sciences, Department of Sustainability, Environment, Water, Population and Communities, *Proof Committee Hansard*, 7 June 2012, p. 45.

Committee comment

3.30 The definition of significant impact in the EPBC Act has been established over time and in relation to specific assessments.

3.31 The committee recognises that the department intends to base the definition of significant impact on the definition agreed by the Commonwealth government and signatory governments in the National Partnership Agreement until such a time as a body of evidence is sufficiently established as to clarify the definition.

3.32 The committee notes that as research and the assessment of individual projects provides sufficient evidence on the impact of coal seam gas and coal mining operations, the department will produce public information clarifying the definition.

The independence and expertise of IESC members

3.33 There was discussion by submitters over the independence of members appointed to the IESC and their expertise. Some submitters were of the belief that scientists appointed to the IESC should in no way be affiliated with or receive funding from mining companies.³⁴ The Wilderness Society and Northern Inland Council for the Environment stated:

We believe it is absolutely crucial that the Committee members are fully independent from coal and gas companies. Such independence can only be guaranteed if the members and/or their organisations do NOT receive research funding or other funding from such companies and do not have representatives from such companies on the board.³⁵

3.34 The Northern Inland Council for the Environment informed the committee that community confidence in some academic research has been tarnished by the links between universities and mining companies. According to Ms Carmel Flint:

...community perception out in rural communities is that this is already another kind of stitch up, having seen that. There is already a lot of disappointment already. So I think the make-up of the final committee is going to be incredibly important in how the community views it and whether it has standing.³⁶

3.35 Other submitters argued that having previously worked for or received funding from mining companies does not mean that the experts lack independence. Mr Timothy Duddy from the Caroon Coal Action Group remarked:

34 For example see: Australian Pork, *Submission 4*, p. 2; Terry and Christine Stanton, *Submission 11*, p. 2; and The Wilderness Society and Northern Inland Council for the Environment, *Submission 30*, p. 1.

35 The Wilderness Society and Northern Inland Council for the Environment, *Submission 30*, p. 1.

36 Ms Carmel Flint, Spokesperson, Northern Inland Council for the Environment, *Proof Committee Hansard*, 7 June 2012, p 6.

...the fact that someone has done some work for the mining industry does not mean they are not independent...You want people who actually love science and who are genuinely interested in what is going on. The fact someone has worked for a particular employer that does not mean they are necessarily its greatest advocate; what you want is someone is very smart as to what they can do and how they can model things. You want the best people in their field. Who they have worked for is completely irrelevant.³⁷

3.36 The Minerals Council of Australia went further and suggested that members of the IESC should be required to have had experience working with the mining industry. The Minerals Council stated:

We think that is what makes someone an expert—having worked in the context in which they are seeking to provide their expert advice. There is a natural tension when some people perceive that having worked with the minerals industry somehow removes your independence. I think those professionals—and, similarly, organisations like the CSIRO that have historically partnered with the minerals industry on a number of research projects and that have produced a large body of research—have very strong methods of work and very strong scientific values that mean they are quite capable of doing research work and maintaining a very independent view.³⁸

3.37 In responding to the issue of independence and expertise of IESC members, the department advised that the method used in appointing members of the Interim IESC, and the way the appointment process is intended to work with the IESC, was done in two stages:

- firstly to find a group of individuals that had the scientific expertise in hydrology and geology and who also understood how mining interacts with those systems; and
- secondly to ensure that those people were able to provide independent advice by going through a process of due diligence and putting in place strict probity and conflict of interest arrangements prior to their appointment.³⁹

3.38 According to the department:

In that process, we found that it is hard in this field, particularly in the coal seam gas area, to find people who actually understand the science around the potential implications of how the coal seam gas operations work and their interactions with underground aquifers and water systems, unless you found people who had some interactions with industry. The view was that it

37 Mr Timothy Duddy, Spokesman, Caroon Coal Action Group, *Proof Committee Hansard*, 7 June 2012, p. 19.

38 Ms Melanie Stutsel, Director, Health, Safety, Environment and Community Policy, Minerals Council of Australia, *Proof Committee Hansard*, 7 June 2012, p. 33.

39 Ms Alexandria Rankin, First Assistant Secretary, Office of Water Sciences, Department of Sustainability, Environment, Water, Population and Communities, *Proof Committee Hansard*, 7 June 2012, p. 43.

is much better to have people who do have that—both the scientific understanding, credibility and expertise and the understanding of how the industry works—and manage any risks associated with that through proper conflict of interest and governance arrangements. We could not find anybody to be honest who had no linkages at all and had the right science. If you are trying to get an expert advisory committee, you want people who are experts not people who are learners in the whole area.⁴⁰

3.39 The department also informed the committee that IESC members must adhere to strict conflict of interest guidelines and probity protocols that have been approved by the Australian Government Solicitor.⁴¹ IESC members are also required to declare any conflict of interest arrangements against every agenda item for each IESC meeting. Details of these conflicts are recorded and made public in the meeting's minutes.⁴²

Committee comment

3.40 It is the opinion of the committee that members appointed to the IESC should be experts in the impacts of CSG extraction and coal mining on water resources. This may include scientists that have worked or received funding from mining organisations.

3.41 The committee is reassured by the department's comments regarding probity and conflict of interest guidelines to ensure the independence of the IESC. The approval of these by the Australian Government Solicitor reinforces the independence and transparency of the IESC.

Public notification

3.42 Numerous submitters raised the matter of publication of the IESC's assessments. Some submitters sought to ensure that these assessments are made public at the same time as the information is provided to the Commonwealth or state or territory minister.⁴³

40 Ms Alexandria Rankin, First Assistant Secretary, Office of Water Sciences, Department of Sustainability, Environment, Water, Population and Communities, *Proof Committee Hansard*, 7 June 2012, p. 43.

41 Ms Alexandria Rankin, First Assistant Secretary, Office of Water Sciences, Department of Sustainability, Environment, Water, Population and Communities, *Proof Committee Hansard*, 7 June 2012, pp 43–44.

42 Ms Alexandria Rankin, First Assistant Secretary, Office of Water Sciences, Department of Sustainability, Environment, Water, Population and Communities, *Proof Committee Hansard*, 7 June 2012, p. 44.

43 For example see: Australian Pork, *Submission 4*, p. 1; Australian Lot Feeders' Association, *submission 7*, p. 2; and Queensland Murray-Darling Committee, *Submission 9*, p. 8.

3.43 The Northern Inland Council for the Environment raised concerns that '...as it stands now, there is nothing to suggest the community will see this information before decisions are made.'⁴⁴

3.44 The NSW Irrigators Council likewise stated:

I would struggle to see any circumstances where the suppression of the information would prove useful to anyone other than potentially the proponent. In particular, I would have thought it would be a protection on the minister to have that information publicised before a decision was made—and I suspect that there are possibly other legal frameworks that could be put in place to protect that information if it was vitally necessary for some other reason.⁴⁵

3.45 In responding to these concerns, the department stated that the current procedure for the Interim IESC, and other statutory committees operating under the EPBC Act, is that:

...it is appropriate to give the decision maker the opportunity to consider the advice from the committee before it is made publicly available. We have been publishing the advice from the committee pretty much at the same time as or just after the decision has been made, so there is not a long delay between when the minister makes the decision, or the decision makers make the decision, and when that advice becomes available.⁴⁶

Committee comment

3.46 The current practice of the interim IESC, and of other statutory committees established under the EPBC Act, has been to publish material at the same time, or just after, the minister has made a decision. This practice provides the minister, as the decision maker, adequate time to review and consider the advice given by the expert committee. The committee supports this practice.

3.47 The committee also welcomes statements in the minister's second reading speech on the bill that the IESC will to provide regular public updates of its work on a dedicated website.

'Stop the clock'

3.48 In situations where the Commonwealth minister has requested advice from the IESC, a 'stop the clock' provision would be applied to pause the prescribed time in

44 Ms Carmel Flint, Spokesperson, Northern Inland Council for the Environment, *Proof Committee Hansard*, 7 June 2012, p 6.

45 Mr Andrew Gregson, Chief Executive Officer, NSW Irrigators Council, *Proof Committee Hansard*, 7 June 2012, p. 40.

46 Ms Alexandria Rankin, First Assistant Secretary, Office of Water Sciences, Department of Sustainability, Environment, Water, Population and Communities, *Proof Committee Hansard*, 7 June 2012, p. 44.

which the minister is required to make a decision on approving a CSG or large coal mining development.⁴⁷ The aim of this provision is to ensure the IESC has adequate time to consider proposed actions and prepare relevant and useful advice.⁴⁸ In effect the 'stop the clock' provisions would pause the approval process by up to two months (the maximum amount of time the IESC is allowed to conduct an assessment).

3.49 Mining and petroleum peak bodies opposed this provision arguing that delays in development due to environmental regulation are already significant.⁴⁹ The Australian Petroleum Production and Exploration Association (APPEA) submitted that:

The result of this provision is to add up to two months onto the already lengthy approval processes for major CSG projects as a result of the Committee's deliberations. Should the Committee's advice lead to substantial revisions of pending approvals and/or project requirement there would be additional and considerable delays.

...

APPEA instead considers that the Committee should be brought in at an early stage of the approvals process to avoid the potential for Committee advice at a late stage of the process delaying approvals being issued.⁵⁰

3.50 The Minerals Council of Australia similarly agreed that the work of the IESC should continue concurrently with the normal assessment process and that '...the decisions to refer a development proposal to the Committee should be undertaken early in the assessment process...to allow for concurrent assessment activities to be undertaken.'⁵¹

3.51 Other submitters, particularly community groups and environmental organisations, believed that the two month 'stop the clock' provision did not allow enough time for the IESC to conduct thorough assessments.⁵² For example, The Wilderness Society informed the committee that:

The two-month time frame for decisions does not allow time for the committee to commission the independent baseline analysis necessary to inform their recommendations. While it is likely that they will be expected to assess a large number of projects concurrently, time pressures lead to rushed decisions and a failure to deliver on the robust scientific assessments

47 Item 1.

48 Explanatory Memorandum, p. 4.

49 AGL Energy, *Submission 13*.

50 APPEA, *Submission 28*, p. 9.

51 Minerals Council of Australia, *Submission 12*, p. 2.

52 For example see: Lock the Gate Alliance, *Submission 20*, p. 4; and The Wilderness Society and Northern Inland Council for the Environment, *Submission 30*, p. 2.

expected by government and community. We recommend an extension of this time frame from two months to up to six months.⁵³

3.52 There was concern that if the IESC is burdened with a significant number of assessments, particularly early on in the IESC's operation, a bottle-neck could emerge in providing advice to the minister. According to the NELA, this would impact on the minister's ability to grant approvals as the minister is prevented from making a decision without considering the advice of the IESC.⁵⁴

3.53 The ANEDO noted that whilst two months is a reasonable period '...in the event that the Committee is provided with insufficient information to advise upon (and where the proponent may need to gather more data), there may need to be a mechanism for time extensions.'⁵⁵

Committee comment

3.54 In order for the IESC to conduct a thorough examination of a proposed CSG or large coal mining development and prepare advice for the minister, an appropriate amount of time must be allowed. The committee believes that two months provides sufficient time for the IESC to conduct their work, whilst also avoiding undue delay in the environmental approvals process.

3.55 Development of CSG and large coal mining projects requires considerable research, investment and planning on behalf of the proponent and takes significant time to complete. In light of this, the committee does not believe that a two month pause to conduct an independent scientific assessment of a development's impact on water resources would cause undue delay.

3.56 The committee recommends that the bill, as amended in the House of Representatives, be passed.

53 Ms Naomi Hogan, Campaign Manager, The Wilderness Society, *Proof Committee Hansard*, 7 June 2012, p. 3.

54 NELA, *Submission 15*, p. 2.

55 ANEDO, *Submission 24*, p. 2.

Recommendation 1

3.57 The committee recommends that the bill, as amended in the House of Representatives, be passed.

Senator Doug Cameron

Chair

Additional comments from the Australian Greens

The Australian Greens have long raised the serious concerns of the Australian community about the risks coal seam gas and coal mining pose to our groundwater resources, the climate, our good quality agricultural land, regional communities across Australia and our environment.

The coal seam gas and coal mining industries are rapidly expanding across Australia's rich farming regions, but scientists still don't know what the long-term and cumulative threats posed by these industries, particular to our water resources and the climate, but also more broadly to our environment and communities.

Australians worried about our land, water, climate and the Reef have been shocked by the recent rash of disasters associated with the expanding coal seam gas industry: gas bubbling up through the Condamine River riverbed close to CSG mining operations in recent weeks, contamination of the Springbok aquifer, the release of CSG polluted wastewater during the 2011 floods, a gas well blow-out and drilling fluid leak near Chinchilla, and the recent spill disaster in NSW's Pilliga Forest.

Much more needs to be done to reign in the unbridled acceleration of these fossil fuel industries.

The Australian Greens generally support this bill but it needs to be given teeth. The bill sets up an independent expert scientific panel to advise on the risks associated with coal seam gas and coal mining projects, in recognition of the fact that there are serious gaps in the science about the potential threats posed by these industries.

The Australian Greens acknowledge the significant reform that Mr Windsor has achieved by securing the Government's commitment to this bill, and recognise that this is an issue of utmost importance to his region, but which is shared by so many rural communities across eastern Australia. This bill is an improvement on the current state of affairs, where major mining developments are being considered for approval in our prime natural and agricultural areas without being underpinned by adequate science about the risks involved.

However, we are concerned that this bill creates a strange anomaly, whereby the panel is set up under the federal Environment Protection and Biodiversity Conservation Act, and provides a broad range of advice, and yet most of this advice can only be considered by state governments.

This presents two strange issues:

What happens when the states "consider" the advice provided by the expert panel, but then chooses to ignore it or brush it aside – what recourse does the federal government have if the state governments chose private profit over the well-being of our groundwater dependent communities, industries and environment? The answer appears to be none at all – unlike other issues regulated by the federal environment

act, the federal Minister will not be able to call-in a project and review the decision, because the federal Minister has very limited remit to consider water issues.

Secondly, while the federal Minister has this great expert panel, he or she will only be able to consider their advice in really quite narrow circumstances – where for example, nationally threatened species will be impacted. The federal environment minister won't be able to stop projects where the science indicates that there are broader risks to our communities, water systems and environment from these proposals, those responsibilities will remain with state governments.

Given states' track record we think it's high time the federal government stepped in to manage the major risks posed by these industries to our ground and surface water.

While the Greens wholeheartedly support steps that ensure far better science is available to inform decision-making in relation to all mining activities, we believe these reforms and the bioregional assessments that are intended to follow will result in stronger outcomes for our environment and the agricultural sector if the federal government also had legislative responsibility for protecting our surface and groundwater. It is simply not enough to rely on states agreeing to sign up to higher, nationally consistent standards for regulating these industries, and to act on the advice of a federally funded expert body, given state governments' poor track records in protecting our water to date.

To this end the Australian Greens have introduced a separate bill to protect water from CSG mining, which would add the impacts of mining on water to our environmental laws as a matter of national environmental significance. We will continue to push for the federal government to step up, and hope to secure support for this bill in the senate in the coming months.

The Australian Greens also have a number of other concerns with this bill which we will be seeking to address through amendments.

Firstly, we understand the research program of the expert panel is likely to take about five years to complete. And yet in the meantime the federal and state governments are proposing to roll ahead with assessing and approving these developments – before the science is in! This is of particular concern when it comes to CSG, where we consider the greatest risks and uncertainties lie.

The Greens will seek to amend the bill to include a five-year moratorium on CSG to give the newly created CSG advisory committee time to complete its full research program before any more CSG approvals are issued, to make sure their work can count. The government foolishly keeps issuing approvals before we have the full scientific picture before us – we need a five-year moratorium while that science is done.

Mr Bandt proposed this amendment to this bill to introduce such a moratorium in the lower house. Sadly it was not supported, with the old parties voting it down – choosing to back the big miners over the community and the environment. It is of

great concern that the old parties continue to ignore the legitimate concerns of the community and water experts like the CSIRO and National Water Commission. The Greens are not alone here: we are speaking for the many Australian communities that have spoken out so strongly against CSG - with a recent poll indicating 68 per cent of people wanting a moratorium on coal seam gas until it has been proven safe. We can but hope our colleagues in the Senate take a more reasoned approach and support this amendment.

The Australian Greens will also seek to amend the bill to ensure that all advice from the expert panel is published online at the time it is presented to the relevant receiving state/ territory or federal authority. They will also be required to publish minutes of committee meetings, which will provide the public with information about any potential conflicts of interests which must under existing law be disclosed in committee meetings. This will give the public the opportunity to scrutinise such conflicts and check whether they are being properly managed. We believe the community has a right to know what our decision-makers know about the risks posed by major coal and CSG projects, and that the expert panel's advice is free from any undue influence.

We will also propose amendments seeking to enhance the independence of the committee – both from industry and government influence, including providing that committee members have security of tenure for a minimum of three years; that they have adequate support to do their job properly; and, allowing the committee to conduct more research and investigations of their own volition, not just when directed by government.

Many Australians have significant concerns about the potential health impacts associated with having CSG and major coal mines set up in their communities. In the lower house amendments were proposed to explicitly list areas of expertise that should be represented on the committee – these included geologists and hydrologists and ecologists, but no human health experts. It is imperative that the health impacts of CSG are considered by this committee given the chemical cocktails pumped into coal seams in fracing fluids and the naturally-occurring carcinogenic BTEX that can be mobilised by fracing, which could end up in drinking water if connections between aquifers are made. We believe this is an oversight in not having health experts on the scientific panel is an oversight that needs to be corrected.

The Australian Greens have a solid track record of taking action in parliament to protect our communities and environment from coal seam gas and major coal mines.

Despite the lack of information about long-term impacts of CSG, Australian farmers still have no right to say no to CSG mining on their land. The Greens have introduced a bill to allow farmers to choose if they want to allow CSG on their property.

We have also proposed a nation-wide Senate inquiry into CSG, to get the whole picture of the true environmental, coastal, economic and social impacts of CSG across the whole country.

There are also no independent studies of the life-cycle carbon emissions of CSG, so there's no proof that this so-called transition fuel is any more climate-friendly fuel than coal. Now is not the time to be opening up yet another fossil fuel industry. That is why the Greens have been calling for independent, Australian studies into the life-cycle carbon emissions of coal seam gas, and better monitoring of fugitive emissions from leaking gas wells and pipes.

The Greens will continue to push for far better oversight and management of these industries, for the future of Australia's communities and the generations to come.

Senator Larissa Waters

Senator for Queensland

Appendix 1

Submissions and answers to questions taken on notice

Submissions

- 1** Mr Jim Leggate
- 2** Friends of Felton
- 3** National Farmers' Federation
- 4** Australian Pork Limited
- 5** Caroon Coal Action Group
- 6** Association of Mining and Exploration Companies
- 7** Australian Lot Feeders' Association
- 8** NSW Irrigators' Council
- 9** Queensland Murray-Darling Committee
- 10** Doctors for the Environment Australia Inc
- 11** Terry and Christine Stanton
- 12** Minerals Council of Australia
- 13** AGL Energy Limited
- 14** Putty Community Association CSG Subcommittee
- 15** National Environmental Law Association Limited
- 16** Wildlife Preservation Society of Queensland - Upper Dawson Branch Inc
- 17** Ms Prue Green
- 18** Basin Sustainability Alliance
Attachment 1
- 19** Queensland Government
- 20** Lock The Gate Alliance Ltd

- 21** Ms Glenda Marshall
- 22** Mrs Merle A Ross
- 23** Queensland NRM Groups Collective
- 24** Australian Network of Environmental Defender's Offices
- 25** Santos Ltd
- 26** Government of Western Australia, Department of Mines and Petroleum
- 27** Cotton Australia
- 28** APPEA
- 29** East End Mine Action Group Inc
- 30** The Wilderness Society and Northern Inland Council for the Environment
30A Supplementary Submission
- 31** Mr James Neale

Answers to questions taken on notice

The Wilderness Society and Northern Inland Council for the Environment, Answer to question on notice (received 14 June 2012)

NSW Irrigators Council, Answer to question on notice (received 15 June 2012)

Appendix 2

Public hearings

Thursday, 7 June 2012, Canberra

Doctors for the Environment Australia

Dr Peter Tait, Member

Dr Marion Carey, Member, National Management Committee

The Wilderness Society and Northern Inland Council for the Environment

Ms Carmel Flint, Spokesperson, Northern Inland Council for the Environment

Miss Naomi Hogan, Campaign Manager, The Wilderness Society

Friends of the Earth

Mr Cam Walker, National Liaison Officer

Carroona Coal Action Group

Mr Timothy Duddy, Spokesman

Basin Sustainability Alliance

Mr Ian Hayllor, Chairman

Mrs Anne Bridle, Vice-Chair

National Farmers' Federation

Ms Deborah Kerr, Manager, National Resource Management

Mr Duncan Fraser, Chair, Mining and Coal Seam Gas Taskforce

Minerals Council of Australia

Ms Melanie Stutsel, Director, Health, Safety, Environment and Community Policy

Mr Chris McCombe, Assistant Director for the Environment

NSW Irrigators' Council

Mr Andrew Gregson, Chief Executive Officer

Department of Sustainability, Environment, Water, Population and Communities

Ms Alex Rankin, First Assistant Secretary, Office of Water Science

Mr Tony Slatyer, First Assistant Secretary, Water Reform Division

Mr Malcolm Forbes, Assistant Secretary, Office of Water Science

Ms Bernadette O'Neil, Executive Officer, Office of Water Science