

# Coal Seam Gas and Large Coal Mining Development: Second assessment report

Report to the Council of Australian Governments

31 July 2013





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The Hon Kevin Rudd MP  
Prime Minister  
Parliament House  
CANBERRA ACT 2600

Dear Prime Minister

On behalf of the COAG Reform Council I am pleased to present *Coal Seam Gas and Large Coal Mining Development: Second assessment report*.

This is the COAG Reform Council's final report on the National Partnership Agreement on Coal Seam Gas (CSG) and Large Coal Mining Development. The aim of the National Partnership is to strengthen the scientific evidence and expertise available to governments when making decisions on CSG and large coal mining development.

Our report shows that protocols and necessary legislative arrangements are in place to ensure that decisions on CSG or large coal mining development proposals in Victoria, Queensland and South Australia will be informed by the advice of the Independent Expert Scientific Committee. NSW is yet to finalise its arrangements.

We hope that the findings in this report will continue to assist COAG with its reform agenda.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'John Brumby', is positioned above the printed name and title.

JOHN BRUMBY  
Chairman



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# Key findings

**The Commonwealth, Victoria, Queensland and South Australia have met their milestones and benchmarks under the National Partnership. NSW has yet to finalise a protocol for referring projects to the Independent Expert Scientific Committee.**

**Victoria, Queensland and South Australia have met the agreed milestone and benchmark**

The Victorian Government reviewed its legislation and found it to be compliant with the requirements of the National Partnership. Victoria published amended environmental guidelines on 30 September 2012.

Queensland amended both environmental legislation and guidelines before 31 March 2013.

South Australia reviewed its legislation and found it to be compliant with the National Partnership.

NSW has not amended its relevant legislation, regulations or guidelines in line with the National Partnership.

## **Summary of assessment of progress against the March 2013 milestone**

Jurisdiction	Progress status
New South Wales	Not complete
Victoria	Complete
Queensland	Complete
South Australia	Complete

## **Queensland referred a project to the Independent Expert Scientific Committee**

Queensland referred one project to the Independent Expert Scientific Committee (IESC) for advice (Kevin's Corner, which was jointly referred by the Commonwealth). The Commonwealth has also referred projects in Queensland and NSW to the IESC.

There were no CSG or large coal mining project proposals in Victoria or South Australia in the period between the publication of protocols and amendment of legislation, regulations and guidelines.

NSW has not published a protocol for referring projects to the IESC. As the benchmark commences with the publication of a protocol, we have not assessed NSW's performance against this benchmark.

### Summary of progress against the March 2013 benchmark

Jurisdiction	Progress status
New South Wales	Benchmark not assessed
Victoria	Benchmark met
Queensland	Benchmark met
South Australia	Benchmark met

### Update on milestones assessed in our first report

Victoria and Queensland published their protocols for referring projects to the IESC before the 30 September 2012 deadline.

South Australia published its protocol on 14 December 2012, and has now completed this milestone.

NSW has not yet published a protocol.

### Summary of progress against the September 2012 milestone

Jurisdiction	Progress status
New South Wales	Not complete
Victoria	Complete
Queensland	Complete
South Australia	Completed late

The Commonwealth was required to establish the IESC by 1 July 2012. While an interim committee was in place in December 2011, the IESC was formally established on 27 November 2012.

### Summary of progress against July 2012 milestone

Progress status
Completed late





## Chapter 1.

# About this report

This chapter outlines the National Partnership Agreement on Coal Seam Gas and Large Coal Mining Development and the context in which it was agreed.

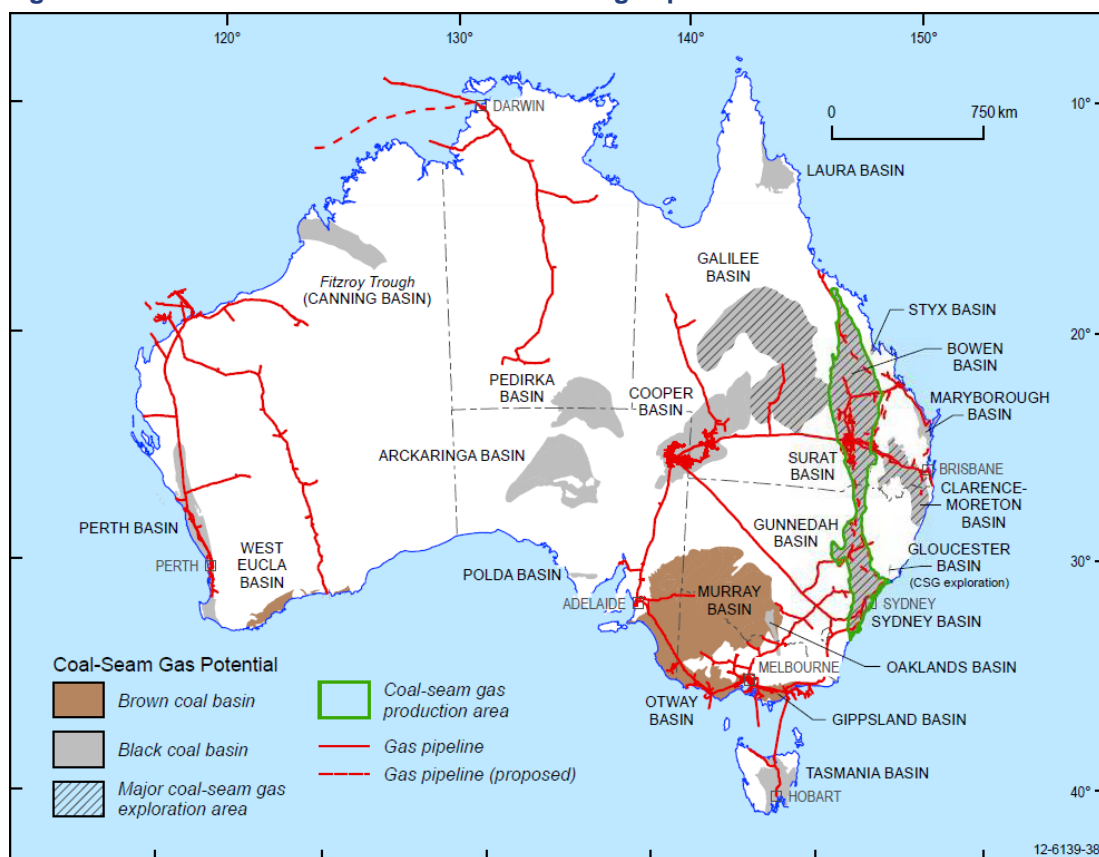
# Coal seam gas in Australia

**Coal seam gas exploration and production is a growing industry, however there are community concerns about the extraction process.**

**Coal seam gas (CSG) is valuable to Australia's economy and energy security**

Australia's CSG reserves are estimated to be 35 000 petajoules (PJ), of which 92% is located in Queensland and the remainder in New South Wales. Figure 1 shows the current CSG exploration and production areas in NSW and Queensland.

**Figure 1 Australian basins with coal seam gas potential**



Source: DRET, GA *et al.* 2012, p. 37.

Over the period 2002–03 to 2010–11, CSG production has grown from 2% to 11% of Australia's total gas production. This figure is expected to continue to grow as the three CSG to liquefied natural gas (LNG) export projects currently under construction in Queensland are completed: Queensland Curtis LNG, Gladstone LNG and Australia Pacific LNG.

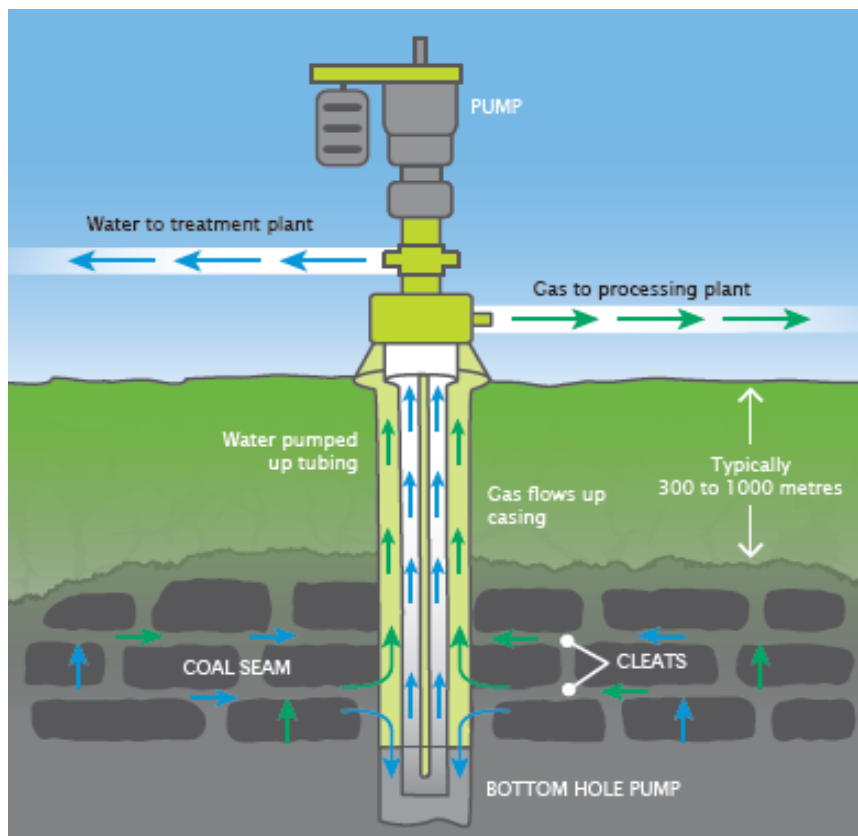
Australia's LNG export value was estimated to be \$9.6 billion in 2010 (Australian Gas Assessment 2012).

## Hydraulic fracturing ‘fracking’ process

CSG is extracted by drilling a well into a coal seam. Where the coal has low permeability, large volumes of water, sand and additives are pumped at high pressure through the well which increases the natural fractures in the coal seam. This allows the gas and water in the coal seam, as well as the injected material, to move through the fractures into and up the well. This process is known as hydraulic fracturing or fracking (Geoscience Australia n.d.). Figure 2 shows the hydraulic fracturing process.

Concerns have been raised about the effects on the groundwater and surface water resources of the extraction process and the potential for connection and cross-contamination of waste water between aquifers (National Water Commission 2012).

**Figure 2** Hydraulic fracturing process



Source: CSIRO 2012

# The National Partnership

**This National Partnership aims to ensure that government decisions on proposals to develop coal seam gas resources are underpinned by strong scientific advice.**

**Our report assesses whether the milestones and benchmark agreed under this National Partnership have been met**

The National Partnership Agreement on Coal Seam Gas and Large Coal Mining Development (the National Partnership) is an agreement between the Commonwealth, NSW, Victorian, Queensland and South Australian governments.

## **Box 1 Objective and outcomes of the National Partnership**

The objective of the National Partnership is to strengthen the regulation of CSG and large coal mining development by ensuring that future decisions are informed by substantially improved science and independent expert advice.

This Agreement will facilitate the following outcomes:

- increased evidence supports strategic and regional scale management of CSG and large coal mining developments and their impact on water resources
- strengthened scientific evidence and independent expertise informs regulatory decisions on CSG and coal mining developments that are likely to have a significant impact on water resources
- well informed communities have greater confidence in Commonwealth and State regulation of CSG and large coal mining development.

Source: COAG 2012, cl. 10–11.

## **Milestones and benchmarks in the National Partnership**

Under the National Partnership, the Commonwealth agreed to establish the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC). The IESC provides independent, expert scientific advice on the potential water related impacts of coal seam gas and large coal mining development proposals referred to it by Commonwealth, State and Territory regulators.

States agreed to amend their relevant laws, regulations and guidelines so that:

- 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
- decision makers on applications take account of the IESC's advice in a transparent manner.

Box 2 describes the milestones and benchmark agreed by the Commonwealth and participating States under the National Partnership.

**Box 2      Performance milestones and benchmark****Assessed in this report***2013 milestone: States*

By 30 March 2013 the States will amend relevant legislation, regulations and guidelines so that CSG or large coal mining project proposals that are likely to have a significant impact on water resources are referred to the IESC for advice.

*2013 benchmark: States*

During the period between the publication of protocols and the amendment of laws, regulations and guidelines, the States refer all project applications for CSG or coal mining developments that are likely to have a significant impact on water resources to the IESC.

**Assessed previously***2012 milestone 2012: Commonwealth*

By 1 July 2012 the Commonwealth will establish the IESC.

*2012 milestone: States*

By 30 September 2012 each State will publish a protocol that describes how they will decide which project applications should be referred to the IESC for advice.

Source: COAG 2012, cl. 18–19.

**Our role**

In this report, we assess the progress made by governments to achieve the 2013 milestone and benchmark. We also re-examine the outstanding or incomplete 2012 milestones.

Under the National Partnership, the States are eligible for ‘in-arrears project payments’ for meeting the milestones and benchmark. We do not make recommendations on whether payments are to be made under the National Partnership.

This is our final assessment report for this National Partnership. As there are no further milestones, we have not assessed risk. Box 3 explains how we show progress in the assessment tables.

**Box 3      Explanation of the milestone progress status**

The progress status and risk status tables use a green–amber–red colour scheme.



Progress is rated **green** if, in the council’s assessment, a milestone has been fully or largely completed on time.



Progress is rated **amber** if, in the council’s assessment, a milestone has been only partially completed or completed late, but within the reporting period.



Progress is rated **red** if, in the council’s assessment, a milestone has not been completed.



## Chapter 2.

# Assessment of progress

This chapter reports the council's assessment of participating governments' progress against the milestones and benchmark agreed in the National Partnership.

# Commonwealth: 2012 milestone now achieved

**The Commonwealth has now achieved its milestone of establishing the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development.**

## **Progress since the council's previous report**

The Commonwealth was required to establish the Independent Expert Scientific Committee (IESC) by 1 July 2012. As described in our first report against the National Partnership, an interim committee was in place in December 2011. In our first report, we found that the Commonwealth milestone to establish the IESC had not been fully completed by the agreed deadline.

However, the IESC was formally established on 27 November 2012, following the proclamation of amendments to the *Environmental Protection and Biodiversity Conservation Act 1999* [Cwth] (EPBC Act) on 9 November 2012 (Box 4 sets out the members of the IESC).

The Commonwealth has subsequently introduced amendments to the EPBC Act [Cwth]. These amendments identify water resources in relation to CSG and large coal mining proposals, as being a 'matter of national environmental significance'. This means that all CSG and large coal mining development proposals that are likely to have a significant impact on a water resource, will be assessed and approved by the Commonwealth Minister for the Environment. As part of the Commonwealth approval process, the Minister must also obtain and consider the advice of the IESC.

## **The council's finding on the Commonwealth's milestone**

Progress status
Completed late



**Box 4 IESC members****Ms Lisa Corbyn (Chair)**

Ms Corbyn is the chair of the Committee and was CEO of the NSW Office of Environment and Heritage, Director General of the NSW Environment Protection Authority and Department of Environment, Climate Change and Water from 2000 to 2012. Ms Corbyn holds a Masters Degree in Public Administration—Natural Resource Management from the University of Washington in the USA, and undertook a fellowship at Princeton University focusing on environmental economics.

**Professor Craig Simmons**

Professor Simmons is a Professor of Hydrogeology at Flinders University and Director of the National Centre for Groundwater Research and Training. He is a leading international authority in hydrogeology and is considered one of Australia's foremost groundwater academics. Professor Simmons has been a significant contributor to global advances in the science of hydrogeology for many years.

**Emeritus Professor Angela Arthington**

Professor Arthington is a leading authority on the ecology of Australian rivers, including the ecology of endangered and alien species, and the ecological roles of environmental water flows. Her research and consulting work spans tropical, sub-tropical and arid-zone river systems in Australia, South East Asia and South Africa. She is an aquatic ecologist in the Australian Rivers Institute at Griffith University, a member of the Commonwealth Environmental Water Scientific Advisory Panel, and serves on the Lake Eyre Basin Scientific Advisory Panel.

**Ms Jane Coram**

Ms Coram leads the Groundwater Group at Geoscience Australia and has expertise in the development of multidisciplinary, regional assessments of the role of groundwater processes in groundwater-surface water dynamics, dryland salinity and groundwater sustainability.

**Emeritus Professor Peter Flood**

Professor Flood is a geologist with 44 years experience in basin studies, including within the highly relevant Gunnedah, Bowen and Surat Basins where he studied the impacts of mining and coal seam gas extraction on water resources.

**Dr Andrew Johnson**

Dr Andrew Johnson is a natural resource scientist and a senior CSIRO executive with responsibilities for leading the organisation's water, land, climate, marine, biodiversity, urban sustainability and regional development research.

**Professor Dayanthi Nugegoda**

Professor Nugegoda is an expert in environmental toxicology and ecosystem health. She heads the Ecotoxicology and Environmental Biology research team at RMIT University in Melbourne, is a research leader at the Victorian Centre for Aquatic Pollution Identification and Management, and is the current President of the Society of Environmental Toxicology and Chemistry Australasia.

**Mr Jim McDonald**

Mr McDonald has extensive experience in natural resource management and has served in senior board positions, most relevantly and recently as the former Chair of the Namoi Catchment Management Authority and member of the Namoi Groundwater Ministerial Taskforce and the New South Wales Groundwater Adjustment Advisory Committee.

Source: IESC n.d.

# New South Wales: referral process not in place

**New South Wales has not published its protocol for referring projects to the IESC and has not amended its legislation, regulations or guidelines.**

## Summary of progress assessment

Milestone or benchmark	Progress status
2013 milestone	Not complete
2013 benchmark	Benchmark not assessed
2012 milestone (previously assessed)	Not complete

### 2013 milestone: amendments to relevant legislation, regulations and guidelines

NSW has not yet amended the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) Act 2007* [NSW] to provide for CSG and large coal mining project proposals to be referred to the IESC for advice. Draft amendments to the Act were made publicly available between 15 November and 14 December 2012.

### 2013 benchmark: referral of projects to the IESC

NSW has not published a protocol for referring projects to the IESC. As the benchmark commences with the publication of a protocol, we have not assessed NSW's performance against this benchmark.

### Previously assessed 2012 milestone: publication of IESC referral protocol

NSW has not yet completed this milestone. At 30 April 2013, NSW was still negotiating with the Commonwealth on its draft protocol.

# Victoria: all milestones and benchmark met

**Victoria's environmental guidelines were amended to support the commitments made under the National Partnership Agreement. The new guidelines came into effect on 30 September 2012.**

Milestone or benchmark	Progress status
2013 milestone	Complete
2013 benchmark	Benchmark met
2012 milestone (previously assessed)	Complete

## **2013 milestone: amendments to relevant legislation, regulations and guidelines**

The Victorian Government reviewed its legislation and found it to be compliant with the requirements of the National Partnership. Victoria published amended environmental guidelines on 30 September 2012.

The guidelines now require that any project proposal to extract coal seam gas, develop a new coal mine or expand an existing approved area for coal mining be referred to the Minister for Planning. The Minister will then make a decision on the need for an Environmental Effects Statement (EES). These guidelines apply to projects that could significantly affect the beneficial uses of water resources.

The guidelines stipulate that technical advice will be sought from the IESC on the environmental management measures relating to direct and indirect effects on water resources of these projects.

When making a decision on the project proposal, the guidelines also require the Minister to consider the IESC's advice and provide 'reasons for relevant findings and recommendations in his/her assessment in the context of the IESC's advice.' The guidelines also require that decisions on referrals are to be published on the Department of Planning and Community Development's website.

## **2013 benchmark: referral of projects to the IESC**

There were no CSG or large coal mining project proposals in Victoria in the period between the publication of the protocol and amendment of legislation, regulations and guidelines.

From August 2012, new CSG exploration approvals and hydraulic fracturing approvals have been suspended by the Victorian Government.

## **Previously assessed 2012 milestone: publication of IESC referral protocol**

As discussed in our last report, Victoria published its protocols for referring projects to the IESC on 30 September 2012.

# Queensland: all milestones and benchmark met

**Queensland's amendments to its environmental legislation came into effect on 31 March 2013.**

Milestone or benchmark	Progress status
2013 milestone	Complete
2013 benchmark	Benchmark met
2012 milestone (previously assessed)	Complete

## **2013 milestone: amendments to relevant legislation, regulations and guidelines**

The Queensland Government requires an environmental authority for any CSG or large coal mining projects in the State. In order to secure an environmental authority, a project must undergo an Environmental Impact Statement (EIS) process under the *Environmental Protection Act 1994* [Qld] and the *State Development and Public Works Organisation Act 1971* [Qld].

The EIS standard terms of reference which must be addressed under both Acts have been amended to require assessment of significant impacts on water resources. Under Queensland's protocol published on 28 September 2012, any proposals likely to cause a significant impact on water resources must be referred to the IESC for advice.

The Queensland Government amended the *Environmental Protection Act 1994* [Qld] to require the final decision on the approval of a CSG or large coal mining project to 'consider protection of the environmental values of waters (including groundwater and any associated surface ecological systems.' These amendments came into effect on 31 March 2013. The approval decision must take account of the EIS and any submissions to the EIS, including the IESC advice. The decision and assessment report are made publicly available.

## **2013 benchmark: referral of projects to the IESC**

In the period between the commencement of the legislative amendments and the publication of Queensland's protocol (on 28 September 2012), the Queensland Government referred the Kevin's Corner (Hancock Prospecting Pty Ltd) project to the IESC for advice (20 December 2012).

## **Previously assessed 2012 milestone: publication of IESC referral protocol**

As discussed in our previous report, Queensland published its protocols for referring projects to the IESC on 28 September 2012.

# South Australia: all milestones and benchmark met

**South Australia reviewed its laws and regulations and found them to be in compliance with the National Partnership.**

Milestone or benchmark	Progress status
2013 milestone	Complete
2013 benchmark	Benchmark met
2012 milestone (previously assessed)	Completed late

## **2013 milestone: amendments to relevant legislation, regulations and guidelines**

The South Australian Government reviewed its relevant legislation, regulations and guidelines for their consistency with the National Partnership. The review found that no amendments were required to the following instruments:

- *Petroleum and Geothermal Energy Act 2000* [SA] and its associated regulations
- *Mining Act 1971* [SA] and its associated regulations
- *Development Act 1993* [SA] and its associated regulations
- South Australian Protocol for the Referral of Project Applications to the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Developments.

The Protocol requires IESC advice to be considered by the Minister when making planning decisions and preparing the assessment report. Environmental assessments and decisions are available online.

## **2013 benchmark: referral of projects to the IESC**

There were no proposals for CSG or large coal mining developments in South Australia between the publication of the protocol and the finalisation of the review.

## **Previously assessed 2012 milestone: publication of IESC referral protocol**

Although the South Australian protocol for project referral commenced on 24 September 2012, it was not published as at 30 October 2012. The protocol was published on 14 December 2012 and is available at [www.waterconnect.sa.gov.au](http://www.waterconnect.sa.gov.au).



# Appendix A

## Our method

**Our report assesses whether the milestones and benchmark agreed to by the Commonwealth and the States under this National Partnership Agreement have been met. We also look at the outstanding or incomplete milestones from our last report.**

This is the council's second and final assessment report for this National Partnership.

Under the National Partnership, the States are eligible for 'in-arrears project payments' for meeting the milestones and benchmark. We do not make recommendations on whether payments are to be made under the National Partnership.

Box 5 describes the milestones and benchmark agreed by the Commonwealth and participating States under the *National Partnership Agreement on Coal Seam Gas and Large Coal Minister Development*.

### Box 5 Performance milestones and benchmark

#### Commonwealth milestone

By 1 July 2012 the Commonwealth will establish the IESC.

#### State milestones

By 30 September 2012 each State will publish a protocol that describes how they will decide which project applications should be referred to the IESC for advice in accordance with the terms of this Agreement.

By 31 March 2013 the States will amend relevant legislation, regulations and guidelines in accordance with clause 15 (role of the States).

#### State benchmark

During the period between the publication of protocols under clause 18(b) and the amendment of laws, regulations and guidelines under clause 15(b), the States refer all project applications for CSG or coal mining developments that are likely to have a significant impact on water resources to the IESC for advice.

Source: COAG 2012, cl. 18–19.

### The council's role is to independently assess performance against the milestones and benchmark

Our role is to independently assess the degree to which the Commonwealth and participating States have met agreed milestones and the benchmark (COAG 2012, cl. 22).

Our performance assessments draw on a range of inputs, including:

- independent research on the relevant activities of governments, based on publicly available information
- detailed progress reports and formal comments provided by governments
- additional information we request from governments to assist the assessment process (such information is treated as an addendum to government progress reports).

For this report, we assess the progress governments have made in achieving their milestones up to the date they reported on progress (1 April 2013). Progress since 1 April 2013 is included in an update on project advice published with this report.



# Appendix B

## The Independent Expert Scientific Committee

As of 1 April 2013, fifteen coal seam gas or large mining projects had been referred to IESC.

Project application	Regulator requesting advice	Date of referral	IESC advice
<b>Projects located in New South Wales</b>			
Boggabri Coal Mine Extension	Commonwealth	29 November 2012	20 December 2012
Aston Coal 2 Pty Ltd Leard Forest Road, Gunnedah Coal Basin, Maules Creek Coal Project	Commonwealth	29 November 2012	20 December 2012
Tarrawonga Coal Pty Ltd, open cut mine expansion	Commonwealth	29 November 2012	20 December 2012
Gloucester Coal Seam Gas Project	Commonwealth	3 December 2012	20 December 2012
Moolarben Coal Mines Pty Ltd/Ulan, Open Cut Mine Two Underground Mines - Moolarben Stage 2	Commonwealth	5 December 2012	7 February 2013
Drayton South Coal Mine	Commonwealth	13 December 2012	7 February 2013
Mt Penny Coal Project	Commonwealth	13 December 2012	7 February 2013
North Expansion of Camden Gas Project	Commonwealth	17 December 2012	7 February 2013
Stratford Coal Mine Extension Project	Commonwealth	18 January 2013	26 February 2013

Project application	Regulator requesting advice	Date of referral	IESC advice
<b>Projects located in Queensland</b>			
Drake Coal Pty Ltd Open Cut Coal Mine	Commonwealth	29 November 2012	21 December 2012
Newlands Coal Extension Project, Bowen Basin	Commonwealth	30 November 2012	21 December 2012
Sonoma Coal Mine Expansion, Coral Creek Diversion	Commonwealth	3 December 2012	20 December 2012
Kevin's Corner Coal Mine Project	Commonwealth and Queensland	20 December 2012	7 February 2013
Arrow Surat Gas Project - Expansion	Commonwealth	14 January 2013	26 February 2013
Bowen Gas Project	Commonwealth	28 March 2013	30 May 2013

*Note:* Information on projects referred to the IESC after the reporting period can be found at <http://www.environment.gov.au/coal-seam-gas-mining/proposal-advice.html#advice>

*Source:* IESC 2013

# Appendix C

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# About the COAG Reform Council

The Council of Australian Governments (COAG) established the COAG Reform Council as part of the arrangements for federal financial relations to assist COAG to drive its reform agenda. Independent of individual governments, we report directly to COAG on reforms of national significance that require cooperative action by Australian governments.

Our mission is to assist COAG to drive its reform agenda by strengthening the public accountability of governments through independent and evidence-based assessment and performance reporting.

## COAG Reform Council members

The Hon John Brumby (Chairman)

Professor Greg Craven (Deputy Chairman)

Ms Patricia Faulkner AO

Mr John Langoulant AO

Ms Sue Middleton

Ms Mary Ann O'Loughlin AM (Executive Councillor and Head of Secretariat)

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