



Australian Government
Department of the Environment

Department of the Environment

Submission

Independent Review of the National Partnership
Agreement on Coal Seam Gas and Large Coal Mining
Development



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EXECUTIVE SUMMARY

The overarching objective of the National Partnership Agreement on Coal Seam Gas and Large Coal Mining Development was to strengthen the regulation of coal seam gas and large coal mining development by ensuring that future decisions are informed by substantially improved science and independent expert advice. To achieve this objective, the National Partnership Agreement provided for the following outcomes:

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

This submission demonstrates how actions taken by the Commonwealth, in collaboration with the signatory states to the National Partnership Agreement, are contributing to the achievements of these outcomes.

Strategic and regional scale management

Bioregional assessments, funded by the Commonwealth, are assessing the potential impacts of coal seam gas and large coal mining development on water resources in six bioregions across Queensland, New South Wales, Victoria and South Australia in areas with significant coal resource deposits and development pressure. The bioregional assessments are one of the mechanisms to assist the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC) in developing its advice. They will also be key tools for decision makers in government and industry to utilise in the strategic and regional scale management of coal seam gas and large coal mining developments in relation to their impacts on water resources.

Products from the bioregional assessments are being made available to the public as they are finalised, meaning an ever increasing suite of information is available to decision makers, the IESC and other interested parties. The majority of contextual information and modelling products developed in the first two phases of the bioregional assessments for the Lake Eyre Basin, Northern Inland Catchments, Clarence-Moreton, Northern Sydney Basin bioregions are expected to be released by the end of 2015. All bioregional assessments will be finalised in 2016.

A new interactive web portal is also being developed that will provide open access to the data and processes used for the Bioregional Assessment Programme, as well as results. The portal will provide searchable and downloadable databases of documents and datasets, including related metadata and provenance information. This is expected to be available in late 2015.

Scientific evidence and independent expertise

More than 16 scientific reports and four fact sheets, funded by the Commonwealth, have been published. These strengthen our understanding of how coal seam gas and coal mining developments might impact on water resources and water dependent assets, such as springs and peat swamps. Research is also underway in other areas, for example, to assess the

environmental and health risks associated with chemicals used to extract coal seam gas. There is good evidence that these scientific reports and products from the bioregional assessments are directly informing regulatory decisions, including through the advice the IESC provides to regulators.

The IESC, and the interim IESC before it, has been providing independent, expert advice to government decision makers for over three years. Seventy-eight pieces of advice have been provided on coal seam gas and coal mining development proposals. Advice from government regulators indicates that this advice has been taken into account in all assessment and approval decisions. Feedback from government regulators suggests that the IESC's advice has been pivotal in identifying areas where further information or research is needed, and in setting project conditions.

Informed communities

To help achieve well informed communities that have greater confidence in the regulation of these developments, the advice provided by the IESC is made available to the public, and since July 2014, before decisions on proposed projects are made, ensuring access by all interested parties. The IESC plays an important role in building community confidence in the scientific evidence which informs regulatory decisions, which it does through its dedicated website. In addition, all information and products from the Bioregional Assessment and Research Programmes are publicly available.

The Department continues to engage with government, the mining industry, natural resource management bodies, the agriculture sector, scientists, researchers, environment groups and other interested parties. This is done through a range of activities including high level meetings, workshops and seminars. The Department acknowledges that further work is required to ensure that more in the community are made aware of the products and scientific evidence prepared and made available by the Commonwealth. This broader awareness will build a wider and better understanding of, and confidence in, the coal seam gas and coal mining development regulatory framework.

INTRODUCTION

The National Partnership Agreement on Coal Seam Gas and Large Coal Mining Development (the NPA) was entered into in 2012 between the Commonwealth of Australia and Queensland, New South Wales, Victoria and South Australia (the Parties). The NPA was in effect to 30 June 2014. The legislative and regulatory arrangements put in place under the NPA are intended to ensure that the objectives of the NPA continue to be met.

The NPA requires the Parties to commission and publish an independent review of the operation and achievements of the NPA. The Department of the Environment welcomes the opportunity to provide this submission to the review.

The first three chapters of this submission are structured around the actions taken by the Department, in particular the Office of Water Science, to achieve:

- The objectives, outcomes and outputs of the NPA (clauses 10–12 of the NPA);
- The roles and responsibilities of the Commonwealth under the NPA (clauses 14, 16–17); and
- The performance milestones, benchmark and reporting requirements under the NPA (clauses 18–22).

The fourth chapter of this submission was prepared by the Commonwealth environment regulator, the Environment Assessment and Compliance Division of the Department of the Environment. The Commonwealth regulator is responsible for regulating actions referred under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act), including coal seam gas and large coal mining developments that are likely to have a significant impact on a water resource.

CHAPTER 1: ACHIEVING THE OBJECTIVE, OUTCOMES AND OUTPUTS OF THE NATIONAL PARTNERSHIP AGREEMENT

To realise the objective, outcomes and outputs of the NPA (clauses 10–12 of the NPA), the Commonwealth provided up to \$150 million to establish the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (the IESC) and to fund the Bioregional Assessment Programme and Research Programme.

The Office of Water Science was established within the Department of the Environment, to lead on the delivery of the Commonwealth’s actions as set out in the NPA. The core functions of the Office of Water Science are to maintain and provide secretariat and technical support to the IESC and manage the Bioregional Assessment and Research Programmes.

Further detail on the establishment and operation of the IESC, the Bioregional Assessment Programme and the Research Programme, and how they have facilitated the achievement of the stated objective, outcomes and outputs of the NPA, is provided below.

Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development

The Australian Government established the Interim Independent Expert Scientific Committee on Coal Seam Gas and Coal Mining (the iIESC) in January 2012 pending the formal establishment of the statutory committee. The statutory IESC was established in November 2012. Throughout this submission, unless specified otherwise, reference to the IESC generally applies to both the interim and statutory committees.

The Commonwealth continues to fund and support the IESC. The Office of Water Science provides the IESC with a full range of secretariat support services. In addition, the Office of Water Science’s dedicated Project Advice Team provides ongoing technical support to the IESC in its consideration of requests for advice from Australian government regulators on coal seam gas and large coal mining development proposals (refer Table 1).

Members of the IESC are appointed on the basis of their strong scientific qualifications and expertise in the areas of geology, hydrology, hydrogeology, ecology, natural resource management and environment protection. The IESC’s key functions are to provide advice on development proposals, bioregional assessments and research, and to publish and disseminate scientific information about the impacts of coal seam gas and large coal mining development on water resources.

Table 1. Roles of the Office of Water Science and the IESC with respect to advice on development proposals.

Office of Water Science	IESC
<ul style="list-style-type: none"> • Liaise with regulators on requests for advice • Check requests for advice for adequacy • Prepare supporting analysis for IESC • Present key potential impacts to IESC 	<ul style="list-style-type: none"> • Review request for advice • Review project assessment documentation • Review OWS supporting analysis • Provide advice to Australian government regulators

In carrying out its functions, as set out in Section 505D of the EPBC Act, the IESC has contributed to strengthening the science underpinning regulatory decisions on coal seam gas and large coal mining development by:

- providing expert scientific advice on 78 requests from the Commonwealth, New South Wales, Queensland and South Australian government regulators on coal seam gas and large coal mining development proposals (refer Box 1);
- publishing Information Guidelines for use by regulators and proponents that outline the information needed to enable the IESC to provide robust scientific advice to government regulators;
- providing advice on the scope and method of bioregional assessments, including assisting with the development of, and endorsing, the methodology for the bioregional assessments;
- providing advice to the Commonwealth Environment Minister on research priorities, including following consultation;
- providing advice on research projects and products including endorsing six background reviews and ten other research products for publication, and publishing itself five fact sheets on key scientific issues;
- providing scientific advice to the Commonwealth Environment Minister on the implementation of the *Environment Protection and Biodiversity Conservation Amendment Act 2013* that established the protection of water resources from coal seam gas and large coal mining developments as a matter of national environmental significance (the water trigger); and
- providing scientific advice to the Commonwealth regulator on the Department of the Environment's Significant Impact Guidelines for the water trigger.

The IESC also has a role to build public confidence in the scientific evidence which informs regulatory decisions on coal seam gas and large coal mining development. The IESC aims to increase awareness of its scientific advice, inform scientific dialogue on research, and inform public dialogue on the potential impacts of coal seam gas and large coal mining developments on water resources. The IESC's website plays a key role in communicating and disseminating information.

To help achieve well informed communities that have greater confidence in the regulation of coal seam gas and large coal mining developments, the IESC makes all its advice publicly available within 10 business days of providing it to the regulator. This ensures a high level of transparency and early access to all interested parties at the same time, as the advice is made publicly available before decisions on development proposals are made.

Box 1. Summary of development proposals considered by the IESC

- 78 requests from Australian government regulators made up as:
 - 54 requests from the Commonwealth regulator
 - 14 joint requests from the Commonwealth and Queensland government regulators
 - four joint requests from the Commonwealth and New South Wales government regulators
 - two requests from the Queensland government regulator
 - three requests from the New South Wales government regulator
 - one from the South Australian government regulator.
- 64 requests related to large coal mining development proposals and 14 related to coal seam gas proposals.
- 42 requests were for development proposals in Queensland, 33 in New South Wales, two in Western Australia and one in South Australia
- The expected production of the proposed coal mining developments ranged from one million to 60 million tonnes per year.
- The proposed coal seam gas developments have ranged from 60 to 6,600 wells and have covered development areas of up to 8,000 km².

Requests for advice to the IESC have most often been sought in relation to large coal mine developments, and is relatively evenly divided between new (*greenfield*) proposals and existing (*brownfield*) project expansions (Figure 1).

The IESC's advice has been sought in relation to proposals located in a variety of locations, many of which are subject to extensive development pressures, and most frequently in the Bowen Basin in Queensland (Figure 2).

Both the Office of Water Science and the IESC have sought direct feedback from regulators on the usefulness of IESC's advice. The Commonwealth regulator in its feedback (refer Chapter 4) noted that the IESC's advice has been pivotal in identifying where there is insufficient information to determine the water-related impacts and where additional modelling or research needs to be undertaken. Further, that the IESC's advice has been crucial in setting project conditions and have provided several project specific examples of where this has occurred. It noted the potential for the Bioregional Assessment Programme to support the work of strategic (landscape scale) assessments being undertaken in accordance with Part 10 of the EPBC Act. It further noted the usefulness of the Temperate Highland Peat Swamps on Sandstone Ecological Community research in understanding the impacts, monitoring and evaluation techniques specific to mining under EPBC listed peat swamp communities, and for drafting specific conditions to manage potential impacts to these ecological communities.

There is good evidence that the IESC’s Information Guidelines have been adopted by both proponents and regulators. For example, the Guidelines have been used as the basis for draft standard water assessment requirements in New South Wales. Many requests for advice to the IESC have project assessment documentation which is either structured in accordance with the Guidelines, or which includes cross-reference tables to link relevant sections of the proponent’s assessment documentation with the Information Guidelines checklist.

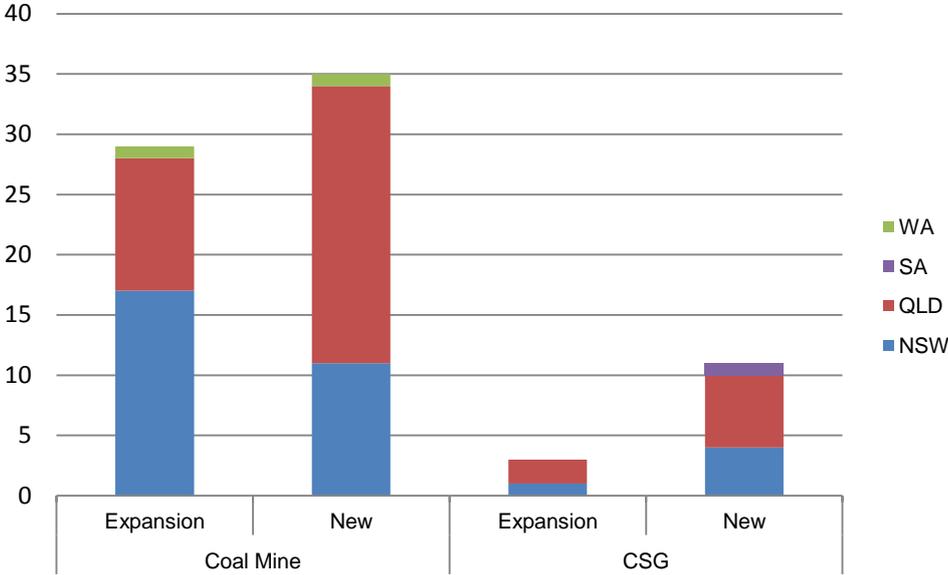


Figure 1. Comparison of the number of requests for advice from the IESC, by development type.

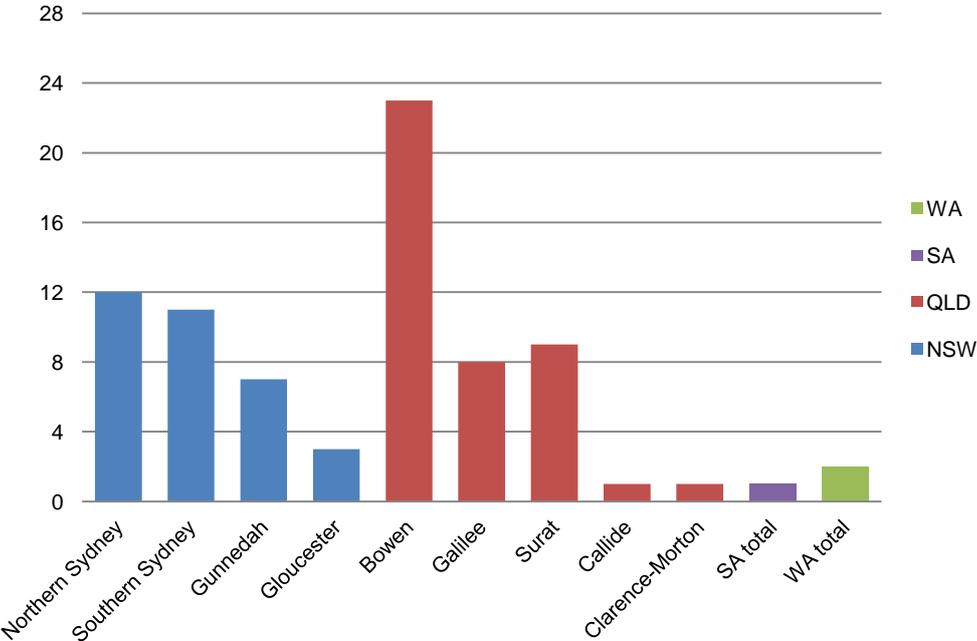


Figure 2. Comparison of the number of requests for advice from the IESC, by basin.

Bioregional Assessment Programme

Bioregional assessments are developing detailed, multi-layered records of the ecology, hydrology, geology and hydrogeology in particular geographic regions. They will provide decision makers in government and industry, as well as the community, with baseline information and an assessment of the potential cumulative impacts of coal seam gas and large coal mining developments on water-related assets at a regional scale.

Bioregional assessments are being delivered through a collaboration between the Department of the Environment, the Bureau of Meteorology (BoM), CSIRO and Geoscience Australia (partner agencies), with expertise in state governments and natural resource management organisations also being drawn upon (refer Box 2).

It is anticipated that a legacy of the Programme will be a globally significant assessment framework that could be applied to the monitoring, reporting and management of development pressures on environmental assets across Australia.

Assessments are being undertaken across Queensland, New South Wales, Victoria, and South Australia in bioregions where there is prospective coal seam gas and coal mining development, namely in the following areas (Figure 3):

- Galilee, Cooper, Pedirka and Arckaringa subregions, within the Lake Eyre Basin bioregion
- Maranoa-Balonne-Condamine, Gwydir, Namoi and Central West subregions, within the Northern Inland Catchments bioregion
- Clarence-Moreton bioregion
- Hunter and Gloucester subregions, within the Northern Sydney Basin bioregion
- Sydney Basin bioregion
- Gippsland Basin bioregion.

Up to 13 technical reports are being developed for each subregion, across the contextual information, model-data analysis, impact analysis and risk analysis components of an assessment. To ensure decision makers and others have access to the best available science as soon as possible, these are released as they are finalised. Products already available include a seven context statements (summaries of the current extent of knowledge about relevant characteristics of a given subregion or bioregion), seven resource assessments (summaries of what is known about coal and coal seam gas resource developments now and potentially in the future), and an asset register (a register that broadly describes and lists the water-dependent assets identified in a given bioregional assessment). The Programme's website provides open access to these products as well as information about each of the work areas.

In addition, an on-line Information Platform is being developed to provide consistent and transparent access to information generated from bioregional assessments. The Information Platform is expected to comprise a library of data and information, products, reports and data, and location-specific information.

Governance and budget

A National Collaboration Framework Collaborative Head Agreement and Project Agreement for the Bioregional Assessment Programme describe the operational and governance arrangements for the Programme.

The Programme's chief governance body, the Bioregional Assessment Programme Implementation Board, oversees the delivery of the Programme in accordance with the terms of the Collaborative Head Agreement and Project Agreement. The Board comprises senior executives from each of the partner agencies.

A Science Leadership Group has responsibility for documenting key science decisions for the technical programme and ensuring these are communicated to the Programme Leadership Group and Project Teams. Both the Project and the Science Leadership Groups comprise senior executives with relevant expertise from each of the partner agencies.

In addition to staffing costs for the Office of Water Science Project Team, approximately \$85 million is available for bioregional assessment activities. Included within this total is funding of around \$13 million that was provided for natural resource management organisations across Queensland, New South Wales, Victoria, and South Australia to identify water-dependent assets in their region.

Technical quality assurance

A Technical Assurance Reference Group is chaired by the Office of Water Science's Principal Science Advisor with representation from the Queensland, New South Wales, Victorian, and South Australian governments. Additional expertise is drawn on as required. All technical products developed by the Programme are reviewed by the Technical Assurance Reference Group prior to their release. Internal quality assurance processes are also undertaken within the partner agencies.

Methodology

The *Methodology for bioregional assessments of the impact of coal seam gas and coal mining development on water resources* guides the process of undertaking bioregional assessments. The methodology was nationally and internationally peer reviewed, endorsed by the IESC and published in 2013. Submethodologies are being developed to supplement the key approaches outlined in the methodology; these will be published as they are finalised.

Stakeholder engagement

Stakeholder engagement activities have been undertaken with peak bodies, industry, state and local government, community representatives, local land services, catchment management authorities and natural resource management groups. An engagement process is underway with Indigenous communities across the subregions.

Local level technical expertise, including that within natural resource management organisations, industry and state and local governments, is being sought through workshops at key stages throughout the assessments. The workshops discuss key deliverables from the assessments for each subregion, including the asset register, the coal and coal seam gas resource development pathway, the conceptual model, and impact and risk analysis.

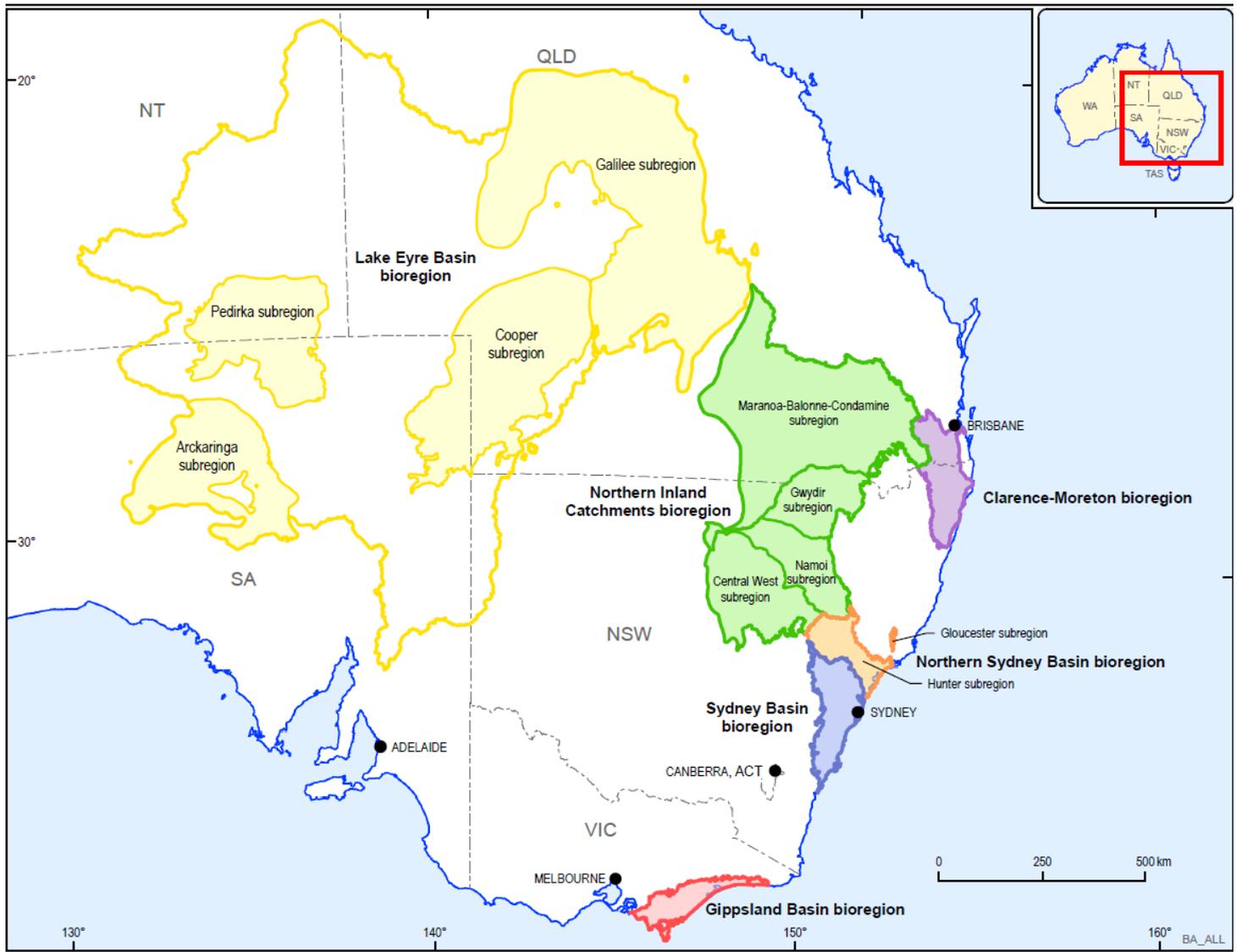


Figure 3. Bioregional assessment areas.

**Box 2. Bioregional Assessments Programme
Achievements Summary to December 2014**

- The Programme's website went live in June 2014 providing a single point through which to access products and information.
- Products from bioregional assessments are being released as they are finalised over the life of the Programme, providing an increasing source of accessible information to all interested parties.
- To date Context Statements for the Namoi, Gloucester, Galilee, Maranoa-Balonne-Condamine, Central West and Gwydir subregions and the Clarence-Moreton bioregion have been released. Context Statements summarise what is known about the geography, geology, hydrogeology, hydrology and ecology in each subregion.
- Coal and Coal Seam Gas Resource Assessments have been released for the Namoi, Galilee, Gloucester, Gwydir, Central West and Maranoa-Balonne-Condamine subregions. Resource Assessments summarise what is known about coal and coal seam gas resources and developments in each subregion both now and potentially in the future.
- Funding of approximately \$13 million allowed 39 natural resource management groups to develop water asset databases which have been completed. These are being used in compiling water-dependent asset registers for each subregion; the data bases also provide an invaluable new resource to NRM managers.
- The Office of Water Science is working with the NSW Office of Water through their Aboriginal Water Initiative and Corporate Culcha – an Indigenous owned organisation – to collate Indigenous water values that will be incorporated into bioregional assessments. This work is due for completion by June 2015.
- Over 700 bioregional assessment data sets, including metadata, have been gathered; quality assured and made available to the research partners to underpin analysis, prior to being made public on the information platform.
- Strong engagement with state governments is reflected through research projects with South Australia, Victoria and Queensland government agencies to provide input to bioregional assessments. These projects are progressing well with the first products from the South Australian projects nearing completion.
- To date, technical workshops have been used as a mechanism to engage local, regional and state experts in the assessment of critical issues, such developing asset registers and coal and coal seam gas resource development pathways—the most likely combination of developments for a given region—in the Gloucester, Galilee, Clarence-Moreton, Gippsland and Namoi subregions. Similar expert engagement has occurred through technical workshops to discuss resource development pathways for the Gloucester, Clarence-Moreton and Galilee subregions. Such workshops will continue throughout the life of the Programme.

Research Programme

The Office of Water Science manages a research portfolio which aims to strengthen the science underpinning regulatory decisions, including by informing the advice the IESC provides to regulators. The Research Programme focuses on areas of high risk and where there are identified knowledge gaps, and aims to address issues of national significance within the next three years.

Research projects are grouped under four priority themes relating to the potential impacts on water resources from coal seam gas and large coal mining developments:

- Hydrology—better understanding and modelling of alterations to groundwater and surface water characteristics and processes.
- Ecosystems and water—strengthening knowledge of potential impacts on key species and ecosystems, as well as methods for monitoring and mitigating these impacts.
- Chemicals—chemical and ecotoxicological investigations including the potential cross-contamination of drinking water and other water resources.
- Cumulative impacts—assessing the potential impacts from individual coal seam gas or coal mining developments in conjunction with the impacts from other existing and likely developments in the region.

These four themes were informed by advice from the IESC and identified following consultation with NPA Parties and other Australian and state government agencies, industry organisations, academia, community groups, natural resource management bodies, and others in the community. A parallel review of existing and proposed research was also undertaken to help avoid duplication and better prioritise Commonwealth research investments.

The Office of Water Science has published 16 research reports and four fact sheets covering a range of topics across the Programme's priority themes (refer Box 3). Details of these are available on the Department of the Environment's website at www.environment.gov.au/water/publications. These projects address critical gaps in the scientific understanding about the potential water-related impacts of coal seam gas and large coal mining development (for example, refer Box 4), and have helped inform priorities for new research to be undertaken in 2015-16.

The Office of Water Science has also funded a substantial body of work on health and environmental risks of chemicals associated with coal seam gas extraction. This work is nearing completion.

Governance and budget

Research investments are subject to project, programme, and Departmental governance processes. This includes adherence to the *Commonwealth Procurement Rules: Achieving Value for Money* (Department of Finance and Deregulation, 2012) as well as formal Departmental risk assessment, communications, project management, quality assurance and programme planning arrangements. Project steering committees and technical reference groups have been established to oversee and guide individual research projects when required.

The IESC also provides scientific advice to the Office of Water Science on the various research projects, and has made recommendations to strengthen quality assurance and peer review processes.

Box 3. Research Programme
Summary of publications to December 2014

Hydrology	Ecology	Cross-cutting
Aquifer connectivity within the Great Artesian Basin	Surveys of springs in the Great Artesian Basin (two volumes)	Reference lists of water-related Australian and international research 2000 - 2013
Subsidence from coal mining and coal seam gas extraction (three reports)	Impacts of coal mining on peat swamps (three reports)	
Hydraulic fracturing techniques	Co-produced water: impacts on aquatic ecosystems	
Modelling groundwater impacts of coal seam gas extraction		
Bore integrity		

Box 4. Research case study: Subsidence from coal mining activities

Underground coal mining creates a void into which the roof and overlying rock collapse. This typically results in horizontal and vertical movement at the land surface, which can extend beyond the mine footprint and can affect natural and built environments. Although the general behaviour of the rock mass in the area of underground coal mining is well understood, the extent and nature of ground movements at the surface vary on a site-by-site basis depending on local geology and mine layouts.

The report *Subsidence from coal mining activities, Background review* (Commonwealth of Australia, 2014) outlines issues associated with subsidence from current coal mining practices in Australia. It discusses the available methods and models for subsidence prediction, the technologies that may be used for measuring and monitoring the scale and extent of mining-induced ground movements, and the prevention, management and mitigation of subsidence.

In its advice to the Commonwealth and NSW Government regulators of the Airly Mine Extension Project, the IESC recommended additional monitoring of ground movements, and cited the review report to support its advice on monitoring options.

For readers seeking an introductory overview of subsidence from coal mining, a companion fact sheet to the Background Review provides a summary of the main issues.

Around \$13 million was committed to research activities for the duration of the NPA. The Australian Government continues to invest in priority research.

Consultation, peer review and uptake

The Office of Water Science has collaborated with Australia's best research providers to build on the best available scientific information from many sources, including government, academia, industry and regional communities. Research products are expected to be useful to a broad range of stakeholders, including Commonwealth and state government regulators, coal seam gas and coal mining companies, natural resource management organisations, and interested community stakeholders. The IESC uses these and other research products to inform its advice to Commonwealth and state government regulators.

Research products are internally and externally peer reviewed, often by a combination of Australian and international peer reviewers. To provide further quality assurance, draft research outputs are routinely provided, via the NPA Reference Group, to state agencies for comment. Research outputs are circulated widely once they have been approved for publication.

Feedback to date from a broad range of interested stakeholders indicates that the reports are well received and provide useful information. Reports related to subsidence from coal mining activities and peat swamps have been cited in recent IESC advice on development proposals to Australian government regulators.

CHAPTER 2: ROLES AND RESPONSIBILITIES OF THE COMMONWEALTH UNDER THE NATIONAL PARTNERSHIP AGREEMENT

To realise the objective and outcomes of the NPA, the Parties had specific roles and responsibilities. The Commonwealth agreed to be directly accountable for, and has implemented and achieved, the roles and responsibilities under clause 14 of the NPA (listed below). The Parties also had shared administrative responsibilities relating to this agreement under clauses 16 and 17, which were also met to the degree they were relevant.

a) Providing a financial contribution to the states to support the implementation of this Agreement

The Commonwealth has paid a total of \$49.25 million to state governments across three instalments to implement the NPA (Table 2). The level of funding provided across jurisdictions was commensurate with the amount of coal seam gas and coal resources and level of development activity. The first payment was made on signing of the NPA as an in-advance project payment in recognition of the costs associated with the agreed reforms. The second and third payments were made as in-arrears project payments subject to the achievement of the required milestones and benchmark.

Table 2. Schedule of financial contributions made by the Commonwealth to the signatory states under the National Partnership Agreement on Coal Seam Gas and Large Coal Mining Development.

Milestone	Payment 1: On signing the NPA	Payment 2: Milestone—on publication of referral protocol	Payment 3: Milestone—on updating laws, regulations and guidelines and Benchmark—referring applications to the IESC	
State	2011–12 \$m	2012–13 \$m	2013–14 \$m	Total \$m
QLD	7.40	3.70	7.40	18.50
NSW	7.00	3.50	7.00	17.50
VIC	4.05	2.03	4.05	10.13
SA	1.25	0.62	1.25	3.12
Sub-total	19.70	9.85	19.70	49.25

The amount of \$0.75 million was earmarked for the Northern Territory but it opted to not sign the NPA.

All payments were made to signatory states within the designated financial years. The second and third payments to the states were made having regard to the reports of the COAG Reform Council presented pursuant to clause 22 of the NPA (refer item b below), and the achievement by signatory states of the agreed milestones and benchmark. Where a signatory state was assessed by the COAG Reform Council as partially meeting or not meeting a given milestone or benchmark, payment was made to the state (post COAG Reform Council reporting timeframe) only after the state had subsequently demonstrated the milestone had been met.

b) Monitoring and assessing the performance in the delivery of actions under this Agreement to ensure that outputs are delivered and outcomes are achieved within the agreed timeframe

The former COAG Reform Council, established to monitor government reform efforts in key policy areas, and supported by the Commonwealth, was tasked to assess the degree to which the Parties had met the agreed milestones and benchmark under the NPA (refer clause 22 of the NPA). The Council's findings are discussed in the next chapter.

The Office of Water Science established, and has continued to maintain, the NPA Commonwealth-State Reference Group. The Reference Group comprises senior officials from each of the signatory state Premier's departments and/or other relevant state government agencies responsible for implementing the actions under the NPA. The Reference Group first met in June 2012 and has met (via TelePresence) approximately every three to four months. Through this forum the Commonwealth was able to monitor and assess the delivery of actions under the NPA to ensure that outputs were delivered and outcomes achieved within agreed timeframes.

c) Establishing and maintaining the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development under the *Environment Protection and Biodiversity Conservation Act 1999*

The Commonwealth established the Interim Independent Expert Scientific Committee on Coal Seam Gas and Coal Mining in January 2012 pending the formal establishment of the statutory committee. The enabling legislation received Royal Assent in October 2012 and the statutory IESC was formally appointed in November 2012.

The Commonwealth continues to fund the IESC and the Office of Water Science which provides secretariat and technical support to the IESC.

d) Consulting with the states regarding membership of the IESC prior to its establishment and filling subsequent vacancies

The Premiers of each relevant state were consulted ahead of the establishment of the statutory IESC and again recently ahead of the appointment of new members, and any recommendations were taken into consideration.

e) Providing input to the IESC's research agenda, including in relation to the IESC's advice on priority areas for bioregional assessments

The Commonwealth, via a number of Australian Government agencies including the Department of the Environment, CSIRO, National Water Commission, Geoscience Australia, Bureau of Meteorology, Department of Health, and the Department of Resource, Energy and Tourism, provided input into the research agenda and bioregional assessments. Where appropriate, these agencies remain engaged and continue to contribute.

f) Seeking advice from the IESC at appropriate stages of the approvals process for coal seam gas or coal mining development proposals that are likely to have a significant impact on water resources, on which the Commonwealth is intending to make a decision.

As at 31 January 2015, the Commonwealth regulator has referred 72 development proposals to the IESC for advice, 18 of which were joint referrals for advice with the Queensland and New South Wales government regulators.

In addition to requesting advice on development proposals, the Commonwealth regulator also requested advice from the IESC on the implementation of the legislative amendments to the EPBC Act to introduce the protection of water resources from coal seam gas and large coal mining development as a matter of national environmental significance (the water trigger), and on the Significant Impact Guidelines for the water trigger, which assist proponents to decide whether their proposals are likely to have a significant impact on a water resource.

CHAPTER 3: PERFORMANCE MONITORING AND REPORTING UNDER THE UNDER THE NATIONAL PARTNERSHIP AGREEMENT

Performance milestones and benchmark

To realise the objective and outcomes of the NPA, the Parties agreed to meet specific performance milestones and benchmark (clauses 18 and 19 of the NPA):

- The Commonwealth committed to establish the IESC by 1 July 2012.
- The states agreed to:
 - by 30 September 2012, publish a protocol that describes how they will decide which project applications should be referred to the IESC for advice; and
 - by 31 March 2013, amend relevant legislation, regulations and guidelines as necessary, so that the laws provide for 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.
- The states also agreed to meet the benchmark to, during the period between the publication of their referral protocol and amendment of state laws, regulations and guidelines, refer all coal seam gas or coal mining developments that are likely to have a significant impact on water resources to the IESC for advice.

An assessment of the performance of the Parties in achieving the milestones and the benchmark is presented below.

Reporting arrangements

The Parties were required under clause 20 of the NPA to report to the COAG Reform Council on the achievement of the agreed milestones and benchmark.

The COAG Reform Council's first assessment report (28 February 2013) identified the Commonwealth as having partially completed its milestone. It noted that the Commonwealth had established an interim committee and passed legislation to establish the statutory IESC. With respect to the states, the report identified Victoria and Queensland as having successfully completed the milestone to publish protocols for project referral. South Australia was assessed as having only partially completed this milestone by the reporting date. New South Wales was assessed as not completing the milestone.

The COAG Reform Council provided an updated report (28 March 2013) which identified the Commonwealth as having fully completed its milestone to establish the IESC, having had the amendment to the EPBC Act proclaimed and the statutory IESC officially appointed on 27 November 2012. The report also identified South Australia as having fully completed the milestone to publish a referral protocol.

The COAG Reform Council's second assessment report (31 July 2013) identified Victoria, Queensland and South Australia as having successfully completed the milestone to amend relevant state legislation, regulations and guidelines as necessary, and meeting the benchmark to refer development proposals to the IESC for advice. New South Wales was

identified as not completing the milestones to publish a referral protocol or update state laws, and as such, the benchmark for New South Wales was not assessed.

Subsequent to the COAG Reform Council's first and second assessment and reporting periods, the Minister for the Environment determined New South Wales to have met the milestone to publish a referral protocol, which it did on 8 July 2013, and further to have met the requirements of the milestone and benchmark to update state laws and refer development proposals to the IESC for advice.

Additional reporting arrangements

An additional reporting requirement under clause 21 of the NPA required the Parties to report to the Standing Council on Environment and Water on their performance in referring applications to the IESC between 1 April 2013 and 31 March 2014. As the Standing Council on Environment and Water was discontinued in December 2013 and not replaced, the Parties agreed to satisfy clause 21 by jointly preparing the report, which is published on the Department of the Environment's website at www.environment.gov.au/resource/national-partnership-agreement-coal-seam-gas-and-large-coal-mining-development-clause-21.

CHAPTER 4: PERSPECTIVES FROM THE COMMONWEALTH REGULATOR

Referrals of project applications to the IESC

The NPA has resulted in more informed regulatory decision-making by both Commonwealth and state government regulators. Since the establishment of the NPA, regulators have significantly improved the process for seeking IESC advice. The principles and objectives of the NPA are now enshrined in legislation, as part of an ongoing process of maintaining and enhancing public confidence in coal seam gas and coal mining development projects.

Further, Commonwealth and state government regulators have streamlined processes for seeking advice on impacts on water resources, and implemented measures to increase the practical benefits gained from IESC advice. Commonwealth and state government regulators now jointly seek advice from the IESC. Requests for advice are usually made between the submission of an Environmental Impact Statement (EIS) (or equivalent) for publication, and the public comment period, to enable companies to respond to IESC advice. Commonwealth and state government decision-makers have learnt how to better integrate the IESC's advice into their decision making. Of the 66 large coal mining or coal seam gas developments the Commonwealth has determined will or are likely to have a significant impact on water resources since the water trigger came into effect, 22 projects have been approved.

The Minister for the Environment has also bolstered transparency by making amendments to the EPBC Regulations to require the publication of IESC advice within 10 days of the IESC providing that advice. This timely publication allows the IESC advice to inform the public consultation process during the assessment of a project.

More generally, the Australian Government is working with state and territory governments to deliver the One-Stop Shop for environmental approvals, which will reduce regulatory duplication while maintaining high environmental standards. The Government has signed new or revised assessment bilateral agreements with all states and territories. These new assessment bilateral agreements include commitments from states and territories to seek and take into account advice from the IESC.

Background

The Commonwealth regulator is the Minister for the Environment and his delegated officers in the Environmental Assessment and Compliance Division (EACD) of the Department of the Environment. All regulatory decisions concerning coal seam gas and large coal mining development made under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) are made by the Minister or a delegated officer within EACD. The NPA played an important role during the early stages of policy awareness around coal seam gas issues. Firstly, it helped to demonstrate – mainly at the Commonwealth level – that regulators were responding to growing concerns within the community around a perceived lack of science underpinning the approval of coal seam gas and coal mining developments.

Secondly, the NPA provided for the formation of the IESC, and set up a formal structure to enable EACD to seek independent and expert scientific advice on coal seam gas and coal mining projects.

Development of the IESC's role in providing scientific advice to the Commonwealth

The iIESC was established in January 2012 (the first iIESC advice was provided to EACD on 24 February 2012). Prior to this time, EACD had limited options in terms of seeking scientific advice relating to groundwater or surface water issues – the former being particularly problematic and representing a relatively new area of environmental regulation at the Commonwealth level.

Prior to the legislative protection of water resources from coal seam gas and coal mining development as a matter of national environmental significance under the EPBC Act (the water trigger), the legal scope of what was required to be considered under the EPBC Act was focused on impacts on other matters of national environmental significance. Regulation of water-related resources remained a state responsibility.

While a reasonable level of scientific expertise around surface water impacts was available, including within EACD and the Department of the Environment's Water Group, the internal expertise available around groundwater impacts was limited to a single staff resource within the Water Group (subsequently dedicated to the Department's Office of Water Science). Groundwater expertise was not readily available, such that it could be easily integrated into the assessment and approval processes under the EPBC Act.

While the science and expertise around aquatic (surface water) based listed species and ecological communities was readily available, as was advice on Ramsar listed wetlands (from the Wetlands Section, within the Department's Water Group), difficulties arose when groundwater impacts entered the frame. It was recognised that there were major uncertainties around impacts on groundwater and listed matters of national environmental significance under the EPBC Act, and on, for example, the Great Artesian Basin, perched swamps and various groundwater dependent ecosystems.

The Department had to obtain groundwater expertise externally, either through a professional consultancy or through a state regulator. Alternatively, in cases where the Department identified a serious science gap, the Government had to form special arrangements, for example, the establishment of the Expert Panel for Major Coal Seam Gas Projects in 2011, to assist in the post approvals regulation of major coal seam gas projects that had been recently approved in Queensland.¹

Communities also had growing concerns around cumulative impacts in key regions, including to groundwater, surface water or both in combination. Communities were concerned about the large number of major coal seam gas and coal mining developments being approved and/or proposed in close proximity in specific regions, and the difficulties involved in assessing these projects.

Current status

The IESC has satisfactorily addressed the issues discussed above, and plays an important role in providing independent scientific advice to government regulators. Amendments to the EPBC Act to enshrine IESC processes in law in October 2012 ensured the intent of the NPA has enduring effect.

The Australian Government has integrated the process of seeking of advice from the IESC into standard business practices relating to environment regulation at the Commonwealth level for all proposed actions involving coal seam gas or coal mining determined to have a significant impact on a water resource. The Government has done this in a way that minimises the impact on the timeline for assessment of projects. Generally, the Commonwealth or state will seek

¹ Refer www.environment.gov.au/epbc/about/advisory-committees/coal-seam-gas-water-management-expert-panel.

IESC advice based on a company's initial EIS so that the company can respond to IESC advice in their amended EIS.

Further, various iterations of state and territory approval and assessment bilateral agreements refer to the IESC and the obligation for state government regulators to seek and take account of IESC advice for all coal seam gas and coal mining projects determined to have a significant impact on a water resource.

The statutory IESC began meeting in December 2012 and continued the provision of advice to regulators in response to requests for advice. This has resulted in a deepening of the scientific evidence and independent expertise that underpins regulatory decisions on coal seam gas and coal mining developments.

In addition to the IESC's advice supporting regulatory decision making, the Bioregional Assessment Programme has the potential to support the work of strategic assessments (landscape scale assessments) undertaken in accordance with Part 10 of the EPBC Act, for example, by providing a greater understanding of impacts and risks from coal mining on matters of national environmental significance. There is currently one strategic assessment of coal mining development underway: the Upper Hunter strategic assessment.

EACD assessment officers have also found the Australian Government's research reports on the impacts of coal mining on peat swamps useful in understanding the technical aspects, associated impacts and monitoring and evaluation techniques specific to mining under swamp communities. This allowed for a robust assessment of potential impacts to both the swamps and associated flora and fauna. The reports further strengthened EACD assessment officers' discussion and reasoning in their recommendation to the delegate and in drafting specific conditions to manage potential impacts on listed threatened species and communities, including Coastal Upland Swamps.

IESC project advice

The IESC's advice is taken into account in all relevant assessment and approval decisions. Explicit adoption of advice depends on the particularities of the advice provided and the proposed project. The IESC has been pivotal in identifying where there is insufficient information to determine the water impacts and where additional modelling or research needs to be undertaken. For example the IESC's advice has recently identified information gaps in the Santos GLNG expansion project draft EIS, relating to surface and groundwater modelling. The additional information will assist in determining if the proposed monitoring is sufficient to detect impacts on the water resources, and inform measures to mitigate or requirements to offset impacts.

There are a number of examples where IESC advice has been crucial in setting project conditions, for example:

- **Carmichael Coal Mine and Rail Project (Qld):** the IESC's advice raised issues with the project's groundwater flow model and the associated impacts to groundwater dependent ecosystems including the Doongmabulla Springs Complex. This prompted additional reviews of the groundwater flow model, which were considered in the State assessment of the project. The State and Commonwealth approvals imposed conditions that require a further review of the groundwater flow model prior to any potential impacts to water resources occurring. The outcomes of the review will feed into further planning activities to ensure potential impacts to groundwater dependent ecosystems are mitigated. In addition, amongst other offset measures, the Commonwealth approval conditions also require the

project proponent to return a minimum of 730 megalitres of water every year for five years to the Great Artesian Basin.

- **Centennial Coal, Springvale Coal Mine (NSW):** The Commonwealth's approval decision reflected the IESC's advice in relation to avoidance of mining directly under "high quality swamps" and buffer zones unless the proponent demonstrated (by a report) that this could be carried out without severe impacts of subsidence on the swamps (or such impacts could be successfully remediated).
- **Dart Energy (NSW):** The Commonwealth required the proponent to provide additional groundwater monitoring for its Exploration Project at Fullerton Cove. This additional monitoring would assist in the Regional Groundwater Assessment for this area and formed part of the "particular manner" attached to this project to avoid and mitigate potential impacts to matters of national environmental significance.
- **Middlemount Coal (Qld):** The IESC's advice raised issues with the monitoring of cumulative impacts to the quality of surface and groundwater, lack of details regarding the design of the diversion of Roper Creek and the assessment of regional cumulative impacts. In response to that information the State prescribed conditions for the proponent to develop a water monitoring plan. The Commonwealth prescribed conditions for the proponent to prepare a plan to ensure that the water quality could be adaptively managed. The proponent's Offset Management Plan required by the Commonwealth will increase the protected habitat of two vulnerable animal species and one endangered ecological community over 3,280 hectares. The habitat will be secured through a binding conservation mechanism. These offsets represent a considerable environmental gain for these species.

Some of the earlier IESC advices were more general and took a broad view of things to consider, so for this reason they were less explicitly reflected in approval conditions. Further, in some cases where specific conditions were added to an approval as a result of the IESC's advice, these conditions were easily met by the provision of a report by the proponent which was not necessarily reviewed by the IESC.

The more definitive and stronger the advice from the IESC, the more it can directly contribute to the assessment and approval process.

More recent advice from the IESC has been more definitive and unequivocal. Examples here include the **Angus Place** and **Springvale** coal mine extensions (Centennial Coal, both NSW) and **Russell Vale Colliery** extension projects (Wollongong Coal, NSW)².

In these cases, the IESC's advice has enabled EACD to adopt a clearer and stronger position in relation to impacts on matter of national environmental significance. This can then be reflected in a more stringent, robust and outcome oriented approach to project assessment and possible condition setting, including a more proactive stance on environment risk management and the responsibility of the proponent to mitigate this risk.

There is also a strong sense that the requests and provision of advice has improved since the Commonwealth and state government regulators began submitting joint requests for advice to the IESC. This has been most noticeable in both Queensland's and New South Wales' engagement with the IESC over the last nine to 12 months.

² These projects are all still in process, so it is too early to demonstrate the full extent to which the IESC's advice will be adopted.

With New South Wales, the process is now working smoothly, including the use of a streamlined template initiated by New South Wales for all 'requests for advice', including for joint requests by the Commonwealth and state government regulators. At the officer level, there is good interaction on forming joint requests, the drafting of questions and the sharing of advice.

The use of joint requests is becoming the standard business process, being considered more efficient and effective. Generally, the state takes the lead and the requests are signed jointly by the relevant delegates.

As previously noted, advice is generally sought once from the IESC, at the most appropriate stage, this being upon provision by the proponent of their draft assessment documentation. Ideally, this coincides with the public exhibition period for the assessment documentation. While it is possible to seek the IESC's advice on a particular project more than once, this has been avoided in practice. Instead, the Office of Water Science is asked by EACD for comment on technical matters if necessary, for example, comments on a proponent's response to the IESC's advice or on a proposed condition set.

The transparency of this process has been improved by the sharing of advice with relevant parties and, importantly, the publishing of the IESC's advice on the IESC and EPBC websites. As of mid-2014, the publication of the IESC's advice within 10 business days of receipt by the regulator is now standard and included in EPBC Regulations.

Summary

In terms of practical application for the Commonwealth regulator, since late 2012 the principles and objectives of the NPA have been enshrined in law. Therefore processes around the IESC have been determined by the EPBC Act. These legislative changes have given the intent of the NPA enduring effect. .

The Australian Government and relevant state governments have made a number of improvements to processes around the seeking and provision of IESC advice. EACD has worked closely with the Office of Water Science to jointly bring these changes in, broker and encourage a collegiate approach to process improvement, and to increase the value and utility of IESC advice, including with regard to state regulators. The cooperation with state regulators has also improved the utility of IESC advice.

The 'water trigger'

EACD notes the advice of the Office of Water Science that consideration of the water trigger—the introduction of the protection of water resources from coal seam gas and large coal mining development as a matter of national environmental significance under the EPBC Act—is outside of the scope of the NPA review. The following points, however, have been included for context and clarity.

Upon the inception of the statutory IESC, there was a transition period for streamlining the Commonwealth and state approaches to the IESC. This was due to delays in developing referral protocols required under the NPA and resolving state level policy issues (for example, New South Wales' aquifer interference policy). During this time, the amendments to the EPBC Act introducing the protection of water resources from coal seam gas and large coal mining development as a matter of national environmental significance were passed by Parliament and became law in June 2013.

The introduction of the water trigger as controlling provision—notably constrained to coal seam gas and coal mining developments—resulted in a strengthened focus on water resources under the EPBC Act. However, it did not change the process of seeking and taking account of advice from the IESC.

The water trigger increased the scope of what needed to be legally considered under the EPBC Act. It meant that the questions being asked of the IESC in requests for advice remained broad and were worded in such a way that all impacts on water resources would be covered. It also gave the Commonwealth regulator a broader remit to consider the IESC's advice.

To address possible confusion and to provide for consistency and efficiency, a set of significant impact guidelines were developed by EACD in conjunction with the Office of Water Science and the IESC. A standard Terms of Reference for the seeking of additional information from proponents about impacts on water resources have also been developed.

These documents have been useful in providing assistance to proponents and in framing the assessment of proposed actions at both the referral and assessment stages.