

Chapter 5

Committee view

5.1 Australia's underground water systems are a precious and finite resource. As the driest inhabited continent, and with climate change expected to affect future rainfall patterns, Australia needs access to underground water supplies more than ever, particularly because of the reliance of rural, regional and remote communities on these resources.

5.2 The Committee acknowledges the substantial economic benefit that extractive projects may provide to certain sectors of the community and some regional and rural communities. However, these benefits should not be prioritised at the expense of other industries or the environment in terms of long-term impacts on resources and ecosystems which will need decades and centuries to recover from extractive activities.

5.3 The Committee considers that current regulatory processes do not sufficiently take into account the intrinsic value of the environment as a valuable resource in its own right. The loss of groundwater-dependent and groundwater ecosystems, particularly those that are threatened and endangered or not yet identified, would be an irrevocable tragedy. Figures estimating total water use of particular industries do not accurately represent the long-term impacts of changes to topography, aquifer structures or groundwater quality that arise from extractive industry activities.

5.4 The Committee commends the Commonwealth, state and territory governments for improvements made to water management initiatives in the Murray-Darling Basin and the Great Artesian Basin. However, there remains considerable room for improvement in terms of fair and equitable water allocation so that short-term economic gain does not outweigh the long-term water needs of agricultural users, rural, regional and remote communities and ecosystems. The needs of one industry should not be prioritised over the needs of other water users.

5.5 The Committee also considers that there are specific areas for improvement in the Commonwealth regulatory framework governing water use by extractive industries. These are outlined below.

Amendments to the EPBC Act

5.6 The Committee recommends that the Commonwealth Government expand the water trigger in the *Environment Protection and Biodiversity Act 1999* (EPBC Act) to include all forms of unconventional gas activity. The Committee was told repeatedly by multiple submitters and witnesses that the water trigger should be expanded to include shale and tight gas. There is no scientific reason to treat these forms of gas extraction as different from coal seam gas activity in terms of impacts on water resources, particularly because unconventional gas extraction involves large amounts of water.

5.7 The Committee was not persuaded by arguments from a small number of submitters that the Commonwealth requirements imposed on industry for projects

impacting water resources were duplicative of state and territory requirements or unnecessary. If anything, evidence presented to this inquiry demonstrated the importance of Commonwealth oversight of activities that have the potential to affect a resource that is as important to the future of the Australian economy as water.

Recommendation 1

5.8 The Committee recommends that the Commonwealth Government amend the *Environment Protection and Biodiversity Act 1999* to include all forms of unconventional gas under the provisions of the water trigger.

5.9 Further, the Committee considers that the investigatory role of the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC) be extended so that it is able to provide advice on unconventional gas activities and how these may impact water resources. The Committee commends the IESC for its detailed and high quality work provided to date to inform regulatory decisions at both the state and Commonwealth levels.

Recommendation 2

5.10 The Committee recommends that the role of the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development be expanded to provide scientific advice to regulatory decision-makers on the impacts of unconventional gas activities on Australia's water resources.

Bilateral agreements

5.11 Evidence provided to the inquiry emphasised the importance of ongoing Commonwealth involvement in regulatory decisions governing water use by the extractive industry. The Committee heard concerns that proposed bilateral approval agreements would remove the Commonwealth from regulatory decisions, and give states the power to make decisions that would take into account both state matters and matters of national environmental significance. The Committee does not consider that approval bilateral agreements should proceed, given evidence suggesting that states may have made regulatory decisions on the basis of insufficient modelling and research or even, in some instances, in spite of evidence from experts and government water bodies suggesting projects should not proceed.

Recommendation 3

5.12 The Committee recommends that the Commonwealth Government does not commit to any bilateral approval agreements with states and/or territories.

Compliance with current Commonwealth conditions

5.13 The Committee heard from a range of witnesses and submitters outlining the environmental impacts of extractive activities that, despite regulatory requirements intended to mitigate their impacts, had negatively impacted other water users. Further, because of limited baseline data, projects are often required to provide the Minister for the Environment and Energy with completed data after the project has been approved. As a result, the Committee was told, regulatory oversight is shifted from the approvals process to the compliance process.

5.14 The Committee is concerned that there have been instances where compliance is poor, and ongoing monitoring and reporting are limited in terms of certain types of negative impacts, particularly groundwater depressurisation and water quality. Monitoring compliance is essential given the reliance of regulatory decision-makers on data that is not provided until a project is underway.

5.15 The Committee considers that the Commonwealth Government should provide the Department of the Environment and Energy with funding to undertake compliance and monitoring activities of projects which it has approved.

Recommendation 4

5.16 The Committee recommends that the Commonwealth Government appropriately resource the Department of the Environment and Energy to undertake compliance and monitoring activities of extractive projects which have been approved under the *Environment Protection and Biodiversity Act 1999*.

5.17 In addition, the Committee sees no reason why mining companies should withhold up-to-date monitoring data from communities, particularly in the interests of transparency. These figures should be released to alleviate community concerns about bore water levels and water quality, and will do a great deal to ensure community confidence that industry is complying with approval conditions and licensing requirements. This should be a requirement in all Commonwealth approvals.

Recommendation 5

5.18 The Committee recommends that the Department of the Environment and Energy require, as a condition of approvals for all extractive projects affecting water resources, that proponents publicly release real-time data or, where this is not available, the most up-to-date monitoring data available on water levels and water quality.

5.19 The Committee is concerned about evidence regarding surface water and rainfall take by extractive industry projects, particularly because this may impact water flows into connected water systems and lead to decreased water levels in rivers and other bodies of water. The Committee is of the opinion that the Commonwealth Government should work with states and territories to ensure that accurate reporting of surface and rainfall take by extractive industries occurs.

Recommendation 6

5.20 The Committee recommends that the Commonwealth Government work with state and territory governments through the Meeting of Environment Ministers or another forum, as appropriate, to ensure that extractive industries are accurately reporting surface and rainfall water take.

The National Water Account

5.21 The Committee heard that the National Water Account only covers one groundwater system, despite many regional, rural and remote communities across Australia relying partly or entirely on underground water. The Committee proposes that, given the importance of underground water for human and animal consumption, the National Water Account be expanded and provided with additional resources to

more adequately capture Australia's underground water resources. The Commonwealth Government could consider, if appropriate, partial cost-recovery measures from users of water resources.

Recommendation 7

5.22 The Committee recommends that the Commonwealth Government expand the National Water Account so that it is able to comprehensively incorporate data on underground water systems.

Baseline modelling

5.23 A number of submitters and witnesses to the inquiry raised the issue of approvals for the proposed Adani Carmichael coal mine in Queensland. In particular, the Committee heard that even after a decision was made about the project, concerns remained among experts that too much uncertainty existed about the information included on groundwater sources in the project's baseline modelling for a decision to be made.

5.24 The Committee was told that this instance of uncertainty in baseline modelling was not isolated but appears to be relatively widespread across different proposals. This is because it may take years to close the knowledge gaps used to inform baseline models. Without proponents being required to outline the extent and nature of the uncertainty in their modelling, the onus has been placed on regulators to make decisions based on limited and incomplete models. The Committee recommends that the Department of the Environment and Energy require proponents to clearly report uncertainty in their model predictions of potential impacts to groundwater, and the Commonwealth Government encourage states and territories introduce the same requirement through the Council of Australian Governments and/or the National Water Initiative. Further, the Committee is of the view that in the event of high uncertainty in modelling data combined with significant risks that a project could lead to negative environmental outcomes, approvals should not be granted until better modelling provides more certainty.

Recommendation 8

5.25 The Committee recommends that the Department of the Environment and Energy require proponents of projects addressed under the water trigger to clearly report on the nature and extent of uncertainty existing in their baseline modelling on potential impacts. Further, approvals should not be granted where there is a high risk of negative environmental outcomes and modelling data provided by proponents fails to provide confidence that these risks have been appropriately taken into account.

Recommendation 9

5.26 The Committee recommends that the Commonwealth Government, through the Council of Australian Governments and the National Water Initiative as appropriate, encourage state and territory governments to require extractive industry projects to clearly report on the nature and extent of uncertainty existing in their baseline modelling on potential impacts.

Bioregional assessments

5.27 The Committee commends the Commonwealth Government's decision to extend the Bioregional Assessment Program to examine the potential environmental impacts of shale and tight gas projects. The research on cumulative impacts produced by the Bioregional Assessment Program is used to inform Commonwealth and state regulatory decisions on whether to approve project proposals or not.

Recommendation 10

5.28 The Committee recommends that the Commonwealth Government prioritise Bioregional Assessments to ensure that the information they provide can be used for upcoming proposals for extractive industry projects.

5.29 The Commonwealth Government's Bioregional Assessment Program should be provided with more resources to maximise its ability to prioritise and complete the work. This improved resourcing would help to ensure that data is available for projects that would otherwise be postponed or declined because of inadequate modelling.

Recommendation 11

5.30 The Committee recommends that the Commonwealth Government provide the Bioregional Assessment Program with additional resources to equip the program to improve its data collection and research functions.

Lack of research impacting regulatory decisions

5.31 The Committee considers that it is unacceptable that regulatory decisions on extractive industry projects are being made in the absence of research on how extractive activities lead to particular impacts on groundwater ecosystems and the interactions between surface and subsurface resources. This lack of research is affecting decision-making, often with irreversible consequences. The organisms living in groundwater are essential to water quality, yet because few stygofauna species are listed for protection, and research on other organisms in groundwater sources in some instances is almost non-existent, these species are not given the same consideration in regulatory decisions as those species found in surface ecosystems. The Committee recommends that as a matter of urgency, the Commonwealth Government identify current research gaps affecting regulatory decisions on the impacts of extractive projects on water resources, and fund research into these areas as appropriate.

Recommendation 12

5.32 The Committee recommends that the Commonwealth Government identify current research gaps affecting regulatory decisions on the impacts of extractive projects on underground water ecosystems, and provide funding for further research into this areas as appropriate.

5.33 Further, the Committee considers that proponents be required to report more stringently on stygofauna and microbial communities living in underground water systems and potential impacts on these organisms in their applications for regulatory approvals. Such organisms are often essential to water quality and flow, but in some

cases have not been given the same level of importance as that afforded to groundwater-dependent ecosystems.

Recommendation 13

5.34 The Committee recommends that the Department of the Environment and Energy ensure reporting requirements for proposed projects requiring approval under the water trigger include information on the potential impacts to the organisms living in groundwater ecosystems.

The National Water Initiative

5.35 This inquiry heard that considerable gaps and omissions remain in the current National Water Initiative (NWI) intergovernmental agreement. These include the inability of the NWI to appropriately take into account the extractive industry and the cumulative impacts of extractive projects. This is particularly relevant for water resources spread across different jurisdictions, such as the Great Artesian Basin and the Murray-Darling Basin.

5.36 The Committee notes the concerns of a number of submitters and witnesses about regulatory gaps in their respective state and territory frameworks governing water use, and recommends that the Commonwealth Government, through the Council of Australian Governments and the NWI, encourage jurisdictions to adopt consistent approaches that promote fair, equitable and sustainable water use allocations.

Recommendation 14

5.37 The Committee recommends that the Commonwealth Government, through the Council of Australian Governments and the National Water Initiative, encourage states and territories to adopt consistent regulatory approaches that promote the fair, equitable and sustainable allocation of water resources.

5.38 The Committee welcomes the Productivity Commission's report into National Water Reform recommending that the NWI be renewed by 2020. In particular, the Committee endorses the report's recommendation that this renewed NWI ensure that extractive industries are included in water entitlement frameworks.

Recommendation 15

5.39 The Committee recommends that the Commonwealth Government accept the Productivity Commission's recommendation in its National Water Reform report that the National Water Initiative be renewed by 2020.

Recommendation 16

5.40 The Committee recommends that the Commonwealth Government accept the Productivity Commission's recommendation in its National Water Reform report that state and territory water entitlement and planning frameworks explicitly incorporate extractive industries.

5.41 This inquiry heard that some Traditional Owners feel excluded from decision-making processes on water resources that have ecological or cultural value for Indigenous groups. The Committee endorses the Productivity Commission's

recommendation that all governments incorporate Indigenous cultural objectives in their water plans, and that the relevant provisions of the revised NWI be informed by an Indigenous working group.

5.42 Even with these recommendations, the Committee considers that more work needs to be undertaken to ensure that Aboriginal water entitlements and rights are taken into account in regulatory decisions in appropriate and culturally sensitive ways. The Committee considers that one method of achieving this would be the creation of Indigenous Councils to advise regulatory decision makers in the various states and territories. The Committee encourages the Commonwealth Government to work with state and territory governments to see this happen.

Recommendation 17

5.43 The Committee recommends that the Commonwealth Government accept the Productivity Commission's recommendation in its National Water Reform report that all governments undertake further work to incorporate clear, measurable and well-informed Indigenous cultural objectives in water plans, with tangible actions, monitoring and reporting arrangements to ensure that these objectives are implemented effectively.

Recommendation 18

5.44 The Committee recommends that the Commonwealth Government accept the Productivity Commission's recommendation in its National Water Reform report that an Indigenous working group be established to provide advice on the development of provisions related to the incorporation of Indigenous cultural objectives for the renewed National Water Initiative.

5.45 The Committee further recommends that the revised NWI address the issues of inconsistent terminology across jurisdictions and the cumulative impacts of extractive industry projects on water, particularly as these relate to water resources crossing different jurisdictions.

Recommendation 19

5.46 The Committee recommends that the renewed National Water Initiative include measures to encourage harmonisation of terminology used in regulatory frameworks governing water use across the various jurisdictions.

Recommendation 20

5.47 The Committee recommends that the renewed National Water Initiative include measures to take into account the cumulative impacts of extractive industry activities on water resources.

Abandoned mines

5.48 This inquiry received concerning evidence outlining the legacy impacts of abandoned mines on water resources, including, for example, bright blue water in Queensland because of acid mine drainage. The Committee heard that regulatory gaps in the monitoring of abandoned mines mean that the extent of impacts on water

resources from abandoned mines is unclear. The Committee will consider this issue in greater detail in its inquiry into mining rehabilitation.

Senator Janet Rice

Chair