Chapter 3

Property, mineral and petroleum rights in Australia

3.1 In this chapter, property, mineral and petroleum rights in Australia are examined, and the committee sets out information on land access issues and land access negotiation.

3.2 The committee sets out some of the first-hand experiences of landowners facing these issues in the next chapter.

3.3 In addition, this chapter sets out the legislative and regulatory framework for unconventional gas mining activity in Australia, and provides some information on the international experience of unconventional gas mining.

Property, mineral and petroleum rights

3.4 Land in Australia is usually classified in one of the following ways:

> Freehold land (including forms of freehold land tenure that are held by traditional owner groups including Aboriginal and Torres Strait Islander land)
>
> Non-freehold land or Crown land, which may either be leased or licensed.[1]

3.5 Irrespective of whether land is freehold or not, the mineral and petroleum resources on the land will continue to belong to the Crown. The acquisition of rights to minerals and petroleum is located in separate legislative frameworks for each state and territory.

3.6 In general terms, landowners are owners of the surface of the land and have no automatic right to the minerals and petroleum, including unconventional gas, which may be on the land. They do not receive any royalties and cannot refuse access to holders of petroleum exploration or mining permits, licences or leases.[2] Should landholders refuse access, the resource companies involved can force access and enter negotiations for damage to their property or livelihood associated with the property.

3.7 The relevant state and territory legislation, codes and frameworks provide initially for exploration of the resource and then if applicable, approval for further grant of mining or minerals production leases or licences. The state and territory

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1 Australian Government, *Land Tenure – What is land tenure?*, http://www.austrade.gov.au/land-tenure/Land-tenure/about-land-tenure (accessed 28 April 2016).

2 With respect to Aboriginal freehold land in the Northern Territory, traditional Aboriginal owners generally have the right to refuse land access and use proposals, including for mineral and petroleum exploration. Australian Government, *Land Tenure – What is land tenure?*, http://www.austrade.gov.au/land-tenure/Land-tenure/about-land-tenure (accessed 28 April 2016).

legislation also 'provides for the payment of royalties to the State and to compensate the owners or occupiers of the land'.[3]

Native title

3.8 Native title can be held exclusively or in conjunction with other types of land tenure, however applications for use of land deemed to be under native title must comply with the statutory process set out in the *Native Title Act 1993* (NTA).[4]

3.9 A registered native title claim gives a party to that claim certain procedural rights when it comes to allowing applications to mine, explore or prospect for minerals on areas covered by the claim. These include:

- an indigenous land use agreement (ILUA); or
- the 'right to negotiate' with applicants to form a future acts agreement.[5]

3.10 It is important to note that in addition to the NTA, access to land in the states and territories may also be subject to state and territory specific native title, land rights and aboriginal heritage legislation. Sites of significance to Aboriginal and Torres Strait Islander peoples are given protection under federal and various state and territory laws on all land tenure types in Australia.[6]

Land access issues

3.11 The states and territories retain mineral rights and may permit companies to extract resources. State and territory governments have attempted to address land access issues in varying ways.[7]

3.12 The process for access to land by resource companies will differ between the states and territories,[8] but the following process which applies in Queensland provides an example of the steps involved in in establishing a land access agreement:

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3 Australian Government, *Land Tenure- mining, mineral and petroleum rights*, http://www.austrade.gov.au/land-tenure/Land-tenure/mining-and-mineral-exploration-leases (accessed 28 April 2016); Australian Government, *Land Tenure – What is land tenure?*, http://www.austrade.gov.au/land-tenure/Land-tenure/about-land-tenure (accessed 28 April 2016).

4 Australian Government, *Land Tenure- mining, mineral and petroleum rights*, http://www.austrade.gov.au/land-tenure/Land-tenure/mining-and-mineral-exploration-leases (accessed 28 April 2016); Australian Government, *Land Tenure – What is land tenure?*, http://www.austrade.gov.au/land-tenure/Land-tenure/about-land-tenure (accessed 28 April 2016).

5 This is usually managed by the National Native Title Tribunal.

6 For example see the Native Title (New South Wales) Act 1994 (NSW); *Aboriginal Land Rights Act 1983* (NSW); Aboriginal Cultural Heritage Act 2003; *Northern Territory Aboriginal Sacred Sites Act 1989*; Aboriginal Affairs Planning Authority Act 1972; *Aboriginal Heritage Act 1972*; *Aboriginal Heritage Act 1988*; Australian Government, *Land Tenure- mining, mineral and petroleum rights*, http://www.austrade.gov.au/land-tenure/Land-tenure/mining-and-mineral-exploration-leases (accessed 28 April 2016).

7 Environment and Communications Legislation Committee, *Landholders' Right to Refuse (Gas and Coal) Bill*, September 2015, p.18.

- in Queensland, the right to explore for and extract CSG (tenure), is granted under the *Petroleum and Gas (Production and Safety) Act 2004* (PAG Act). This grant is called a Petroleum Authority and can be in the form of a lease, licence or authority to prospect. The CSG company party to the tenure is called the 'tenement holder';[9]
- before any access or activity can occur, all CSG related Petroleum Authorities require an Environmental Authority which sets out the environmental conditions that a CSG company must comply with;
- Environmental Authorities are issued by the Department of Environment and Heritage Protection (EHP) under the *Environmental Protection Act 1994* (Qld) (EP Act).[10]
- the PAG Act governs the interactions between landholders and CSG companies and provides for landholders to be compensated for 'the diminution in value and disturbance resulting from CSG activities on their land'.[11] This compensation is articulated in the form of a Conduct and Compensation Agreement (CCA), the content of which is negotiated between the CSG company and the landowner. Under the PAG Act all parties must use 'all reasonable endeavours' to negotiate a CCA.[12]
- All CCAs should indicate:
  - how and when the tenement holder can enter the land in question;
  - how the CSG company's activities must be carried out; and
  - the compensation or any future compensation the CSG company is to provide.[13]

3.13 The committee considers that this example not only highlights the lack of power and support landholders feel in relation to land access, it also indicates the overall level of complexity associated with land access involving unconventional gas mining.

3.14 The following table sets out a comparison of protections for access to private land for exploration across all states and territories:

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8 See Table 2.

9 p&e law, *Submission 246*, p. 2.

10 p&e law, *Submission 246*, p. 2.

11 p&e law, *Submission 246*, p. 2.

12 It is not lawful to simply 'lock the gate' and refuse to negotiate as there is no right to refuse access for CSG development. However, if agreement on the terms of a CCA and compensation is not reached, the CSG company can apply to the Land Court, p&e law, *Submission 246*, p. 2.

13 This can be monetary or non-monetary. p&e law, *Submission 246*, p. 2.

Protection	NSW	Vic	Qld	WA	SA	Tas
Land access arrangement agreed to with landholder before the explorer can access land	Yes	Yes	Yes	Yes	No[1]	No[2]
Compensation available to land holder for loss or damage arising from exploration activity	Yes	Yes	Yes	Yes	Yes	Yes
Compensation for legal costs incurred by land holders in negotiating access agreements	Yes	No[3]	Yes	Yes	Yes	No[3]
Compensation for other costs associated with negotiating access agreements	No	No[3]	Yes[4]	Yes[5]	Yes[6]	No[3]
Exploration prohibited within specific distances of buildings and other improvements	Yes	Yes	Yes	Yes	Yes	Yes
Landholder veto over exploration on agricultural land	No	No[7]	No	Yes[8]	Yes[9]	No

Table 2: Comparison of state protections for access to private land for exploration[14]

Note: The Northern Territory is not included as most private land is restricted to cities and towns. Outside of the urban areas, around half of all land is Aboriginal land and the other half is Crown land under pastoral lease.

1. Authorisation to enter private land can be provided through the written consent of the land holder or by serving the land holder a statutory form (Notice of entry on land) under the *Mining Act 1971* (SA).

2. No formal agreement is required between the landholder and the explorer before exploration commences. However, where exploration involves ground disturbance, officers from the Department of Infrastructure, Energy and Resources are generally involved in the oversight of exploration activities to ensure that these activities adhere to the work plan.

3. Although there is no specific reference to compensation for legal, or other, costs incurred by land holders in negotiations with explorers, the legislation does not 'rule out' the provision of such compensation.

4. The Queensland Land Access Code provides for the compensation of reasonable accounting and land valuation costs incurred by the landholder.

5. The *Mining Act 1978* (WA) provides for reasonable legal or other costs of negotiation for private land under cultivation.

14 Productivity Commission, *Mineral and Energy Resource Exploration, Report no. 65,* September 2013, p. 121.

6. The South Australian guidelines make specific reference to compensation for legal costs and the *Mining Act 1971* (SA) provides for the reasonable costs incurred by the landholder in connection with negotiations.

7. The Minister can have agricultural land excised from the licence where the economic benefit of continuing to use that land for agricultural purposes is greater than the work proposed in the licence.

8. This applies to mineral tenements, but not to oil and gas tenements.

9. Exploration on cultivated land requires landholder consent. Where agreement cannot be reached, the explorer has the option of seeking a determination through the courts.

Source: Productivity Commission, Mineral and Energy Resource Exploration, Report no. 65, September 2013, p. 121.

3.15 The committee notes that this table is based on 2013 data, however, the committee is of the view that it strongly illustrates the fact that landholders are subject to a different set of rules across the states and territories when it comes to land access.

3.16 The committee notes that efforts have been made to deliver more uniformity at a Commonwealth, state and territory level through codes and frameworks to clarify process, rights and responsibilities in relation to land use, access and compensation.

3.17 In Queensland, for example, the Land Access Code was introduced in 2010 and sets out the mandatory conditions that all resource companies conducting exploration and development activities in Queensland must comply with in order to meet legislative requirements. It was released in conjunction with the Land Access Framework (LAF) which has the aim of

> …balancing the interests of landholders and resource authority holders, through a particular focus on compensation arrangements and the need for good communication and relationships. The framework specifically introduced requirements for:
>
> - Providing landholders with entry notices for 'preliminary activities'
> - Negotiating a CCA before accessing private land to undertake 'advanced activities'
> - A statutory graduated negotiation and dispute resolution process for CCAs, with the Land Court being the last resort
> - Compensating landholders for reasonable and necessary accounting, legal or valuation costs incurred in negotiating or preparing a CCA.[15]

3.18 At a Commonwealth level, the then Standing Council of Energy and Resources, now the COAG Energy Council, endorsed the Multiple Land Use

15 Land Access Implementation Committee, *Land Access Implementation Committee Report*, 30 August 2013, p. 7, https://www.dnrm.qld.gov.au/__data/assets/pdf_file/0003/193089/land-access-implementation-committee-report.pdf (accessed 28 April 2016).

Framework (MLUF) in 2013.[16] The MLUF sought to provide a consistent approach to land use development and planning across all jurisdictions and was:

> …designed to operate within established regulatory and policy frameworks relating to land ownership, usage and access. The principles and components will not alter existing land rights assigned under Crown land, freehold, native title and pastoral leases. However, the framework may influence the way in which rights and obligations related to land tenure are imposed on users by State and Territory Governments.[17]

3.19 However, the committee heard from many submitters that despite the existence of codes and frameworks many landowners felt powerless, downtrodden and as if they do not have sufficient control over their land. This issue is discussed in more detail later in the report.

Land access negotiation

3.20 The committee noted that a key issue with state and territory access and compensation arrangements is that they do not address the imbalance in bargaining power nor the often competing interests between the individual landowner and the energy company. This concern was stated in the submission from p&e law which indicated that:

> If as a consequence of negotiations under the PAG Act no agreement is reached, CSG companies can take court action to determine the terms upon which they can enter land and conduct advanced activities. A landholder is compelled to allow access. In other areas of law relating to contracts a person entering into a contract as a result of "compulsion" can have the contract set aside.
>
> Individual landowners have other business demands and interests and they do not include the need to be aware of current and potential obligations of the CSG companies. They do not have immediate easy access to those documents, even through internet searching, and those documents, where they are known, are often not readily provided following request to the mining companies. There is no legal obligation, for example, to provide documents to landholders disclosing the likely noise impacts from CSG mining, despite there being a requirement to undertake modelling of the potential noise impacts on landowners![18]

3.21 The National Farmers' Federation (NFF) also indicated that:

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16 Multiple land use is where land is used for different purposes simultaneously and sustainably with a view to maximise the benefits for all Australians. Standing Council on Energy and Resources (SCER), *The Multiple Land Use Framework,* pp. 2, 6, http://www.scer.gov.au/sites/prod.energycouncil/files/publications/documents/Multiple%20Land%20Use%20Framework%20-%20Dec%202013.pdf (accessed 27 April 2016).

17 Standing Council on Energy and Resources (SCER), *The Multiple Land Use Framework, p. 6,* http://www.scer.gov.au/sites/prod.energycouncil/files/publications/documents/Multiple%20Land%20Use%20Framework%20-%20Dec%202013.pdf (accessed 27 April 2016).

18 p&e law, *Submission 246,* p. 3.

> …land access agreements may be the only time where landholders can actually seek to positively influence the process, and receive some protections and assurances from the mineral and petroleum industries.
>
> However, it is worthwhile noting that farmers may be overwhelmed, confused and under stress…[19]

3.22 The concerns raised by these and other submitters in relation to negotiating land access, land use and compensation matters as related to unconventional gas mining, were consistent throughout the inquiry. Many stories of emotional distress perceived to be a result of the forced, expensive and stressful nature of the negotiations and interactions with various energy companies were conveyed to the committee.[20]

3.23 While the committee heard that there were many examples of uneasy, acrimonious and irreconcilable relationships between landholders and energy companies, AgForce submitted that, in their view, relationships had improved:

> …the operating landscape for Queensland landholders dealing with CSG has greatly improved during this time. We would also acknowledge the significant and necessary improvements in the approach by resource companies to negotiations and dealings with landholders, from a heavy-handed, legal-rights enforcement approach to a greater understanding of the need for long-term, mutually-beneficial relationships with landholders.[21]

3.24 Santos advised the committee that they conduct unconventional gas mining operations in six onshore basins in Australia and are proud of their reputation with landholders.[22]

3.25 The committee noted a number of suggestions which may assist in overcoming some of the continuing issues between landholders and energy companies. The NFF suggested that land access agreements 'should be activities based, and subject to renegotiation should the schedule of activities change'.[23] They also suggested that agreements should include as a minimum:

- Appropriate recompense for the full range of costs including those associated with the preparation of agreements, the use of assets and access;
- Clear agreements with landholders regarding the disposal and acquisition of any exploration/extraction licence;
- Mining practices including complying with drilling legislation, and the use of chemicals;

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19 National Farmer's Federation (NFF), *Submission 171*, p. 3.

20 For more details see Chapter 4.

21 AgForce, *Submission 235*, p. 2.

22 Santos Limited, *Submission 57*, p. 4.

23 National Farmer's Federation (NFF), *Submission 171*, p. 3.

- Biosecurity arrangements;
- OH&S requirements;
- Rehabilitation of land;
- Appropriate insurance and bond arrangements;
- Clear specification of responsibility for, and insurance arrangements to cover, accidental damage to mining infrastructure as a result of farming operations;
- Provisions for insurance to protect farming land from accidental damage caused by mining processes and infrastructure;
- Arrangements for normal agricultural operations;
- Any and all conduct whilst operating within the landscape; and
- Protocols regarding notification prior to access.[24]

3.26 A large number of submitters, including p&e law, advocated for legislative change to provide landholders with 'the right to refuse CSG mining on their land'.[25] The committee noted a large number of suggestions by landholders that they be given the urgent right to refuse mining on their land, avoiding the need for them to enter into any forced agreements with energy companies. Many also advocated for the creation of a statutory obligation for energy companies 'to recommend to landholders that they seek independent advice prior to entering agreements',[26] whether that comprises legal advice or otherwise.

3.27 AgForce also made a number of suggestions in relation to improving outcomes for landholders when dealing with resource companies. While these suggestions are based on the Queensland experience, the committee considers that they have wider application:

- A review of the existing 'Make Good' framework and greater transparency regarding the outcome of negotiations and bore assessment/investigations. This has been agreed to by the State Government and the Department of Environment and Heritage Protection are undertaking a review of the 'make good' framework in 2016;
- Ability for landholders to seek and be reimbursed for independent hydrogeological advice as part of the 'make good' process;
- Greater consistency of groundwater legislation and regulations between resource sectors (mining and gas) and avoidance and then proactive mitigation of residual impacts;

24 National Farmer's Federation (NFF), *Submission 171*, p. 3.

25 p&e law, *Submission 246*, p. 12.

26 p&e law, *Submission 246*, p. 12.

- Greater consistency between companies, and fairness and transparency of Conduct and Compensation Agreements (CCAs);
- Greater 'front-loading' of technical studies prior to project development including potential impacts to water supplies and users (ground and surface), confirmation of available alternative groundwater supplies for 'make good' negotiations and direct analysis of impacts to agricultural and grazing lands;
- Continued support and funding to provide factual and independent information and support to landholders; and
- Implementation of an independent ombudsmen to act as an adjudicator in disputes between resource companies and landholders to avoid Land Court proceedings.[27]

3.28 The committee considers that although energy companies and governments may consider that the legislative and regulatory frameworks governing unconventional gas are adequate,[28] the committee has found that the majority of submitters and witnesses to this inquiry do not agree.[29] The committee has considered evidence from many witnesses and submitters who have made strong calls for a right to say no to unconventional gas mining on their land.[30]

3.29 The committee notes that a private senator's bill, the Landholders' Right to Refuse (Gas and Coal) Bill 2015, was considered by the Senate Economics Environment and Communications References Committee in September 2015. This bill sought to place a ban on hydraulic fracturing, and to provide landholders with the right to say no to gas and coal activities on their land. While a majority report did not recommend that the bill be passed, it should be noted that the bill was supported by the Australian Greens and Senator Glenn Lazarus. Further, the committee considers that it provides a useful example of a legislative proposal to strengthen the rights of individual land holders.

3.30 Many landowners advised the committee of their difficult and stressful dealings with resource companies. They advised that they had been bullied, harassed, intimidated and pressured into accepting compensation arrangements because they were not able to refuse resource companies access to their land. Landholders also stated that resource companies threatened them by telling them that if they did not allow companies onto their land, they would be taken to the Land Court.

Legislative and regulatory framework

3.31 In this section, the legislative and regulatory framework for unconventional gas mining activity in Australia will be set out, along with:

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27 Agforce, *Submission 235*, p. 3.

28 Santos Limited, *Submission 57*, p. 3.

29 See for example: Gasfield Free Seaspray, *Submission 34;* Ms Ellen Garcia and Mr Alan Jamison, *Submission 271*.

30 Ms Ellen Garcia and Mr Alan Jamison, *Submission 271*, p. 6

- information provided on regulation at the Commonwealth, state and territory levels;
- the program of harmonisation of regulation, and international experiences of unconventional gas mining; and
- the international experience of unconventional gas mining regulation.

Commonwealth

3.32 Regulation of unconventional gas mining is largely the responsibility of the states and territories. The Commonwealth's role is limited in its application and relates only to aspects of environmental and industrial chemical regulation. The committee notes that Australia lacks a national strategy or approach to the conduct of the unconventional gas mining industry.

3.33 The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) regulates coal seam gas mining where it may have a significant impact on water resources.[31] The Commonwealth Department of the Environment also has oversight of the resource development approval process through the administration of the EPBC Act.

3.34 The EPBC Act established the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC) as a statutory committee in 2012. The IESC provides:

> - Expert scientific advice on coal seam gas and large coal mining proposals as requested by the Australian Government and state government regulators.
>
>   This advice is provided to enable the regulator's decisions about coal seam gas and large coal mining developments to be informed by the best available science about the potential water related impacts associated with those developments.
> - Advice to the Australian Government on bioregional assessments, other research projects and research priorities.[32]

3.35 The Commonwealth works with the states and territories through the Council of Australian Governments (COAG) Energy Council (formerly the Standing Council of Energy and Resources (SCER)) in order to enable 'collaboration on developing an integrated and coherent national energy policy'.[33] This Council states that through it, respective Commonwealth, state and territory ministers 'are working together to bring

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31 *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*, s24D, s24E.

32 Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC), *The IESC*, http://www.iesc.environment.gov.au/iesc (accessed 27 April 2016).

33 *COAG Energy Council*, http://www.scer.gov.au/ (accessed 28 April 2016).

scientific and regulatory expertise to support the responsible development of unconventional gas supplies' to meet increasing gas demand.[34]

3.36 Under the National Partnership Agreement on Coal Seam Gas and Large Coal Mining Developments signed in March 2012, the Commonwealth and the states and territories agreed 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'.[35]

3.37 The Domestic Gas Strategy, released by the Minister for Industry, Science and Innovation in April 2015, sets out the Commonwealth's role in relation to unconventional gas mining and the Commonwealth's expectations of the state and territory governments and industry in facilitating the responsible development of unconventional gas resources.[36]

Domestic Gas Strategy

3.38 The Australian Government submission to this inquiry states that the Domestic Gas Strategy reflects the Australian Government's commitment to balancing competing land uses, as identified in the principles articulated in the *Agricultural Competitiveness White Paper*, which include:

- access to agricultural land should only be done with the farmer's agreement, and that should they agree, they should be fairly compensated;
- there must be no long term damage to water resources used for agriculture and local communities; and
- prime agricultural land and quality water resources must not be compromised for future generations.[37]

Commonwealth – the 'water trigger'

3.39 The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) regulates coal seam gas mining only to the extent that it may have a significant impact on water resources.[38] The EPBC Act also sets out that the Minister for the Environment must obtain advice from the IESC if the minister

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34 COAG Energy Council, *Gas Supply*, http://www.scer.gov.au/australian-gas-markets-3/gas-supply (accessed 28 April 2016).

35 *National Partnership Agreement on Coal Seam Gas and Large Coal Mining Developments*, 2012, p. 3, http://www.federalfinancialrelations.gov.au/content/npa/environment/csg_and_lcmd/NP.pdf (accessed 28 April 2016).

36 Department of Industry Innovation and Science, *Unconventional gas*, http://www.industry.gov.au/Energy/EnergyMarkets/Pages/UnconventionalGas.aspx (accessed 28 January 2016).

37 Australian Government, *Submission 123*, p. 6.

38 *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*, s24D, s24E.

believes that water resources or a matter of national environmental significance will be adversely affected.[39]

3.40 The EPBC Act was amended in June 2013 to 'provide that water resources are a matter of national environmental significance, in relation to coal seam gas and large coal mining development'.[40] This provision is known as the 'water trigger' and requires any CSG development that is likely to have a significant impact on a water resource, to be 'comprehensively assessed at a national level'.[41]

3.41 It also allows the Minister for the Environment to set conditions as part of the project approval process, to ensure that 'any impacts from these projects on a water resource are acceptable'. In doing so, the Minister is required to seek the advice of the IESC.[42]

3.42 The EPBC Act allows the Commonwealth to enter into a 'bilateral agreement' with a state or territory in relation to environmental assessments.[43] Under these agreements, the assessment process is accredited and undertaken by the state or territory government regulator. The responsible Commonwealth Minister and relevant state or territory delegate then make separate decisions on the approval of developments.

3.43 The Commonwealth government, in its submission, states that this approach delivers a 'nationally comprehensive' approach to assessing and conditioning projects that are likely to have a significant impact on water.[44]

3.44 As at 15 January 2016, a number of coal seam gas developments in New South Wales and Queensland were, or had been assessed under the EPBC Act with seven coal seam gas developments having been determined to be a 'controlled action' under the water trigger of the EPBC Act.[45]

3.45 Of these seven developments, three were approved, three are undergoing assessment and one was withdrawn. The IESC has provided advice on four of these developments, and the IESC will advise on the remaining three projects before decision.[46]

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39 *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*, s131AB.

40 Department of Industry Innovation and Science, *Unconventional gas*, http://www.industry.gov.au/Energy/EnergyMarkets/Pages/UnconventionalGas.aspx# (accessed 27 April 2016)

41 Australian Government, *Submission 123*, p. 6.

42 Australian Government, *Submission 123*, p. 6.

43 Bilateral agreements under the EPBC Act also exist in terms of 'approvals' as well as 'assessments' but under the current legislation any approvals in relation to the 'water trigger' cannot be included in the scope of an 'approval' bilateral agreement.

44 Australian Government, *Submission 123*, p. 6

45 Australian Government, *Submission 123*, p. 6

46 Australian Government, *Submission 123*, p. 6.

3.46 The Australian Government advised the committee that since the introduction of the water trigger, the Minister for the Environment has set a number of water resource related conditions for the approval of CSG developments. These have included:

- more extensive baseline monitoring;
- further research characterising relevant groundwater resources;
- best practice monitoring and management for both water quality and quantity;
- the review and updating of numerical groundwater models;
- developing and implementing management actions to manage risk in stages so that changes or modifications can take new information into account; and
- the identification of thresholds and limits relevant to the project's impacts on groundwater and surface water, including requirements to stop activity where limits have been reached.[47]

3.47 An EPBC Amendment Bill was put before the Australian Parliament in 2014 which sought to expand the scope of 'approval bilateral agreements' to enable the water trigger to be included. In the face of community opposition, this section of the amendment was removed in 2015, however proposed provisions to strengthen the role of the IESC were retained.[48]

3.48 The water trigger is currently being independently reviewed, as is required under section 25 of the *EPBC Amendment Act 2013*. Mr Stephen Hunter was appointed as the independent reviewer, and his report is expected to be tabled in the Australian Parliament in May 2016.

Industrial Chemicals (Notification and Assessment) Act 1989

3.49 Chemicals that are used for commercial purposes, including those used for CSG drilling or hydraulic fracturing are required to be registered with the National Industrial Chemicals Notification and Assessment Scheme (NICNAS).

3.50 NICNAS was established in July 1990 as part of the *Industrial Chemicals (Notification and Assessment) Act 1989* (ICNA Act) and is administered by the Department of Health.[49]

3.51 In June 2012, the Australian Government commissioned NICNAS to lead the National Assessment of Chemicals Associated with Coal Seam Gas Extraction in Australia. The assessment is informed by advice from the interim IESC, and uses a whole-of-government approach to bring together the expertise of a number of Australian Government agencies to 'maximise effort and use existing scientific

47 Australian Government, *Submission 123*, p. 7.

48 This bill lapsed upon prorogation.

49 NICNAS, *About Us*, https://www.nicnas.gov.au/about-nicnas/about-us (accessed 27 April 2016).

analyses'. Project partners are NICNAS, the Department of the Environment, CSIRO and Geoscience Australia.[50]

3.52 The assessment is due to report in 2016.

States and territories

3.53 As noted above, responsibility for the legislation and regulation surrounding unconventional gas mining and the issue of relevant licences largely rests with the state and territory governments.[51] Similarly, monitoring of environmental impacts is conducted by the relevant state and territory government. The committee notes feedback from many submitters that despite regulation surrounding the conduct of unconventional gas mining, landholders consider compliance activities by governments to be insufficient.

3.54 The following table sets out the primary legislation which governs the extraction of coal seam gas in the states and territories. It should be noted, however, that in addition to the listed legislation, states and territories have environmental, local planning, land rights, water, heritage, workplace and public health and safety related legislation, regulations and policy that may also apply to unconventional gas projects.

50 NICNAS, *National Assessment of Chemicals Associated with Coal Seam Gas Extraction in Australia*, https://www.nicnas.gov.au/communications/issues/fracking-hydraulic-fracturing-coal-seam-gas-extraction/faqs (accessed 27 April 2016).

51 Geoscience Australia, *Atlas of minerals resources, mines and processing centres*, http://www.australianminesatlas.gov.au/education/fact_sheets/coal_seam_gas.html (accessed 7 January 2016).

State or territory	Primary legislation	Responsible Minister
Victoria[1]	Licensing for exploration and production of coal seam gas is regulated under the *Mineral Resources Sustainable Development Act 1990* (VIC), while licensing for the exploration and production of shale and tight gas is regulated under the *Petroleum Act 1998* (VIC).[52]	Minister for Energy and Resources
Queensland	*Environmental Protection Act 1994* (QLD), the *Petroleum Act 1923* (QLD), the *Petroleum and Gas (Production and Safety) Act 2004* (QLD), the *Water Act 2000* (QLD) and the *Water Supply (Safety and Reliability) Act 2008* (QLD).[53]	Minister for Natural Resources and Mines
New South Wales	NSW Gas Plan, *Petroleum (Onshore) Act 1991* (NSW) and the *Environmental Planning and Assessment Act 1979* (NSW)[54]	Minister for Resources and Energy
South Australia	All oil and gas exploration and production activities are regulated through the *Petroleum and Geothermal Energy Act 2000* (PGE Act) (SA)	Minister for State Development
Western Australia	*Petroleum and Geothermal Energy Resources Act 1967* (WA), *Petroleum Pipelines Act 1969* (WA)	Minister for Mines and Petroleum
Tasmania[2]	*Mineral Resources Development Act 1995* (TAS)	Minister for State Growth
Northern Territory	*Petroleum Act 1984* (NT)	Minister of Mines and Energy

Table 1: Legislation governing the extraction of coal seam gas in states and territories

1. In Victoria there is currently a moratorium on hydraulic fracturing, exploration drilling and new exploration licences for all onshore gas. A ban on the addition of BTEX chemicals in hydraulic fracturing has also been legislated.

2. In Tasmania there is currently a moratorium on the practice of fracking.

3.55 Many submitters highlighted what they felt were significant deficiencies and inadequacies in the state and territory environmental assessment and approval processes for current and future unconventional gas mining projects. The Lock the

52 Additional regulation is listed at Appendix 4 of the Victorian Legislative Council Environment and Planning Committee, *Inquiry into unconventional gas in Victoria*, http://www.parliament.vic.gov.au/epc/references-committee-inquiries/article/2633 (accessed 8 December 2015).

53 In Queensland and New South Wales, methane produced during coal mining (coal mine methane, or CMM) is subject to mineral resources legislation, while coal seam gas is subject to petroleum resources legislation.

Gate Alliance summarised a number of issues in their assessment of state and territory legislation, regulation and policy, noting that:

> …the roll out of the unconventional gas industry across Australia has taken place within a regulatory environment that is grossly inadequate to the task of managing this geographically dispersed and spatially intensive industry and the new and often experimental processes and methods it employs.
>
> Across the country, the current State legislation under which the [unconventional] gas industry is operating often fails to address a whole range of factors and governments are playing policy catch up as this industry is rolled out without proper consideration of the possible or likely impacts.[54]

3.56 The Environmental Defenders Offices of Australia also claimed there were significant deficiencies in legislation relating to unconventional gas development in New South Wales, Queensland, Tasmania and the Northern Territory, largely in relation to environmental assessment processes, consent for mining developments and land use.[55]

3.57 The Municipal Association of Victoria submitted that:

> There is concern that the current regulatory framework may not be adequate to ensure protection of the natural environment, local communities, rural industries and private property rights. Regulators may not have the capacity to properly oversee the operations of industry.[56]

3.58 The Northern Territory Government submitted that in the Northern Territory, the Energy Directorate currently undertakes compliance monitoring. However, if industry activity increased in the Northern Territory, the Energy Directorate would be unable to continue to undertake this work:

> In the Territory, the oil and gas industry is still in its infancy and so for low level activity, the above compliance monitoring tasks, although very intensive, are manageable. However, Compliance Monitoring by the Energy Directorate will be unsustainable with the increased levels of activity that are expected to continue in the NT. The allocation of compliance monitoring responsibilities will need to be addressed in the Energy Directorate's legislation review that will include the future release of new Petroleum Resource Management Regulations (PRMR).[57]

Waste disposal in Queensland – an example of complexity

3.59 The complexity associated with regulating unconventional gas mining was drawn to the attention of the committee via the Queensland Parliament's estimates process. On 21 August 2015, the Agriculture and Environment Committee questioned

54 The Lock the Gate Alliance, *Submission 146*, p. 6.

55 Environmental Defenders Offices of Australia, *Submission 56.*

56 Municipal Association of Victoria, *Submission 112*, p. 6.

57 Northern Territory Department of Energy and Mines, *Submission 37*, p. 9.

the Department of Environment and Heritage Protection on the issue of land spraying.[58]

3.60 Mr Stephen Bennett, the Queensland Member for Burnett, drew attention to the fact that resource companies are able to dispose of waste materials on land that is owned by them. The Director-General of the Department advised that this was an activity that was regulated by a beneficial use agreement, and that resource companies had to have approval to dispose of waste material arising from unconventional gas mining activities.[59]

3.61 The committee notes that this is yet another example of the high level of regulation that is required of unconventional gas mining activities. The committee is also concerned to ensure that high regulatory standards are in place, and that the states and territories are appropriately resourced to ensure that waste material is not being inappropriately disposed of, even if it is on land that is owned by resource companies. The committee also notes feedback from submitters that self-regulation by resources companies gives rise to significant opportunities for unreported noncompliance.

Harmonisation

3.62 In 2013 the Standing Council of Energy and Resources (SCER), now known as the COAG Energy Council, endorsed the National Harmonised Regulatory Framework for Natural Gas from Coal Seams (the Framework) which:

> …delivers on a commitment by Australian governments to put in place a suite of leading practice principles, provide guidance to regulators in managing development of CSG and ensure regulatory regimes are robust, consistent and transparent across all Australian jurisdictions. The Framework focuses on four key operational areas of CSG, which cover the lifecycle of development: well integrity, water management and monitoring, hydraulic fracturing and chemical use.[60]

3.63 Under the Framework, each state and territory is required to report to the COAG Energy Council on their implementation of the Framework. They are to provide plans for harmonising legislation related to CSG and other unconventional gas sources for the forthcoming year and provide updates on achievements and challenges

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58 Unconventional gas mining creates waste products, for which the disposal and management is regulated by the Queensland Department of Environment and Heritage Protection.

59 Agricultural and Environment Committee, Queensland Parliament, *Environment, Heritage Protection, National Parks and the Great Barrier Reef - Estimates transcript of evidence*, 21 August 2015, p. 68.

60 COAG Energy Council, *National Harmonised Regulatory Framework for Natural Gas from Coal Seams*, December 2015, p. 1. http://www.scer.gov.au/sites/prod.energycouncil/files/publications/documents/CSG-Framework-annual-update.pdf (accessed 27 April 2016).

they have encountered in their efforts to harmonise regulations in the previous 12 months.[61]

3.64 The Domestic Gas Strategy places a renewed emphasis on utilising the Framework to remove 'unnecessary regulatory impediments' and streamline 'regulation across governments' with the gas market.[62]

3.65 A number of submitters to the inquiry emphasised the need for harmonisation of the legislative and regulatory frameworks for unconventional gas mining across Australian jurisdictions.

3.66 Doctors for the Environment Australia argued that the inconsistencies between state and territories needs to be resolved:

> …a national approach is essential to reduce the extensive risks associated with unconventional gas mining. The most (self-)evident reason for this is that sets of unconventional gas operations may take place in regions overlying, and therefore threatening, precious aquifers, aquifers that do not recognise state borders. Here we face the actual, absurd situation in which two (or more!) states may take different approaches to exploration and mining licensing, different approaches to aquifer management, different approaches to the approved use of toxic chemicals, different approaches to waste-water management and different Air Quality requirements. We emphasise, this absurd situation almost exists currently: Victoria has an unconventional gas activity moratorium, South Australia does not, yet SA may come to approve unconventional gas activity in the South East of SA extracting gas in relation to the same aquifer that Victoria is protecting.[63]

3.67 Many submitters felt that harmonisation would not only benefit stakeholders through providing consistency in process and standards but also enable a degree of flexibility between jurisdictions. The Northern Land Council (NLC) noted that:

> Harmonisation of jurisdictional regulatory frameworks across Australia would provide the benefit of holding companies and State and Territory Government to a common standard of practice.[64]

3.68 NTSCorp concurred, noting that they would support:

> …the development of a comprehensive policy to establish best practice and a harmonised framework of federal and state/territory legislation in relation to unconventional mining and CSG proposals.[65]

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61 COAG Energy Council, *National Harmonised Regulatory Framework for Natural Gas from Coal Seams*, December 2015, p. 1. http://www.scer.gov.au/sites/prod.energycouncil/files/publications/documents/CSG-Framework-annual-update.pdf (accessed 27 April 2016).

62 Department of Industry and Science, *Domestic Gas Strategy*, 2015, p. 2 http://industry.gov.au/energy/energymarkets/documents/domestic-gas-strategy.pdf (accessed 27 April 2016).

63 Doctors for the Environment, *Submission 116*, p. 4.

64 Northern Land Council (NLC), *Submission 273*, p. 11.

3.69 A number of submissions to the inquiry acknowledged the formulation of the Framework, with the Northern Land Council stating that improving collaboration between the Commonwealth and the states and territories under the Framework:

> …commits each State and Territory to collaborate on improving their information resources, and sharing knowledge on scientific, technical and regulatory issues without surrendering their right to determine how they use this shared capacity while navigating what is already a complex policy landscape.[66]

3.70 However the Environmental Defenders Offices of Australia were critical of the Framework, and submitted the view that it is aspirational in nature and does not apply to all forms of unconventional gas development.[67]

3.71 The committee notes that not all submitters were in favour of national regulation, with the Chamber of Minerals and Energy of Western Australia (CME) advocating that:

> Given the regulatory framework already in place in Western Australia to ensure safe practises around unconventional gas extraction, CME considers the Select Committee's Inquiry unnecessary and requests the Inquiry, in developing recommendations, to prevent duplication in the regulatory requirements across jurisdictions.[68]

3.72 Although the committee acknowledges the efforts of the Commonwealth and the states and territories to work towards harmonisation through the COAG Energy Council, the committee considers that the work of the Council is not well known, and that it needs to take steps to implement the national harmonisation framework in a more timely manner.

3.73 In addition, the committee is concerned that the goal of reducing what are described in the Domestic Gas Strategy as 'unnecessary regulatory impediments',[69] will expose landholders and the community to reduced standards that do not adequately protect human and animal health and the environment.

International experience of regulating unconventional gas mining

3.74 The committee notes that unconventional gas mining in a variety of forms—shale, tight and coal seam gas extraction—is being carried out in a number of overseas jurisdictions including Canada, the United States of America, Russia, the United Kingdom (not including Scotland and Wales), New Zealand, China, and in some countries within the European Union.

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65 NTSCorp, *Submission 290*, p. 3.

66 Northern Land Council (NLC), *Submission 273*, p.12.

67 Environmental Defenders Offices of Australia, *Submission 56*, p. 9.

68 Chamber of Minerals and Energy of Western Australia, *Submission 221*, p. 2.

69 Department of Industry and Science, *Domestic Gas Strategy*, 2015, p. 2 http://industry.gov.au/energy/energymarkets/documents/domestic-gas-strategy.pdf (accessed 27 April 2016).

3.75 The committee also notes that there are a number of other countries, provinces and territories that have put in place moratoria on unconventional oil and gas mining including Scotland, Wales, a number of provinces and territories in Canada (New Brunswick, Quebec, Nova Scotia)[70] and countries in Europe such as France, Germany, Ireland, the Netherlands, Bulgaria, the Czech Republic and Luxembourg.[71] In many cases, these moratoria are in place due to one or more of the following concerns about unconventional gas mining:

- environmental impacts;
- public health impacts;
- level and adequacy of planning guidance; and
- level and adequacy of ongoing regulation.

3.76 Where unconventional gas mining is in operation overseas, the regulatory and legislative frameworks operate across federal, state and local jurisdictions. In countries with a federal system, there have been calls for harmonisation and consistency in the regulation of unconventional gas.[72]

3.77 The committee notes that as individual overseas countries have differing parliamentary and legal systems and varying environmental and geological characteristics, overseas legislative and regulatory frameworks for unconventional gas exploration and production are not always directly comparable to the Australian situation. However, the committee has observed that the regulatory schemes across a variety of international jurisdictions do have commonalities, including land access, water management, greenhouse and fugitive emissions and the use of hazardous chemicals.

3.78 A number of submissions made reference to the experiences and practices of overseas jurisdictions. The Northern Territory Department of Mines and Energy (DME) submitted that they had assessed the practices of Alberta, Canada, and Oklahoma, Illinois, Colorado, Texas and North Dakota in the United States of America. The DME has also assessed the State Review of Oil and Natural Gas

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70 See, for example: D. Sherwood, 'Canada's New Brunswick province bans fracking, plans study', Reuters Canada, 26 March 2015, http://ca.reuters.com/article/domesticNews/idCAKBN0MM2OZ20150326 (accessed 28 April 2016).

71 For a summary relating to fracking in Europe, see, for example: L. Herringshaw, 'Whatever happened to the great European fracking boom?', *The Conversation*, 11 March 2015, http://theconversation.com/whatever-happened-to-the-great-european-fracking-boom-38550 (accessed 28 April 2016).

72 See, for example, J Freeman, 'The Wise Way to Regulation Gas Drilling', *The New York Times*, 5 July 2012, http://www.nytimes.com/2012/07/06/opinion/the-wise-way-to-regulate-hydraulic-fracturing.html?_r=3 (accessed 27 April 2016); IEA, *Golden Rules for a Golden Age of Gas, World Energy Outlook Special Report on Unconventional Gas (IEA Golden Rules)*, 2012, p. 105, http://dpl/Books/2012/WEO2012_GoldenRulesReport.pdf (accessed 28 April 2016).

Environmental Regulations and the guidelines developed by the Interstate Oil and Gas Compact Commission.[73]

3.79 The Australian Government submitted that in developing the recent COAG Energy Council's Domestic Gas Strategy and the Gas Supply Strategy, knowledge and experience was drawn from both domestic and international sources, including the United States of America.[74]

3.80 The Environmental Defenders Offices of Australia drew attention to leading practices in overseas jurisdictions, stating that their research had shown that:

> Better practices do exist and are currently being implemented in other jurisdictions. We concluded that adapting a number of these practices and incorporating them into Australian laws, subject to local need and conditions, would be appropriate.[75]

3.81 The committee has considered a set of respected international principles formulated by the International Energy Agency (IEA) in its report, *Golden Rules for a Golden Age of Gas* (IEA Golden Rules), published in 2012.

3.82 The IEA Golden Rules can be summarised as follows, and provide a useful overview of the factors that should be considered in designing regulations for unconventional gas activities:[76]

- measure, disclose and engage: establish baselines for key environmental indicators, measure and disclose operational data, minimise disruption during operations, and integrate engagement with local communities into every phase of the development;
- watch where you drill: choose sites carefully, being mindful of the local community;
- isolate wells and prevent leaks: put into place robust rules on well design, construction, cementing and integrity testing, prevent and contain any surface spills and leaks, and ensure that waste fluids and solids are property disposed of;
- treat water responsibly: reduce freshwater use, reuse or recycle where possible, store and dispose of water safely, and minimise use of chemical additives;
- eliminate venting, minimise flaring and other emissions;
- be ready to think big: consider the cumulative and regional effects of multiple drilling, production and delivery activities on the environment; and

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73 Northern Territory Government's Department of Mines and Energy, *Submission 37*, p. 10.

74 Australian Government, *Submission 123*, p. 18.

75 Environmental Defenders Offices of Australia, *Submission 56*, p. 11.

76 IEA, *Golden Rules for a Golden Age of Gas, World Energy Outlook Special Report on Unconventional Gas (IEA Golden Rules)*, 2012, http://dpl/Books/2012/WEO2012_GoldenRulesReport.pdf (accessed 28 April 2016).

- ensure a consistently high level of environmental performance.[77]

3.83 The committee notes that these 'Golden Rules' have not been referred to by any government, mining or regulatory body in evidence to this inquiry, however the committee considers that these principles offer useful guidance to legislators, policy-makers, regulators and operators to inform the design and implementation of legislation, regulations and policy to more adequately address the environmental and social impacts of unconventional gas mining.

77 IEA, *Golden Rules for a Golden Age of Gas, World Energy Outlook Special Report on Unconventional Gas (IEA Golden Rules)*, 2012, p. 13-14, http://dpl/Books/2012/WEO2012_GoldenRulesReport.pdf (accessed 28 April 2016).