Chapter 1

Introduction

1.1 On 5 March 2015, the Senate, on the recommendation of the Selection of Bills Committee, referred the Landholders' Right to Refuse (Gas and Coal) Bill 2015 to the Environment and Communications Legislation Committee for inquiry and report.

1.2 The bill is a private senator's bill introduced by Senator Waters. The bill proposes to:

- make gas or coal mining activities undertaken by a constitutional corporation without prior written authorisation from landholders unlawful; and
- ban constitutional corporations from engaging in hydraulic fracturing operations for coal seam gas (CSG), shale gas and tight gas.

1.3 Senator Waters has previously introduced bills in the 43rd and 44th Parliaments that sought to provide landholders with the right to refuse the undertaking of gas and coal mining activities by corporations on certain land. The previous bills were the:

- Landholders' Right to Refuse (Coal Seam Gas) Bill 2011, which lapsed at the end of the 43rd Parliament; and
- Landholders' Right to Refuse (Gas and Coal) Bill 2013, which was negatived at the second reading on 6 March 2014.

Conduct of the inquiry

1.4 The reporting date for the inquiry was initially 7 August 2015; however, on 24 June 2015 the Senate granted an extension of time to report until 31 August 2015. The reporting date was subsequently further extended to 30 September 2015.

Submissions and correspondence

1.5 In accordance with its usual practice, the committee advertised the inquiry on its website and wrote to relevant individuals and organisations inviting submissions. The closing date for submissions was 29 May 2015. The committee received 96 submissions, which are listed at Appendix 1. The submissions may be accessed through the committee's website: www.aph.gov.au/senate_ec.

1.6 In addition to the published submissions, the committee received a significant number of form letters and other correspondence that expressed support for the bill. The committee agreed to publish an example of each type of form letter as a submission. In total, 166 individuals provided a form letter. The committee also received 115 emails that contained short statements of support for the bill or discussed matters beyond the scope of this inquiry. This correspondence was available to the

committee throughout the inquiry, however, the emails were not published as submissions.

Public hearings

1.7 Public hearings were held in Brisbane (on 27 July 2015), Canberra (on 28 July 2015 and 9 September 2015) and Tamworth (on 25 August 2015). A list of witnesses who gave evidence at these hearings is at Appendix 2. The transcripts of evidence may be accessed through the committee's website: www.aph.gov.au/senate_ec.

Acknowledgement

1.8 The committee thanks all of the organisations and individuals who assisted the committee with the inquiry.

Consideration by other committees

1.9 When examining a bill or draft bill, the committee takes into account any relevant comments published by the Senate Standing Committee for the Scrutiny of Bills. The Scrutiny of Bills Committee assesses legislative proposals against a set of accountability standards that focus on the effect of proposed legislation on individual rights, liberties and obligations, and on parliamentary propriety.

1.10 The bill was considered by the Scrutiny of Bills Committee in its *Alert Digest* no. 3 of 2015. That committee had no comment on the bill.[1]

Scope of this inquiry and structure of this report

1.11 In undertaking this inquiry, the committee has given consideration to the evidence received about coal and gas activities to the extent necessary to understand what the bill seeks to achieve and the approach taken in drafting the bill. However, the Senate has not asked the committee to conduct a wide-ranging inquiry into issues associated with coal mining and onshore gas extraction. Rather, the committee has examined a specific legislative proposal. The committee's principal task is to formulate a recommendation to the Senate as to whether this particular bill should be passed. Accordingly, this is not a comprehensive report on various issues that are relevant to the extraction of coal and gas. Many of the issues raised in submissions to this inquiry, particularly those relating to the extraction of CSG, have been considered by other inquiries. A non-exhaustive list of other inquiries is provided at Appendix 3.

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1 Senate Standing Committee for the Scrutiny of Bills, *Alert Digest No. 3 of 2015*, 18 March 2015, p. 17. The Scrutiny of Bills Committee noted that it considered a similar bill in 2014. At that time, the Scrutiny of Bills Committee commented on subclause 9(3) of the earlier bill, which provided that the defendant would bear an evidential burden of proof regarding the existence of prior written authorisation. The Scrutiny of Bills Committee noted the explanation provided to the effect that the matter 'may be said to be peculiarly within the knowledge of the defendant'. In the circumstances, the Scrutiny of Bills Committee did not make any further comment on this matter. See *Alert Digest No. 1 of 2014*, 12 February 2014, p. 9.

1.12 This report comprises four chapters:

- The remaining paragraphs of this chapter provide an overview of the resources that are relevant to the bill as well as a summary of the provisions contained in the bill.
- Chapter 2 outlines some of the evidence the committee received regarding the experiences of individuals who live near coal mining and unconventional gas operations, and highlights the various concerns put to the committee about the effect of these industries. That chapter also provides overviews of:
    - the property and mineral rights framework in Australia, to the extent relevant to the bill;
    - the existing state-based frameworks that govern issues related to land access and compensation; and
    - the current role of the Commonwealth in land access issues and unconventional gas.
- Chapter 3 considers the evidence that the committee received about the overall approach taken and specific drafting used in the bill.
- The committee's conclusion and recommendation is provided at Chapter 4.

Coal and unconventional gas resources in Australia

1.13 As will be outlined later in this chapter, the bill would apply to coal, CSG, shale gas and tight gas resources. The following paragraphs provide background information on these resources and how those resources are extracted.

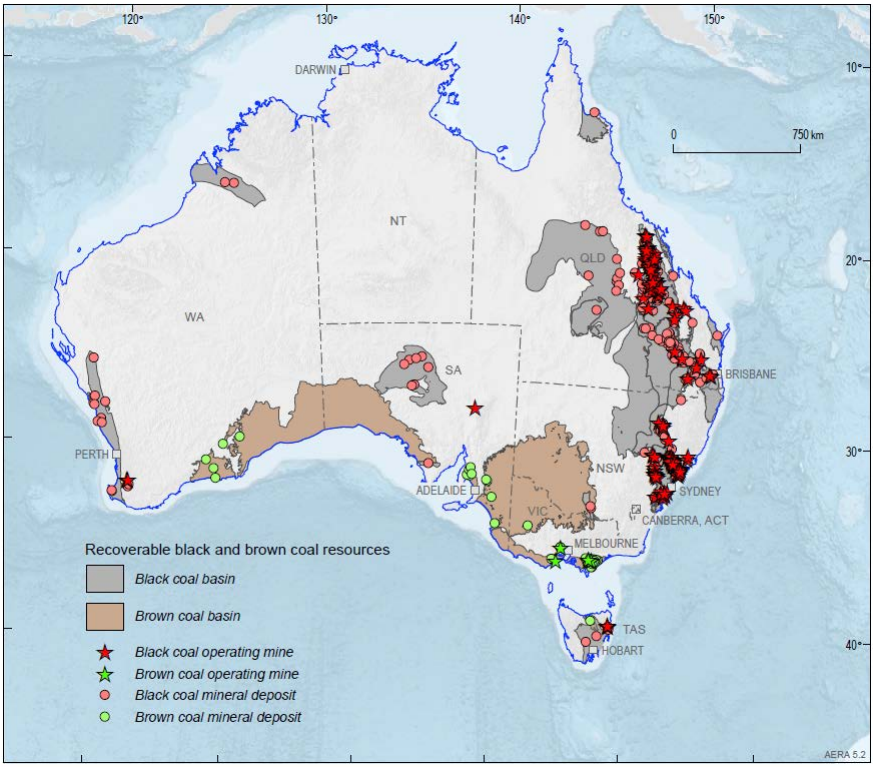
Coal mining

1.14 Coal is Australia's largest energy resource. Substantial amounts of black coal are located in the Sydney Basin (New South Wales) and the Bowen Basin (Queensland). Substantial amounts of brown coal are located in Victoria's Gippsland Basin.[2] Coal mining occurs throughout Australia (see Figure 1.1). The second edition of the *Australian Energy Resource Assessment*, published in 2014, noted that there 'is significant potential for further discoveries of coal in Australia', with estimates that 'over one trillion tonnes of additional coal resources could be present in more than 25 underexplored coal-bearing sedimentary basins within Australia'.[3]

2 Geoscience Australia and Bureau of Resources and Energy Economics, *Australian Energy Resource Assessment*, second edition, 2014, p. 127.

3 Geoscience Australia and Bureau of Resources and Energy Economics, *Australian Energy Resource Assessment*, second edition, 2014, p. 128.

Figure 1.1: Australia's operating black and brown coal mines, 2012



Source: Geoscience Australia and Bureau of Resources and Energy Economics, *Australian Energy Resource Assessment*, second edition, 2014, p. 129.

Unconventional gas and fracking

1.15 Natural resources that are classified as 'unconventional' are those that require 'greater than industry-standard levels of technology or investment to exploit'.[4] With respect to natural gas, unconventional resources include natural gas found in coal beds (CSG), in shale (shale gas), low quality reservoirs (tight gas), or as gas hydrates.[5]

1.16 Figure 1.2 indicates the location of Australia's CSG reserves and gas infrastructure, whereas Figure 1.3 does the same for tight gas and shale gas resources.

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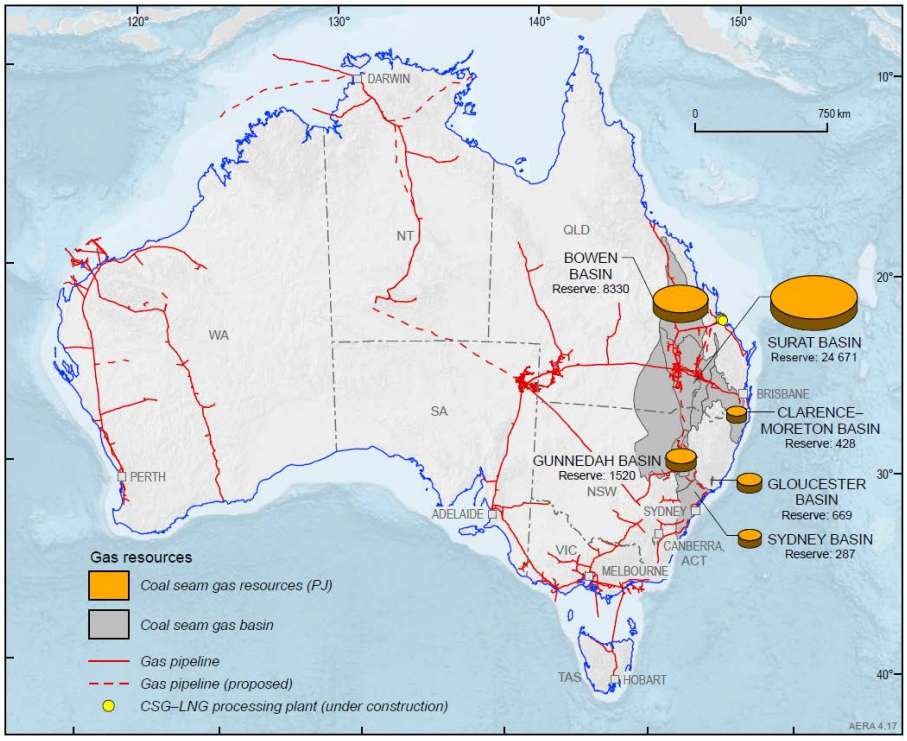
4 Geoscience Australia, 'Unconventional Petroleum Resources', www.ga.gov.au/scientific-topics/energy/resources/petroleum-resources/unconventional-resources (accessed 29 April 2015).

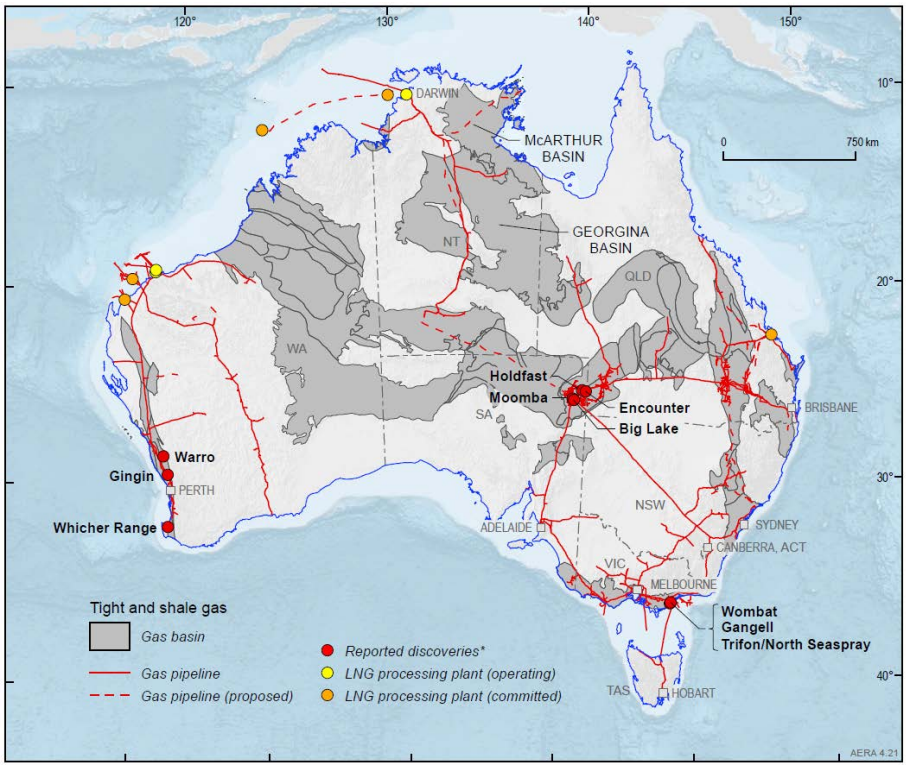
5 CSG is a natural gas extracted from coal seams at depths of 300–1000 metres. CSG is a mixture of a number of gases, but generally contains 95–97 per cent pure methane (this distinguishes CSG from conventional natural gas, which is typically 90 per cent methane). Shale gas is 'mainly methane trapped within shale rock layers at depths greater than about 1500 metres'. CSIRO, 'What is unconventional gas?', www.csiro.au/en/Research/Energy/Hydraulic-fracturing/What-is-unconventional-gas (accessed 29 April 2015). Tight gas is found within low permeability reservoir rocks. Geoscience Australia explains that tight gas 'can be regionally distributed (for example, basin-centred gas), rather than accumulated in a readily producible reservoir in a discrete structural closure as in a conventional gas field'. Geoscience Australia, 'Unconventional Petroleum Resources'.

Figure 1.2: Location of Australia's coal seam gas reserves and gas infrastructure



Source: Geoscience Australia and Bureau of Resources and Energy Economics, *Australian Energy Resource Assessment*, second edition, 2014, p. 97.

Figure 1.3: Tight gas and shale gas resource locations and gas infrastructure



* shows the locations of all shale and tight gas discoveries with reported contingent resources.

Source: Geoscience Australia and Bureau of Resources and Energy Economics, *Australian Energy Resource Assessment*, second edition, 2014, p. 99.

1.17 CSG was first produced in Australia as part of a standalone project in Queensland in 1996.[6] In 2012–13, CSG production accounted for 12 per cent of Australia's total gas production.[7] Ninety per cent of all natural gas produced in Queensland is CSG.[8] Shale gas and tight gas are largely in the exploration stage; for example, the Queensland Government advised that 'exploration for shale and tight gas in Queensland is in its infancy and no production of gas from these formations has occurred to date'.[9] In South Australia, where most potential shale gas resources are located, the first shale gas well started commercial production in October 2012.[10]

1.18 Growth in CSG exploration and production has been encouraged by government decisions; in 2000, the then Queensland government decided that 13 per cent of all power supplied to the state electricity grid would be generated by gas by 2005. This requirement was subsequently increased to 15 per cent by 2010 and 18 per cent by 2020.[11]

1.19 Most CSG production, and expected growth in CSG production, is from the Bowen–Surat basins in Queensland.[12] Australia's CSG production is expected to increase significantly, as shown by Figure 1.4.

6 Queensland Government, *Submission 87*, p. 1; Susan Robertson, 'Unconventional gas: legal issues', *AMPLA Yearbook*, 2012, p. 312.

7 Department of Industry and Science, *Australian Energy Update 2015*, p. 19.

8 Queensland Government, *Submission 87*, p. 1.

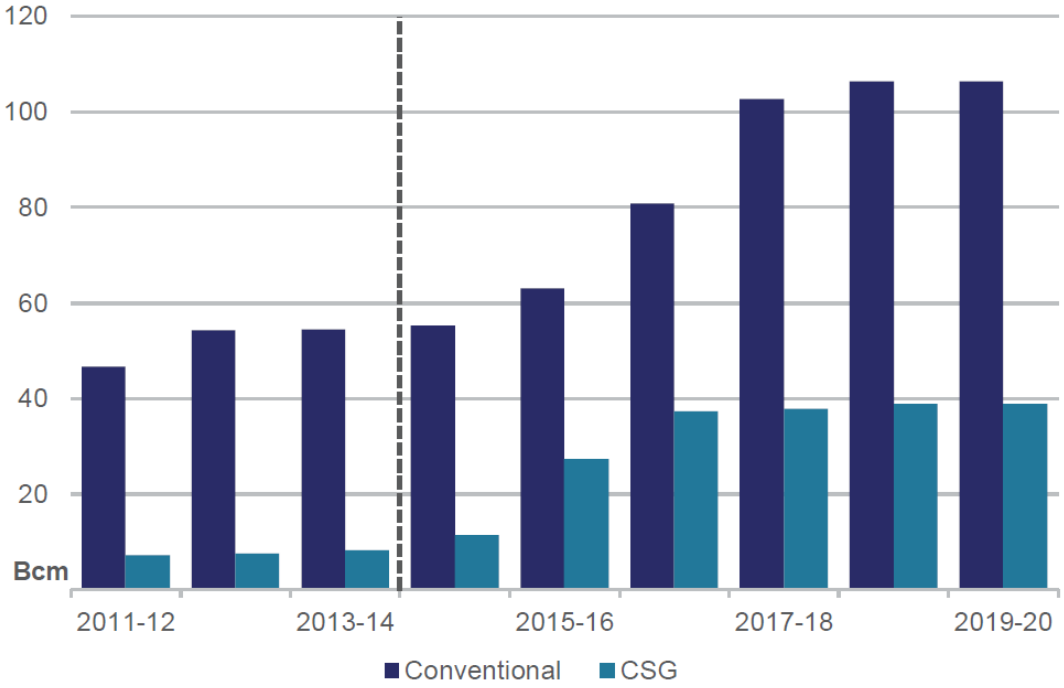
9 Queensland Government, *Submission 87*, p. 5.

10 Bureau of Resources and Energy Economics, *Energy in Australia 2014*, p. 17; Santos, 'Santos announces start of Australia's first commercial shale gas production', *Media release*, 19 October 2012, www.santos.com/Archive/NewsDetail.aspx?id=1347 (accessed 1 September 2015).

11 Geoscience Australia, 'Unconventional Petroleum Resources'.

12 Department of Industry and Science, *Resources and Energy Quarterly*, March 2015, www.industry.gov.au/industry/Office-of-the-Chief-Economist/Publications/Documents/req/REQ-March15.pdf (accessed 29 April 2015), p. 66.

Figure 1.4: Australian gas production outlook by type



Department of Industry and Science, *Resources and Energy Quarterly*, March 2015, www.industry.gov.au/industry/Office-of-the-Chief-Economist/Publications/Documents/req/REQ-March15.pdf (accessed 29 April 2015), p. 66.

Hydraulic fracturing

1.20 The practice of hydraulic fracturing (commonly known as 'fracking', or 'fraccing') is the most common method used by petroleum companies to increase production from a CSG well.[13] Hydraulic fracturing involves fluid being pumped into a well to cause fractures in the surrounding rock, increasing the rate and total amount of the petroleum resource extracted from reservoirs. In Australia, hydraulic fracturing is used in approximately 20 to 40 per cent of CSG wells. Hydraulic fracturing is used for 'wells that intersect lower permeability coal seams', which 'are usually deeper seams'.[14] However, hydraulic fracturing is required for all shale and tight gas wells.[15]

1.21 The fluid used for hydraulic fracturing operations consists of:

- water (84 to 96 per cent of the fracking fluid);
- proppant, such as sand (three to 15 per cent); and
- added chemicals (about one per cent), which commonly include:

13 CSIRO, 'What is hydraulic fracturing?', www.csiro.au/en/Research/Energy/Hydraulic-fracturing/a-What-is-hydraulic-fracturing (accessed 1 May 2015).

14 CSIRO, 'What is hydraulic fracturing?'.

15 Queensland Government, *Submission 87*, p. 5.

- guar gum (a food thickening agent), which is used to create a gel that transports sand through the fracture;
- bactericides, such as sodium hypochlorite (pool chlorine) and sodium hydroxide (used to make soap), which are used to prevent bacterial growth that can contaminate gas and restrict gas flow;
- 'breakers', such as ammonium persulfate (which dissolve hydraulic fracturing gels so that they can transmit water); and gas surfactants, such as ethanol and the cleaning agent orange oil (which are used to increase fluid recovery from the fracture); and
- acids as alkalis 'acids and alkalis, such as acetic acid (vinegar) and sodium carbonate (washing soda) to control the acid balance of the hydraulic fracturing fluid'.[16]

1.22 The CSIRO provides the following explanation of how fracking is carried out:

> Typically, a well is fully cased from top to bottom with steel casing. To gain access to the coal, the casing is perforated at specific intervals along the well, where the fracture treatment is to be carried out. Hydraulic fracturing typically involves injecting fluid made up of water, sand and chemical additives under high pressure into the cased well. The pressure caused by the injection typically creates a fracture in the coal seam where the well is perforated. For a large CSG treatment, the fracture might typically extend to a distance of 200 to 300 metres from the well. The fractures grow slowly. For example, an average velocity may be less than 10 metres per minute initially and slowing to less than one metre per minute at the end of the treatment. The sand in the hydraulic fracturing fluid acts to keep the fracture open after injection stops, and forms a conductive channel in the coal through which the water and gas can travel back to the well. After the fracturing is complete, most of the hydraulic fracturing fluid is, over time, brought back to the surface and treated before being used again or disposed of.[17]

16 CSIRO, 'What is hydraulic fracturing?'.

17 CSIRO, 'What is hydraulic fracturing?'.

Overview of the bill

1.23 When reviewing proposed Commonwealth legislation, it is essential to consider whether the clauses are supported by a constitutional power and whether any constitutional prohibitions have been contravened. The bill and its explanatory memorandum do not expressly state which of the constitutional heads of power the bill is relying on. It is clear, however, that the bill relies on the corporations power in paragraph 51(xx) of the Constitution, as the prohibitions contained in the bill apply to constitutional corporations.[18] Evidence received by the committee about the constitutional law matters relevant to the bill is outlined in Chapter 3.

1.24 The remaining paragraphs in this chapter provide an overview of the key clauses in the bill.

A right for landholders to refuse entry to land

1.25 Part 2 of the bill addresses property rights issues associated with gas or coal mining. Key definitions in this part of the bill are 'gas or coal' and 'gas or coal mining activity', which are defined as follows:

- 'gas or coal' includes coal, CSG, shale gas and tight gas; and
- 'gas or coal mining activity' including any activity undertaken for the purpose of exploring for gas or coal, or mining or producing gas or coal (including underground coal gasification).[19]

1.26 A constitutional corporation would commit an offence if it conducted gas or coal mining activities, or entered or remained on land to do so, without having an 'ownership interest'[20] in the land or having the prior written authorisation of each person with an ownership interest in the land.[21]

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18 Constitutional corporations are defined in the bill as a corporation to which paragraph 51(xx) of the Constitution applies (clause 4 of the bill). This includes foreign corporations, and trading or financial corporations formed within the limits of the Commonwealth. Part 4 of the bill includes arrangements that address joint ventures or partnerships consisting of two or more constitutional corporations.

19 Clause 4.

20 Clause 5 provides that a person is considered to have an ownership interest in land if the person 'has a legal or equitable interest in it or a right to occupy it'. However, a person does not have an ownership interest in land if the interest or right 'arises as a result of a right granted under a law of the Commonwealth, a State or a Territory to engage in gas or coal mining activities'. In her second reading speech, Senator Waters referred to farmers, graziers, residents, local councils and native title holders as landholders targeted by the bill. See Senator Larissa Waters, *Senate Hansard*, 4 March 2015, p. 1170.

21 Subclause 10(1).

1.27 The prior authorisation must contain certain information including, among other things, 'an independent assessment of the current and future risks associated with the proposed gas or coal mining activity on, or affecting, the land and any associated groundwater systems'.[22]

1.28 The bill specifies circumstances where the authorisation would be invalid. These circumstances include where the corporation applies to a person who has an ownership interest in the land and the corporation does not advise the person of their right to refuse authorisation, or that they should seek independent advice about the authorisation before signing.[23]

1.29 The offence would apply to relevant gas or coal mining activities that occur on or after commencement (the day after Royal Assent).[24]

Penalty

1.30 The maximum penalty for a constitutional corporation that commits the offence in subclause 10(1) would be 5,000 penalty units (at the time of writing, the penalty would be $900,000).[25] Further, a constitutional corporation that commits this offence is deemed to have committed 'a separate offence in relation to each day (including a day of conviction for the offence or any later day) during which the contravention continues'.[26]

Remedies and costs

1.31 Clause 13 of the bill provides that, without limiting the relief that a court may grant to a plaintiff, the relief may include an injunction or interim injunction. Any costs incurred by the plaintiff in seeking relief in court are to be paid by the defendant, regardless of the outcome. Exceptions are provided if the action was instituted vexatiously or without reasonable cause, or if the court considers it would be unreasonable, in all the circumstances, to order that the defendant pay all costs.

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22 Subclause 12(2).

23 Subclause 12(3).

24 Clauses 2, 9(1). The explanatory memorandum notes that the intention is that prior written authorisation must be secured prior to any new activities commencing, not activities already being undertaken. The following example is provided: '…if a corporation has already started exploring for gas or coal on particular land before the Act commences, authorisation to continue that activity after commencement will not be required. Authorisation will be required, however, if the corporation wishes to engage in activities for the purpose of producing gas or coal on that land after commencement'. Explanatory Memorandum, pp. 1–2.

25 From 31 July 2015, section 4AA of the *Crimes Act 1914* provides that one penalty unit equals $180. The penalty unit will be indexed every three years to the consumer price index, effective from 1 July 2018.

26 Subclause 10(2).

'Unreasonable' refusal

1.32 The bill does not address the issue of a landholder 'unreasonably' refusing access. In her second reading speech, however, Senator Waters stated that the resources remain vested in the states and if the resources are needed, the existing compulsory acquisition arrangements available to the Commonwealth and state governments provide 'a sufficient safeguard against a landholder "unreasonably" refusing access authorisation'.[27]

Ban on hydraulic fracturing

1.33 Part 3 of the bill would ban constitutional corporations from engaging in hydraulic fracturing operations (clause 14). The maximum civil penalty for contraventions of clause 14 would be 50,000 penalty units (at the time of writing, this would equate to $9 million). The Environment Minister may apply to the Federal Court on behalf of the Commonwealth for a civil penalty order within six years of a contravention.[28] The court may order a pecuniary penalty for each contravention.[29]

1.34 Where a person has engaged in or proposes to engage in conduct contrary to clause 14, under clause 15 of the bill the Environment Minister, an interested person, or a person acting on behalf of an unincorporated organisation that is an interested person, may apply to the Federal Court for a prohibitory, mandatory or interim injunction. An interested person includes individuals and organisations:

- whose interests have been, are or would be affected by the conduct or proposed conduct; or
- that have engaged in 'a series of activities for the protection or conservation of, or research into, the environment' at any time during the two years immediately before the conduct or, in the case of proposed conduct, during the two years before making the application for an injunction (in the case of organisations, the organisation's objects or purposes must also include environmental protection, conservation or research).[30]

1.35 For an individual to qualify as an interested person, they must also be an Australian citizen or ordinarily resident in Australia or an external territory. For an organisation to be considered an interested person, they must also be incorporated or otherwise established in Australia or an external territory.[31]

27 Senator Larissa Waters, *Senate Hansard*, 4 March 2015, p. 1171.

28 Subclause 19(1).

29 Subclause 19(2).

30 Subclauses 15(6) and (7).

31 Subclauses 15(6) and (7).