Transnational Environmental Law, 10:2 (2021), pp. 211–235 © The Author(s), 2021. Published by Cambridge University Press.
doi:10.1017/S204710252000045X

SYMPOSIUM ARTICLE

The Australian Energy Transition as a Federalism Challenge: (Un)cooperative Energy Federalism?[†]

Anne Kallies*

First published online 5 March 2021

Abstract
The law and regulation of the energy sector in Australia is subject to overlapping responsibilities of both federal and state governments. Crucially for energy transition efforts, neither energy, environment nor climate is mentioned in the Australian Constitution. Australia has a tradition of creative cooperative federalism solutions for responding to problems of national importance. In the energy sector this has resulted in an intricate national framework for energy markets, which relies on mirror legislation passed by participating states, with oversight by state and federal executive governments. Independently of these frameworks, both federal and state governments have passed climate change legislation, which crucially includes renewable energy support mechanisms. At a time when a rapid transition to a decarbonized energy system is essential, legal frameworks struggle to respond in a timely fashion. The political discourse around energy has become increasingly toxic – reflecting a dysfunctional state–federal relationship in energy and climate law. Australia needs to consider whether its cooperative federalism solutions are sufficient to support the energy transition and how climate law at the state and federal levels interacts with energy market legal frameworks.

Keywords: Federalism, Energy transition, Australia, Electricity markets, Renewable energy, Climate policy

[†] This contribution is part of a collection of articles growing out of the workshop 'The Law of Energy Transition in Federal Systems', held by the University of Tübingen, Faculty of Law, and the University of North Carolina at Chapel Hill, School of Law, in Tübingen (Germany), 27 June 2019.

* RMIT University Melbourne, Graduate School of Business & Law, Melbourne (Australia).
Email: anne.kallies@rmit.edu.au.

This article benefited greatly from the workshop on Energy Federalism at the University of Tübingen. It draws on material from my unpublished PhD thesis: A. Kallies, 'How Do Legal and Regulatory Frameworks of Liberalized Electricity Markets Influence the Promotion of Renewable Energy? Lessons for Australia from International Case Studies' (PhD thesis, Melbourne Law School, University of Melbourne, 2015). I would also like to thank my colleague Vanessa Johnston and three anonymous *TEL* reviewers for their very helpful comments.

1. INTRODUCTION

Australia is a land rich in energy resources. While these resources include both minerals and coal (lignite and hard forms), Australia also has world-class renewable energy resources, especially from wind and solar.[1] Yet Australia remains at the bottom of recent international climate change policy performance indices.[2] National greenhouse gas (GHG) emissions reductions have stalled and are even on the rise again,[3] even though renewable energy uptake is accelerating.[4] The stationary electricity sector continues to rely on black and brown coal for the majority of its generation: in 2018, around 60% of electricity was generated from coal.[5]

Australia is a federal state which consists of a central federal government, six state and two territory governments,[6] and 537 local councils.[7] Both state and federal levels of government are involved in climate mitigation efforts and electricity industry regulation. Local governments play an important role in climate adaptation particularly; however, this article will focus on the relationship between the states and the federal government.

Australia deals with energy resources under separate policies on energy and climate change. For almost 30 years Australian governments, both state and federal, have sought to address energy policy as a national issue under a model of cooperative federalism, which also underpins the institutional arrangements for Australian energy markets for both gas and electricity. Renewable energy is also a key issue for climate mitigation policy, which relies heavily on encouraging greater uptake of renewable energies via renewable energy targets and other mechanisms. However, climate policy is far more disjointed between Australia's federal and state governments. As weather events become more extreme[8] and coal-fired generation assets are retiring,[9] renewable energy comes under increased scrutiny in the context of a reliability crisis.[10]

---

1 International Energy Agency (IEA), *Energy Policies of IEA Countries: Australia 2018 Review* (IEA, 2018), p. 15.

2 Germanwatch, 'Climate Change Performance Index', 2020, available at: https://www.climate-change-performance-index.org; Bertelsmann Stiftung, 'Sustainable Development Report 2019', June 2019, p. 96 (Sustainable Development Goal 13 'Climate Action').

3 Australian Government, Department of the Environment and Energy, 'Quarterly Update of Australia's National Greenhouse Gas Inventory: March 2019', 2019, available at: https://www.environment.gov.au/system/files/resources/6686d48f-3f9c-448d-a1b7-7e410fe4f376/files/nggi-quarterly-update-mar-2019.pdf.

4 Clean Energy Council, 'Clean Energy Australia Report 2019', available at: https://assets.cleanenergycouncil.org.au/documents/resources/reports/clean-energy-australia/clean-energy-australia-report-2019.pdf.

5 Australian Government, Department of Industry, Science, Energy and Resources, 'Australian Energy Update 2019', Sept. 2019, p. 25, available at: https://www.energy.gov.au/publications/australian-energy-update-2019.

6 The latter has some level of independence and statelike powers.

7 Australian Local Government Association, 'Facts and Figures', 2020, available at: https://alga.asn.au/facts-and-figures.

8 Australian Energy Market Operator, 'Summer 2019–20 Readiness Plan', Dec. 2019, available at: https://apo.org.au/sites/default/files/resource-files/2019-12/apo-nid270246.pdf.

9 Expert Panel, 'Independent Review into the Future Security of the National Electricity Market, Final Report', 9 June 2017, p. 77.

10 Ibid., p. 5.

https://doi.org/10.1017/S204710252000045X Published online by Cambridge University Press

Recent events in the state of South Australia exemplified this tension. In September 2016, a 'one in a century' storm destroyed power lines and ultimately triggered a chain of events that led to a loss of power supply for the whole state.[11] Many customers were affected for more than 24 hours. Since then respective recriminations between state and federal governments seem to have become the new reality in energy policy. In particular, renewable support policies by the states have been blamed for the incident. Malcolm Turnbull, Prime Minister at the time, and his Energy Minister, Josh Frydenberg, claimed that states are responsible for the stability of their electricity system and insinuated that the high percentage of wind in South Australia was to blame for the blackout[12] (South Australia generates more than 40% of its electricity from wind power). It is individual states that are seen to be responsible for keeping the lights on, rather than national institutions.

As will be shown, this blame shifting is misleading on several levels. In South Australia, national institutions are responsible for system reliability under a national cooperative federalism framework. Additionally, network investment is the responsibility of private network businesses in the fully privatized South Australian electricity sector. Moreover, wind power is indeed a success story for South Australia. Yet, beyond actively encouraging the coexistence of wind farms and farming activities in its planning legislation, funding and investment security for the existing wind farms comes in large part from a federal renewable energy support mechanism, the Renewable Energy Target Scheme.[13]

This example shows that rapidly transforming Australia's electricity sector to address climate change highlights deepening cracks between state and federal governments, and demonstrates the limits of the cooperative energy federalism model. Clear and decisive action by energy policy decision makers will be central for addressing these challenges in a timely manner. In a federalist state such as Australia, which comprises different levels of government, one of the first questions to answer is who are these energy and climate policy decision makers. A 2017 Independent Review into the Future Security of the National Electricity Market, chaired by Australia's chief scientist Alan Finkel (Finkel Review)[14] identified an accountability deficit as a result of 'unclear allocation of regulatory and operational responsibilities' between the different levels of government in Australia.[15]

Using the example of the electricity sector, this article explains how federalism solutions have been central to the development of energy and climate change policy in Australia. While energy is addressed by a 'cooperative' federalism solution, a more

[11] Expert Panel, 'Independent Review into the Future Security of the National Electricity Market, Preliminary Review', 2017, pp. 31ff (Finkel Review).

[12] M. Grattan, 'Turnbull Uses South Australian Blackout to Push for Uniformity on Renewables', *The Conversation*, 29 Sept. 2016, available at: https://theconversation.com/turnbull-uses-south-australian-blackout-to-push-for-uniformity-on-renewables-66275.

[13] See M. McGreevy et al., 'Expediting a Renewable Energy Transition in a Privatized Market via Public Policy: The Case of South Australia 2004–18' (2021) 148(A) *Energy Policy* online articles, article 111940, section 4.3.2.

[14] Finkel Review, n. 11 above.

[15] Ibid., p. 185.

'competitive' federalism[16] is evident in climate change policy. Australia's energy and climate regulations may appear to be distinct but, in practice, with the rise of renewables, their subject matters increasingly converge. The tensions and differences between how regulation is developed in these areas could potentially undermine key objectives in both areas.

The article is structured as follows. Section 2 introduces energy federalism literature, identifies common threads applicable across different jurisdictions worldwide, and sets out the principles of dynamic energy federalism as developed by Osofsky and Wiseman.[17] Section 3 reviews the constitutional division of powers in the areas of energy and climate in Australia. Following this, Section 4 explains the cooperative federalism solution currently in place for the electricity market, and how this has shaped Australian energy and climate law. Section 5 provides an overview of state and federal initiatives that addresses, in particular, emissions reduction and renewable energy support. It also explains attempts made to integrate energy and climate policy and their lack of success so far. Finally, Section 6 summarizes and assesses the Australian experience against the principles of dynamic energy federalism, drawing lessons for policy development in Australia and across the world.

2. AN OVERVIEW OF THE ENERGY FEDERALISM DEBATE

Australia is by no means alone in grappling with the question of the respective roles for federal and state-level policies. Discussions about the right level of policymaking for energy, climate change or the environment have been the focus of federalism research around the world.

Several debates converge in this regard. Firstly, there is a debate about energy federalism in a narrow sense. This refers to the question of which level of government should be responsible for regulating the energy sector. The United States (US), for example, has a long-standing commitment to a dualist approach to energy sector regulation. Constitutional provisions regarding the responsibility of Congress for interstate trade were considered to give rise to a clear separation of state and federal responsibilities in the energy sector, with interstate transmission networks and electricity sales regulated federally, and states having jurisdiction for intrastate regulation of energy generation, distribution and retail.[18] This strict division of responsibilities, however, has lately shifted with a number of US Supreme Court decisions which endorse a more flexible authorization for concurrent jurisdiction.[19] Commentators foreshadow an

[16] The article adopts Brown's definition of competitive federalism, which 'can mean direct and indirect competition among the constituent units in a federation (states, provinces, etc.) and between them and the federal or central government': D. Brown, 'Comparative Climate Change Policy and Federalism: An Overview' (2012) 29(3) *Review of Policy Research*, pp. 322–33, at 324.

[17] H. Osofsky & H. Wiseman, 'Dynamic Energy Federalism' (2013) 72(3) *Maryland Law Review*, pp. 773–843.

[18] See, e.g., J. Rossi, 'The Brave New Path of Energy Federalism' (2016) 95(2) *Texas Law Review*, pp. 400–66; D. Lyons, 'Protecting States in the New World of Energy Federalism' (2018) 67(5) *Emory Law Journal*, pp. 921–73.

[19] Ibid.

https://doi.org/10.1017/S204710252000045X Published online by Cambridge University Press

increasing politicization of federalism-related disputes,[20] a situation we can already see playing out in Australian renewable energy policy. The cooperative national approach to electricity market regulation in Australia emerged from a need to unify disparate state approaches to facilitate a national electricity market. Parallels can also be drawn here to the efforts of the European Union (EU) to create a unified European energy market through harmonizing energy market regulation in the Member States.[21]

Secondly, renewable energy federalism emerged as a separate area of academic enquiry in a number of federal jurisdictions, especially the US,[22] as well as Canada,[23] Russia,[24] Germany,[25] and India.[26] The surge of investment in renewable energy has created a debate about the appropriate level of government support for renewables in these jurisdictions. Considerations include:

- whether the global impact of climate change and the international treaty framework require a federal-level response to match the reach of this impact;[27]
- the regional advantages and disadvantages of renewable energy (such as local employment growth, energy security and health impacts, negative impacts on electricity prices);[28]
- questions of economies of scale and potentially negative impacts of patchwork policies on investment security;[29]
- the danger of a 'race to the bottom' if only some states introduce tighter requirements; and
- the role of regional policies in policy experimentation and innovation.[30]

As will be seen, echoes of all of these reasons to regulate renewable energy at the state or federal level are apparent in Australia as well. However, this article seeks to integrate

[20] Lyons, n. 18 above.

[21] For more detail see, e.g., E. Woerdman, M. Roggenkamp & M. Holwerda, *Essential EU Climate Law, EU Climate Regulation and Energy Network Management* (Edward Elgar, 2015).

[22] There is a very large body of literature on energy federalism and renewable or clean energy federalism in the US. Among others see F. Mormann, 'Clean Energy Federalism' (2016) 67(5) *Florida Law Review*, pp. 1621–681, with further sources.

[23] See, e.g., S. Valentine, 'Canada's Constitutional Separation of (Wind) Power' (2010) 38(4) *Energy Policy*, pp. 1918–30.

[24] A. Boute, 'Renewable Energy Federalism in Russia: Regions as New Actors for the Promotion of Clean Energy' (2013) 25(2) *Journal of Environmental Law*, pp. 261–91.

[25] J. Saurer & J. Monast, 'Renewable Energy Federalism in Germany and the United States' (2021) 10(2) *Transnational Environmental Law*, pp. 293–320.

[26] K. Jörgensen, A. Mishra & G. Sarangi, 'Multi-level Governance in India: The Role of States in Climate Action Planning and Renewable Energies' (2015) 12(4) *Journal of Integrative Environmental Sciences*, pp. 267–83.

[27] This idea was initially drawn from environmental federalism's 'matching principle' in that the appropriate level of response should match the impact of a pollution source; see, e.g., Mormann, n. 22 above, p. 1673.

[28] See, e.g., K. Engel, 'State Environmental Standard Setting: Is there a "Race" and Is It "to the Bottom"?' (1997) 48(2) *Hastings Law Journal*, pp. 271–398.

[29] See, e.g., Mormann, n. 22 above, pp. 1641ff.

[30] See, e.g., J. May, 'Of Happy Incidents, Climate, Federalism, and Preemption' (2008) 17(2) *Temple Political & Civil Rights Law Review*, pp. 465–98.

https://doi.org/10.1017/S204710252000045X Published online by Cambridge University Press

the discussion of electricity market governance and renewable energy support and federalism, rather than allocate support for renewables to one or other level. In this manner the article explores whether and how electricity sector and renewable energy regulation should be integrated.

Institutional and governance frameworks for electricity markets and renewable energy policies in Australia not only are fragmented across federal and state levels, but also include a specifically constructed national cooperative approach. Arguably, this fragmentation and the lack of mechanisms bridging it are currently impeding Australia's transition efforts. In the context of the US, Osofsky and Wiseman have identified a similar problem of a lack of integration between distinct legal regimes for energy law.[31] They show that the fragmented nature of energy law, across multiple levels of government and public and private actors, requires a multi-level governance approach. In response, they have developed a dynamic energy federalism approach that seeks to examine the energy system and its regulation as a whole to address new challenges, including the challenge to transition to high renewable scenarios while maintaining the reliability of the grid.[32] Their work seeks to create principles that can holistically capture governance challenges created by interactions not only across levels of government, but also across different types of energy regulation and energy source. The authors have set out three principles which they consider to be indispensable for the success of energy federalism:

> Principle One: We need institutions or multi-institutional structures with capacity for multi-level, cross-cutting regulatory authority.
> Principle Two: We need institutions that reduce simultaneous overlap and fragmentation by creating structures through which hierarchy can be defined, cooperation can take place, and conflicts can be resolved.
> Principle Three: We need institutions that can integrate key public and private stakeholders with structural and procedural protection.[33]

As will be shown, the Australian governance frameworks investigated in this article, while aligning well with some of these principles, raise additional questions regarding the design of policy flexibility and the interaction between climate and electricity market policy.

3. THE CONSTITUTIONAL FRAMEWORK FOR ENERGY AND CLIMATE POLICY IN AUSTRALIA

For the purpose of this article and as background to cooperative federalism, it is worth revisiting the way in which the Australian Federal Constitution (Constitution) addresses the respective responsibilities of state and federal governments. Australia's

[31] Osofsky & Wiseman, n. 17 above, pp. 773ff.
[32] Ibid.
[33] Ibid., pp. 841–2.

https://doi.org/10.1017/S204710252000045X Published online by Cambridge University Press

constitutional division of powers reflects its history of creating a nation out of six Australian colonies. Coming into force on 1 January 1901, it divided legislative powers between the new federal parliament and the new federal states.

Responsibilities are divided between state governments and federal government in three ways. Exclusive powers given to the federal government are those that are clearly needed to support an independent nation state; these include matters such as coinage, seat of government, and the military.[34] Concurrent powers are those shared between state governments and federal government, with section 109 of the Constitution determining that, in the event of conflict, federal law has priority. The federal government has concurrent lawmaking powers for a list of so-called 'heads of powers', which are expressly listed in the Constitution.[35] Finally, the states are responsible for all matters that are not enumerated as exclusively federal or concurrent powers within the Constitution.[36] These so-called 'residual powers' reflect the understanding of wide state responsibilities at the time of federation. The states, not the federal government, were expected to be the primary mechanism of government in Australia.

As the Constitution was drafted more than 100 years ago, it is not surprising that it does not expressly mention energy, climate or the environment. Indeed, for a long time it was very clear that these issues were considered to be state responsibilities.[37] This is very similar to long-standing US doctrine on energy federalism, which saw only a limited role for Congress in regulating the energy sector.[38] In particular, as international agreements such as the United Nations Framework Convention on Climate Change (UNFCCC)[39] are major drivers of national policy development, climate policy can be clearly linked to one of the concurrent heads of power in the Australian Constitution: the external affairs power,[40] which allows the federal government to legislate to implement international treaties to which Australia is a party. Climate policy, including renewable energy policy, is regulated concurrently in Australia, and both state and federal policy solutions exist. For the electricity system, which has developed at the state level, the matter is less clear. However, in the age of full electrification and considerable interconnection, energy is clearly a matter of national importance.

One option to address these divided responsibilities would be for the federal government to legislate centrally under one of the existing heads of power. The High Court of Australia has a history of interpreting the external affairs head of power generously,[41] and energy transition efforts arguably could count as climate action to implement, for

[34] Australian Constitution, ss. 90, 114, 115, respectively.

[35] Predominantly in s. 51 of the Australian Constitution.

[36] Australian Constitution, s. 107.

[37] See G. Bates, *Environmental Law in Australia*, 10th edn (LexisNexis Butterworths, 2019), p. 39; R. Lyster & A. Bradbrook, *Energy Law and the Environment* (Cambridge University Press, 2006), p. 118.

[38] For further details, see Rossi, n. 18 above; Lyons, n. 18 above.

[39] New York, NY (US), 9 May 1992, in force 21 Mar. 1994, available at: https://unfccc.int/resource/docs/convkp/conveng.pdf.

[40] Australian Constitution, s. 51(xx).

[41] *Commonwealth* v. *Tasmania* (1983) 158 CLR 1.

https://doi.org/10.1017/S204710252000045X Published online by Cambridge University Press

example, the Paris Agreement[42] to which Australia is a party.[43] Beyond this, the power of the federal government to legislate for corporations, as well as the trade and commerce power,[44] could allow for comprehensive federal laws on energy markets.[45] The Australian High Court found that a corporation developing a hydro-electricity scheme in the Franklin River was subject to these powers.[46] However, there has been no appetite from the federal government for this type of takeover of energy policy from the states.

In his writing on competition law and federalism, former Chief Justice of the High Court of Australia, the Hon. Robert French, sees three ways of overcoming constitutional barriers in order to address national problems with a coherent national policy: (i) amending the constitution; (ii) referral of power by the state to the federal government; and (iii) cooperative federalism.[47] The first of these is an amendment to the Constitution, which French calls 'a singularly unrewarding process'.[48] Article 128 of the Constitution requires any amendment to pass:

- the House of Representatives (lower house) and Senate (upper house) of the Federal Parliament by absolute majority; and
- a Referendum of voting electors (amendment supported by a majority of voters in a majority of states, held within two to six months).[49]

Historically in Australia, to achieve a successful referendum has proved to be elusive: of the 44 referenda held since 1901, only eight have been successful.[50] As a result, they are rarely attempted.

Secondly, constitutional barriers to addressing energy as a national problem may be overcome by centralization and vertical integration through referral of lawmaking power by states to the federal government.[51] In 2007, French considered it 'a small step in concept but possibly a larger step in efficiency' for the states to 'refer to the Commonwealth for the purpose of making comprehensive federal energy market

---

42 Paris (France), 12 Dec. 2015, in force 4 Nov. 2016, available at: http://unfccc.int/paris_agreement/items/9485.php.

43 Government of Australia, 'Australia's Intended Nationally Determined Contribution to a New Climate Change Agreement', Submission to the UNFCCC Secretariat, Aug. 2015, available at: https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Australia%20First/Australias%20Intended%20Nationally%20Determined%20Contribution%20to%20a%20new%20Climate%20Change%20Agreement%20-%20August%202015.pdf.

44 Australian Constitution, ss. 51(xx), (i), respectively.

45 A. Kallies, 'A Barrier for Australia's Climate Commitments? Law, The Electricity Market and Transitioning the Stationary Electricity Sector' (2016) 39(4) *UNSW Law Journal*, pp. 1547–82, at 1576; Lyster & Bradbrook, n. 37 above, p. 118.

46 *Commonwealth* v. *Tasmania*, n. 41 above.

47 R. French, 'Horizontal Agreements: Competition Law and Cooperative Federalism' (FCA) [2007] *Federal Judicial Scholarship*, article 6 (speech presented at the Competition Law Conference, Sydney (Australia), 5 May 2007), available at: http://www.austlii.edu.au/au/journals/FedJSchol/2007/6.html.

48 Ibid.

49 Australian Constitution, s. 128.

50 See, e.g., R. Creyke et al., *Laying Down the Law*, 10th edn (LexisNexis Butterworth, 2018), p. 99.

51 Australian Constitution, s. 51(xxxvii) ('referral power').

https://doi.org/10.1017/S204710252000045X Published online by Cambridge University Press

laws'.[52] This option has so far not been considered by the states and remains theoretical at this stage.

Instead, for energy markets Australia relies on the third option, cooperative federalism, or, as French describes it, 'a coordinated exercise of relevant legislative powers by all components of the Federation'.[53] According to French, 'to solve national problems which cannot be covered by legislative powers of the Commonwealth alone demands the coordinated and therefore cooperative use of governmental power from all units of the federation'.[54] Cooperative federalism solutions based on intergovernmental agreements are a common feature of Australia's government. They now cover a vast array of subject matters: beyond energy these prominently include, for example, the environment and water, which are areas for which there was a need for 'increasing levels of harmonization and coordination'.[55] In Australia, various mechanisms of cooperative federalism have been the solution. Indeed, others have identified that intergovernmental cooperation is inevitable in federal systems 'as a response to the much greater need for coordination than was originally envisaged'.[56]

Australia's particular 'brand' of cooperative federalism has changed the face of the nation. Saunders describes the continued striving to achieve 'national uniformity' as 'the progressive development of intergovernmental cooperation to a point that is beginning to alter the de facto, although not the de jure, design of the Australian federation'.[57] However, the reliance on cooperative mechanisms to harmonize has created a 'system of government that relies on hundreds of complex agreements between Federal and State authorities',[58] and has a considerable lack of accountability and transparency.[59] Both the lack of transparency and also the confusion about responsibilities and blame shifting have been a prominent feature in the Australian discourse on energy transition.

---

52 French, n. 47 above.

53 Ibid.

54 R. French, 'Cooperative Federalism: A Constitutional Reality or a Political Slogan?' (FCA) [2004] *Federal Judicial Scholarship*, article 21 (speech presented at 'Western Australia 2029: A Shared Journey', State Conference', 17–19 Nov. 2004), available at: http://www.austlii.edu.au/au/journals/FedJSchol/2004/21.html.

55 C. Saunders, 'Cooperative Arrangements in Comparative Perspective', in G. Appleby, N. Aroney & T. John (eds), *The Future of Australian Federalism* (Cambridge University Press, 2012), pp. 414–31, at 416.

56 T. Hueglin & A. Fenna, *Comparative Federalism: A Systematic Inquiry*, 2nd edn (University of Toronto Press, 2015), p. 238.

57 Saunders, n. 55 above, p. 414.

58 House of Representatives Standing Committee on Legal and Constitutional Affairs, *Reforming Our Constitution* (Commonwealth of Australia, 2008), Ch. 4, p. 35, para. 4.6, available at: https://www.aph.gov.au/parliamentary_business/committees/house_of_representatives_committees?url=/laca/constitutionalreform/report.htm.

59 See, e.g., ibid., p. 36, para. 4.13; Saunders, n. 55 above, p. 414.

https://doi.org/10.1017/S204710252000045X Published online by Cambridge University Press

4. COOPERATIVE FEDERALISM AND THE NATIONAL ELECTRICITY MARKET

Cooperative federalism solutions are a prominent feature in Australian energy law. They have developed not only because of constitutional constraints, but they also align with the regional history of electricity system development, which is still visible in the physical layout of Australia's energy systems. Initially conceived around the conditions and resource base of each state, energy systems were physically separate. They were developed around locally available fuel sources, such as the brown coal and black coal fields in New South Wales and Victoria,[60] or hydro power in Tasmania. Electricity sector governance similarly reflected this state centricity. Until market reform from the 1990s onwards, state electricity commissions managed the state-owned systems, including centralized planning and operation of electricity generation and supply. The result was a patchwork of state systems where '[e]ach state governed its electricity industry exclusively according to its priorities, e.g., promoting the use of state resources, creating employment within the state, ensuring complete independence from other states for meeting electricity needs of the state'.[61] Early instances of intergovernmental cooperation became necessary only where state networks connected. The first regulation at the interstate level was the legislation regarding the Snowy Mountains Scheme – the Snowy Mountains Hydro Electric Power Act 1949 (Cth) – which was a cooperation of the federal government, as well as the governments of New South Wales, South Australia and Victoria. No other interconnections between state systems were made until the 1990s,[62] when electricity market reform started to transform the governance of Australia's electricity sector.

4.1. *Overview of the Australian National Energy Market*

Today, five regional market jurisdictions – the eastern states of South Australia, Tasmania, Victoria, New South Wales (including the Australian Capital Territory) and Queensland – comprise the National Electricity Market (NEM), which stretches along the eastern seaboard of the Australian continent. Physically, interconnection between the regions is limited. Overall, only six interconnections between states exist.[63]

A single market governance framework operates across the NEM, regulating a wholesale spot-price market as well as the associated network infrastructure. Dispatch of electricity across the entire NEM system works as a function of supply

[60] For further detail. see Kallies, n. 45 above.

[61] D. Sharma, 'The Multi-Dimensionality of Electricity Reform: An Australian Perspective' (2003) 31(11) *Energy Policy*, pp. 1093–102, at 1094.

[62] Starting with the Heywood interconnector between Victoria and South Australia in 1990.

[63] Including two interconnectors each between Victoria and South Australia (Murraylink and Heywood), and New South Wales and Queensland (Directlink and the Queensland-NSW interconnector), respectively; only single interconnections exist between New South Wales and Victoria, and Tasmania and Victoria (Basslink): Australian Energy Regulator, 'State of the Energy Market 2018', 17 Dec. 2018, p. 133, available at: https://www.aer.gov.au/publications/state-of-the-energy-market-reports/state-of-the-energy-market-2018.

https://doi.org/10.1017/S204710252000045X Published online by Cambridge University Press

and demand in the individual regions, aggregated supply and demand across states, as well as interconnector capability and constraint.[64]

Interconnectors between the regions allow for the flow of electricity from one state to another, but their capacity is inherently constrained. The market operator uses a dispatch algorithm to dispatch in a way that provides 'lowest total cost to supply all of the demand'.[65] The market supply of electricity between regions is important for energy security, and congestion or outages of interconnectors have been implicated in blackout events.[66] Inter-regional trade as a percentage of overall demand in each region rarely amounts to more than 20%.[67]

There are no interconnections between the NEM and the separate electricity systems of Western Australia and the Northern Territory. Although they are signatories to the Australian Energy Market Agreement, both of these systems have their own legal and regulatory frameworks which are not the subject of this article.[68]

The NEM covers a vast geographical area, incorporating some 40,000 kilometres of transmission lines and supplying 80% of Australia's electricity consumption. A range of different energy resources is prevalent in the states covered by the NEM arrangements. Coal mining is an important industry in the three most populous states: New South Wales, Victoria, and Queensland. Coal-fired power generation remains the predominant source of electricity in these states, with Victoria generating 70% of electricity from brown coal, and New South Wales and Queensland generating 77% and 70%, respectively, of their electricity needs from black coal. In contrast, the island state of Tasmania relies predominantly on hydro-electricity for its electricity generation. South Australia has one of the highest shares of renewable energy in the world – in 2019, 50% of total generation was produced by renewables, predominantly wind – yet it relies on gas-powered generation and imports for the other 50%.[69] While wind and solar continue to grow at a rapid pace, close to 80% of electricity in the NEM continues to be generated by fossil fuel sources.[70] These geographically varied resource allocations unsurprisingly have an impact on the political stance of states with regard to energy transitions.

---

64 Ibid., p. 75.

65 A detailed explanation of the complicated market rules is available at Watt Clarity, 'Beginner's Guide to How Dispatch Works in the NEM, and hence How Prices Are Set', 3 Aug. 2018, available at: http://www.wattclarity.com.au/articles/2018/08/beginners-guide-to-how-dispatch-works-in-the-nem-and-hence-how-prices-are-set.

66 See, e.g., Australian Energy Regulator, 'The Black System Event Compliance Report', Dec. 2018.

67 Australian Energy Regulator, 'Quarterly Interregional Trade as a Percentage of Regional Energy Consumption', available at: https://www.aer.gov.au/wholesale-markets/wholesale-statistics/quarterly-interregional-trade-as-a-percentage-of-regional-energy-consumption.

68 See Western Australian Economic Regulation Authority, 'Electricity', updated 18 Dec. 2018, available at: https://www.erawa.com.au/electricity. See also Northern Territory Government, Department of Treasury and Finance, 'Electricity Market Reform', updated 12 June 2020, available at: https://treasury.nt.gov.au/dtf/economic-group/electricity-market-reform.

69 Australian Government, Department of Industry, Science, Energy and Resources, 'Australian Energy Statistics', 26 May 2020, available at: https://energyd8.govcms.gov.au/publications/australian-energy-statistics-table-o-electricity-generation-fuel-type-2018-19-and-2019.

70 Ibid.

https://doi.org/10.1017/S204710252000045X Published online by Cambridge University Press

4.2. *The History of the National Electricity Market Governance*

The current market structure is the result of national competition reform and is deeply embedded in cooperative federalism. Reforms were driven by the perception of inefficiencies on the part of state electricity monopoly providers. The move towards national regulation of the electricity sector reflects the debate about the role for economies of scale in the energy federalism debate. As states started to connect their energy systems, it was considered more efficient to have a unitary regulatory system which allowed trade between states and ease of use by new market entrants. Several high-profile reviews of national competition policy focused on the need for electricity market reform to achieve economic efficiencies.[71] The history of creating a national market for electricity in Australia is interwoven with the development of the Council of Australian Governments (CoAG) as the forum for cooperative arrangements among governments in the national interest.[72] CoAG was created in May 1992, following several Special Premiers' conferences,[73] initiated by Prime Minister Hawke, to address Australia's international competitiveness. CoAG and, under its apex, ministerial councils provide the forum for the development of 'national' legislation outside the Constitution, a process that has been termed 'executive federalism'.[74]

Australian state and federal leaders agreed at the Special Premiers' Conference in July 1991 that a National Grid Management Council was to be established. The stated purpose was 'to encourage and co-ordinate the most efficient, economic and environmentally sound development of the electricity industry in eastern and southern Australia' in order to 'advanc[e] co-operation in the electricity industry, the absence of which has cost the nation dearly in terms of excessive generation capacity, inappropriate plant mix and inflexibility of fuel use'.[75] This early commitment to 'environmentally sound development' did not live on through further system evolution.[76] The National Grid Management Council was supposed to open up grid access and encourage free trade in the wholesale sector, as well as coordinate generation and transmission planning. It was also to 'encourage the competitive sourcing of generation capacity and the use of demand management'.[77]

---

[71] Australian Government, Productivity Commission, Industry Commission, *Report on Energy Generation and Distribution* (Commonwealth of Australia, 1991), available at: https://www.pc.gov.au/inquiries/completed/energy-generation#::text=The%20Industry%20Commission%20inquiry%20report%2C%20Energy%20Generation%20and,the%20findings%20of%20the%20Industry%20Commission%27s%20public%20inquiry; F. Hilmer (Chairman), *National Competition Policy Review* (Commonwealth of Australia, 1993), available at: http://ncp.ncc.gov.au/docs/National%20Competition%20Policy%20Review%20report,%20The%20Hilmer%20Report,%20August%201993.pdf.

[72] See Parliament of Australia, Heads of Government, 'Communiqué', 11 May 1992, available at: https://parlinfo.aph.gov.au/parlInfo/search/display/display.w3p;query=Id%3A%22media%2Fpressrel%2FHPR02012046%22.

[73] For more detail, see C. Saunders, 'Australian Economic Union', in C. Saunders & A. Mullins, *Economic Union in Federal Systems* (Federation Press, 1994) pp. 1–25, at 2–4.

[74] See, e.g., C. Saunders, *The Constitution of Australia: A Contextual Analysis* (Hart, 2011), p. 250.

[75] Special Premiers' Conference, 'Communiqué', 30–31 July 1991, available at: https://parlinfo.aph.gov.au/parlInfo/download/media/pressrel/6371645/upload_binary/6371645.pdf.

[76] Lyster & Bradbrook, n. 37 above, pp. 128–9.

[77] Special Premiers' Conference, n. 75 above.

Parallel to creating these national frameworks, states undertook their own electricity restructuring reforms to prepare for a future national electricity market.[78] Initiatives to achieve standard electricity market reform components – such as unbundling of generation, transmission, distribution and system operation; free retail competition; third-party access for generators and consumers to networks; and non-discriminatory entry for new generators – were agreed in CoAG meetings in 1993 and 1994.[79]

Based on these reforms, Australia moved to creating what is now termed the National Electricity Market from 1996 when a National Electricity Market Legislation Agreement was adopted. This involved the states of South Australia, New South Wales, Queensland, Victoria, and the Australian Capital Territory agreeing to pass a National Electricity Law. The National Electricity Law, an appendix to the National Electricity (South Australia) Act 1996 (SA), is valid in all adopting states through enabling legislation.[80] Initially a National Electricity Code, approved by all relevant state and federal ministers and managed by a National Electricity Code Administrator, contained the market rules. Now, National Electricity Rules cover detailed rules for generation, transmission, and distribution in the NEM. Third-party access rules were facilitated through federal competition law through the introduction of specific rules into the Trade Practices Act 1974 (Cth).[81] From the very beginning, the market frameworks were overseen by an executive body comprising the relevant ministers under the auspices of CoAG.[82]

An independent review of the energy market[83] in 2002 provided the final impetus to set up the current market framework. According to the review, the market at the time was characterized by overlapping responsibilities and inefficient regulation.[84] The proposed reforms opposed government involvement at the operational level, instead opting for a clear oversight role.[85]

---

[78] Especially in Victoria, but also in New South Wales and South Australia, the former integrated state utilities were disaggregated and corporatized during the first half of the 1990s. For detailed accounts of the degrees of restructuring see M. Roarty, 'Electricity Industry Restructuring: The State of Play', Research Paper No. 14, Parliamentary Library, Parliament of Australia, 25 May 1998, available at: https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/rp/RP9798/98rp14; A. Rann, 'Electricity Industry Restructuring: A Chronology', Background Paper 21, Parliamentary Library, Parliament of Australia, 30 June 1998, available at: https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/Publications_Archive/Background_Papers/bp9798/98bp21.

[79] See Council of the Australian Governments, 'Communiqués', 8–9 June 1993, 25 Feb. 1993, 19 Aug. 1994.

[80] Electricity (National Scheme) Act 1997 (ACT), s. 5; Electricity – National Scheme (Tasmania) Act 1999 (TAS), s. 6; Electricity – National Scheme (Queensland) Act 1997 (Qld), s. 6; National Electricity (Victoria) Act 2005 (Vic), s. 6; National Electricity (New South Wales) Act 1997 (NSW), s. 6.

[81] Now renamed Competition and Consumer Act 2010 (Cth).

[82] Initially named the National Electricity Market Ministers Forum, and later the Ministerial Council on Energy.

[83] Council of Australian Governments, *Towards a Truly National and Efficient Energy Market* (Commonwealth of Australia, 2002) (Parer Review).

[84] Ibid., p. 9.

[85] Ibid., p. 80.

https://doi.org/10.1017/S204710252000045X Published online by Cambridge University Press

4.3. *The Governance Framework of the Current National Electricity Market*

In response, all states and territories agreed a further intergovernmental agreement in 2004: the Australian Energy Market Agreement.[86] This agreement, while containing detailed commitment to market reform, is a political agreement only; it is expressly not legally binding and all reforms undertaken to address the agreement required extensive legislative reforms.[87]

The Australian Energy Market Agreement covers the establishment of the market institutions and legislation. In particular, it requires the creation of the Australian Energy Market Commission (AEMC), a statutory authority 'responsible for rule-making and energy market development',[88] and the Australian Energy Regulator (AER), established under the Australian Competition and Consumer Commission and responsible for the economic regulation of the wholesale market and networks. It also mandates the enforcement of the National Electricity Law and the National Electricity Rules. The Australian Energy Market Operator (AEMO) is responsible not only for overseeing and facilitating the wholesale electricity market, but also for transmission network planning.[89]

The market is overseen by the CoAG Energy Council, which comprises all state, territory and federal, and resources ministers, and is considered to be the primary policymaker for the NEM.[90] It can issue statements of policy principles to the AEMC,[91] a power that so far has been under-utilized. In May 2020, the Prime Minister of Australia announced that CoAG will be replaced by a new National Federation Council, overseen by a National Cabinet. All ministerial councils, including the Energy Council, are under review following this change.[92] Whether and how this changes energy governance is not yet clear.

Following the Finkel Review, in 2017 a further market institution was created – the Energy Security Board – which consists of all three market institutions (the AEMC, AEMO, and the AER), as well as an independent chair and deputy chair. The Energy Security Board is responsible for 'whole-of-system oversight for energy security and reliability of the national electricity market; and improving long-term planning for the national electricity market'.[93] This institutional framework was set up expressly to

---

[86] Australian Electricity Market Agreement, 30 June 2004 (as amended Dec. 2013).

[87] National Electricity (South Australia) (New National Electricity Law) Amendment Act 2004 (SA); Australian Energy Market Commission Establishment Act 2004 (SA); Trade Practices Amendment (Australian Electricity Market) Act 2004 (Cth).

[88] National Electricity Law, s. 29; and Australian Energy Market Commission Establishment Act 2004 (SA).

[89] See National Electricity (South Australia) (National Electricity Law–Australian Energy Market Operator) Amendment Act 2009 (SA); National Electricity Law, s. 49(2).

[90] Australian Electricity Market Agreement, n. 86 above, s. 4.

[91] Ibid.

[92] For further information, see Australian Government, Department of Prime Minister and Cabinet, 'Effective Commonwealth-State Relations', available at: https://www.pmc.gov.au/domestic-policy/effective-commonwealth-state-relations.

[93] National Electricity Law, s. 2.

https://doi.org/10.1017/S204710252000045X Published online by Cambridge University Press

keep limited government influence on the day-to-day operation of the market.[94] While this has led to high stability of the market framework, it has also meant that the NEM has struggled with addressing transition pressures. The separation of 'external' policy, such as climate and environmental considerations, is exacerbated by the narrow design of market objectives.

When making decisions, market institutions are required to have regard to the legislated National Electricity Objective. The Objective provides:

> The objective of this Law is to promote efficient investment in, and efficient operation and use of, electricity services for the long-term interests of consumers of electricity with respect to –
>
> (a) price, quality, safety, reliability and security of supply of electricity; and
> (b) the reliability, safety and security of the national electricity system.[95]

The market objective has been used repeatedly to avert proactive measures to facilitate the energy transition.[96] The governance framework of the NEM is expressly designed as 'technology neutral'. It sets up a 'classic' liberalized electricity market structure.[97] It prescribes the unbundling of network activities from wholesale and retail activities and has a third-party access regime in place. Renewable generators are subject to the same market rules as every other generator in the system. While, on the face of it, this seems to set renewables on an even footing with incumbent fossil fuel generators, in reality it has prevented a systematic approach to transition. As discussed elsewhere,[98] outdated grid layouts, especially, reflect old patterns of fossil fuel sources connecting large coal resources with cities.

It should be noted that in addition to these highly centralized market institutions, each state has separate regulatory regimes for licensing participants in the electricity industry and consumer protection.[99] These are overseen by statutory agencies in each state, the essential services commissions. Nevertheless, with far-reaching privatization of the electricity sector,[100] in practice the role of the states in energy markets has been greatly diminished. However, as seen in the example of the South Australian blackout, politically they continue to be held responsible for 'keeping on the lights'.

As retiring fossil fuel plants and heatwaves threaten the reliability of the electricity system, and thereby one of the core objectives of the National Electricity Objective,

94 Kallies, n. 45 above, p. 1563.

95 National Electricity Law, s. 7.

96 Examples and further sources can be found in Kallies, n. 45 above, p. 1578.

97 Ibid.

98 See, e.g., Kallies, n. 45 above; L. Godden & A. Kallies, 'Electricity Network Development: New Challenges for Australia', in M. Roggenkamp et al. (eds), *Energy Networks and the Law* (Oxford University Press, 2012), pp. 292–312.

99 Electricity Act 1996 (SA), s. 15; Electricity Act 1994 (Qld), Ch. 2; Electricity Industry Act 2000 (Vic), Div. 3; Electricity Supply Industry Act 1995 (Tas), Pt 3; in NSW and ACT only electricity distribution companies and retailers require a licence; see Utilities Act 2000 (ACT), Pt 3; and Electricity Supply Act (NSW), s. 14.

100 The Victorian and South Australian electricity sectors are fully privatized; other states have partly privatized their electricity industries.

market institutions increasingly seek to facilitate the energy transition. AEMO, in particular, has been actively modelling transition scenarios to respond to the retirement of large parts of Australia's coal-powered electricity generators.[101] These changes include demand-side response, storage, transmission investment, and new renewable energy investment.[102] Nevertheless, AEMO acknowledges that legislative and regulatory changes are necessary to achieve its objectives.[103]

Still, changing the National Electricity Law requires unanimous support from all participating governments (including the federal government), which is hard to achieve while the federal government, in particular, has been averse to any decisive climate action.[104] Indeed, a review of the NEM governance agreement queried why the strategic role of the Energy Council was not being used, leading to a 'strategic policy deficit'.[105] The location of the primary policymaker in an intergovernmental forum consisting of members of the executive government means that decisions made at this level are largely insulated from parliamentary scrutiny. Meeting outcomes are reported in short 'communiqués' and generally take place behind closed doors. Indeed, Saunders bemoans the lack of 'transparency of intergovernmental debates on questions of public policy which might enable the public to understand and evaluate competing views'.[106]

The rule change process for the National Electricity Rules is cumbersome and slow, and the technical and convoluted nature of the rules makes is difficult to understand their impact and scope. While theoretically anyone can propose a rule change, in practice this has been the domain of market experts. Overall, this has led to remarkable stability of the market frameworks, where reform is piecemeal and the framework overall is resistant to change.[107]

Against the principles of dynamic energy federalism, the NEM governance framework manages to bridge the fragmentation across different states and the federal level in an era of increasing interconnection of energy systems. The oversight of the ministerial council and the national market institutions defines hierarchy and allows for cooperation and conflict resolution, albeit in a somewhat cumbersome manner. However, the NEM framework is expressly separate from climate mitigation policies that support renewable energy. In this respect it does not achieve the holistic capture of the energy system that Osofsky and Wiseman envisioned.[108] In an era where climate and energy policy are closely connected, this split of responsibilities further challenges the current model of federalism in Australia.

---

[101] Australian Energy Market Operator, 'Draft 2020 Integrated System Plan', 12 Dec. 2019, p. 10, available at: https://www.aemo.com.au/-/media/Files/Electricity/NEM/Planning_and_Forecasting/ISP/2019/Draft-2020-Integrated-System-Plan.pdf.

[102] Ibid., Executive Summary.

[103] Ibid., p. 6.

[104] See in more detail below Section 5.3.

[105] M. Vertigan, G. Yarrow & E. Morton, 'Review of the Governance Arrangements for Australian Energy Markets – Final Report', CoAG Energy Council, 23 Oct. 2015, available at: http://www.coagenergycouncil.gov.au/publications/review-governance-arrangements-australian-energy-markets-final-report.

[106] *Reforming our Constitution*, n. 58 above, Ch. 4, p. 37, para. 4.16.

[107] For more detail, see Kallies, n. 45 above, p. 1580.

[108] Osofsky & Wiseman, n. 17 above.

https://doi.org/10.1017/S204710252000045X Published online by Cambridge University Press

5. RENEWABLE ENERGY POLICY: COMPETITIVE FEDERALISM?

Australia's constitutional arrangements allow climate change to be regulated at both state and federal levels. However, rather than adopting a cooperative federalism approach as in the case of energy markets, over the past 20 years 'competitive federalism' has emerged between state and federal governments in relation to climate policy. States have a history of 'stepping up' in the face of inaction by the federal government.

Parallel to the energy policy development, Australia's federal and state governments continue to develop policies and regulatory measures to address climate change. For the purposes of this article the focus will be on measures that support energy transition efforts, such as renewable energy support and carbon pricing. Only recently have attempts been made to merge climate mitigation efforts and electricity market regulations, which so far have been unsuccessful.

Resources and their exploitation are essential for Australia's economy. Energy transition and a move towards renewable resources were and are often implied to be damaging in economic terms.[109] This has informed Australian international engagement in climate change treaties. International climate policy commitments, contained in the UNFCCC and especially the Kyoto Protocol,[110] have been important in the development and implementation of instruments that directly or indirectly support renewable energy. These instruments include the renewable energy target (RET), the Carbon Pricing Mechanism, and state feed-in tariff schemes – all of which are described in more detail below. While a founding member of the UNFCCC, Australia only ratified the Kyoto Protocol following a change of government in 2007.[111] Central to Australia's stance towards the Kyoto Protocol was the perception that reducing emissions should not come at a cost to its economy. The first climate change policy introduced by an Australian government – the 1997 package 'Safeguarding the Future: Australia's Response to Climate Change'[112] – was therefore built around a 'no regrets' approach,[113] based on voluntary action as well as a suite of research and development measures.[114] It is this sentiment – with economic growth as the foremost policy target – which also defined Australia's role in the Kyoto Protocol negotiations (resulting in a very favourable target for Australia) and its long-standing refusal to ratify the

[109] For the early, 'no regrets' approach, see below; more recently, A. Taylor (Minister for Energy and Emissions Reduction), 'National Press Club Address – "Energising the Economy: The Case for a Technology-led Approach"', 22 Sept. 2020, available at: https://www.minister.industry.gov.au/ministers/taylor/speeches/national-press-club-address-energising-economy-case-technology-led.

[110] Kyoto Protocol to the UNFCCC, Kyoto (Japan), 11 Dec. 1997, in force 16 Feb. 2005, Art. 5(2), available at: http://unfccc.int/resource/docs/convkp/kpeng.pdf.

[111] Australia signed the instrument of ratification in Dec. 2007, the ratification came into effect in Mar. 2008: UNFCCC, 'The Kyoto Protocol: Status of Ratification', available at: http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php.

[112] J. Howard (Prime Minister of Australia), 'Safeguarding the Future: Australia's Response to Climate Change', Statement at Parliament House, 20 Nov. 1997.

[113] 'No regrets' measures are defined as 'a measure that has other net benefits (or, at least no net costs) besides limiting greenhouse gas emissions': Australian Greenhouse Office, *Greenhouse Challenge: Evaluation Report* (Australian Greenhouse Office, 1999), p. 12.

[114] For a detailed account of the range of programmes contained in Howard's policy package, see Lyster & Bradbrook, n. 37 above, pp. 85–7.

Protocol. In the Paris Agreement[115] Australia committed to reducing emissions levels to 26%–28% below 2005 levels by 2030,[116] a reduction that is generally considered to be insufficient to target global climate change and which Australia is unlikely to achieve.[117]

5.1. *Early Action to Support Renewable Energy*

Early efforts to mitigate GHG emissions were taken by states, rather than the federal government. For example, several state governments introduced modest emissions targets and measures to achieve them in the 1990s, such as the New South Wales Greenhouse Gas Reduction Scheme, which created a mandatory reduction target for electricity retailers.[118]

The federal government, on the other hand, only implemented legislation to support renewable energy in 2000, when it introduced the RET scheme, following policy pressures to respond to climate change. The Howard government initiated the Mandatory Renewable Energy Target Scheme, the predecessor of the current RET, with a very low target of an additional 2% of electricity from renewable sources by 2010. The federal RET is a tradeable certificate scheme, similar to others all over the world.[119] All of these schemes have in common that tradeable certificates, in Australia called renewable energy certificates, are created for renewably generated electricity and are required to be purchased by liable entities as a set quota of their overall electricity use.[120]

When the target was achieved earlier than expected, the federal government refused to extend the scheme. In a pattern that was to be repeated over and over again, state governments, driven by concerns about the continuing viability of their budding regional renewable energy industries, stepped into the political vacuum on climate and renewable energy policy and introduced a range of schemes targeting GHG emissions.[121] These included a Victorian Renewable Energy Target scheme,[122] which involved a RET-style market mechanism. Other schemes, such as the now closed New South Wales Greenhouse Gas Abatement Scheme,[123] a baseline and credit

[115] N. 42 above.

[116] Australian Government, Department of Foreign Affairs and Trade, 'Australia's Intended Nationally Determined Contribution to a New Climate Change Agreement', Submission to the United Nations Framework Convention on Climate Change, Aug. 2015, available at: https://unfccc.int/files/focus/indc_portal/application/pdf/presentation_to_unfccc_indc_bonn_-_final_for_secretariat.pdf.

[117] See Climate Action Tracker, 'Australia', 2020, available at: https://climateactiontracker.org/countries/australia.

[118] Electricity Supply Act 1995 (NSW); Electricity Supply (General) Regulation 2001 (NSW).

[119] For an overview, see S. Carley, 'State Renewable Energy Electricity Policies: An Empirical Evaluation of Effectiveness' (2009) 37(8) *Energy Policy*, pp. 3071–81.

[120] Renewable Energy (Electricity) Act 2000 (Cth), s. 3.

[121] New South Wales Greenhouse Gas Abatement Scheme (GGAS) (Electricity Supply Act 1995 (NSW)); Victorian Renewable Energy Target (VRET) (Victorian Renewable Energy Act 2006 (Vic)); Australian Capital Territory Greenhouse Gas Reduction Scheme (Electricity (Greenhouse Gas Emissions) Act 2004 (ACT)); Queensland 13% Gas Scheme (Electricity Act 1994 (Qld)).

[122] Victorian Renewable Energy Target, as contained in the Victorian Renewable Energy Act 2006 (Vic).

[123] Electricity Supply Act 1995 (NSW) Pt 8A, and Electricity Supply (General) Regulation 2001 (NSW) as amended by Electricity Supply Amendment (Greenhouse Gas Emissions Reduction) Act 2003 (NSW).

emissions trading scheme,[124] aimed to reduce GHG emissions in the electricity sector. It supported lowest-cost reduction of emissions, resulting in a wide range of abatement projects undertaken.[125] Additionally, since 2004 a range of state schemes for small-scale renewable energy installations have been introduced.[126]

5.2. *Strong Federal Climate and Renewable Energy Policy under the Rudd/Gillard Governments*

In July 2007, with public opinion beginning to crescendo on the issue of climate change, the Howard government published its first Climate Change Policy.[127] This policy did not significantly change the approach of the Australian federal government to renewable energy, with mostly research and development funding proposed to support renewable energy.[128] Instead, an emissions trading scheme was considered as a 'least-cost solution' to achieve long-term emissions reduction.[129]

The federal government's attitude to climate change and renewable energy substantially changed with the incoming Labour government of former Prime Minister Kevin Rudd, elected in the 2007 federal elections. Early in the term of the Rudd government, a host of activities was undertaken with regard to climate change mitigation in general. Following its 'Clean Energy Future' policy,[130] the new government ratified the Kyoto Protocol, substantively expanded the RET, and attempted to introduce an emissions trading scheme in the form of the Carbon Pollution Reduction Scheme,[131] an undertaking that ultimately failed in the Senate.[132] The Labour government under Julia Gillard, who replaced Rudd as Prime Minister in 2009, managed to implement the Carbon Pricing Mechanism, an emissions trading scheme with an initial fixed-price period.[133] It also implemented a 'green bank', the Clean Energy Finance Corporation,[134] an

[124] Unlike a cap and trade scheme (such as the European Emissions Trading Scheme, or the Carbon Pricing Scheme) a baseline and credit scheme sets a baseline of expected emissions, and requires the surrender of abatement certificates for any emissions above this baseline. Below baseline emissions can generate tradeable abatement certificates. Details of the design of the NSW scheme can be found in Independent Pricing and Regulatory Tribunal New South Wales (IPART), *NSW Greenhouse Gas Reduction Scheme: Strengths, Weaknesses and Lessons Learned* (IPART, 2013).

[125] Including, e.g., 'the building of new low-emissions-intensive generation plant, the greater use of existing low-emissions power plant, and efficiency improvements to existing power stations; the building of smaller generation and cogeneration plant fuelled by waste methane from landfill, sewerage and putrescible waste; the capture and combustion of waste coal mine gas; improvements in fuel efficiency and production processes at large industrial sites; tree planting and maintenance projects on farming land': ibid., p. 5.

[126] See also J. Prest, 'Australian Renewable Energy Law: Carbon Lock-in or Clean Energy Transition?' (2018) 9(1) *Renewable Energy Law and Policy Journal*, pp. 44–67.

[127] Australian Government, *Our Economy, Our Environment, Our Future* (2007).

[128] Ibid., pp. 13–4.

[129] Ibid., p. 7.

[130] Australian Government, *Securing a Clean Energy Future: The Australian Government's Climate Change Plan* (Commonwealth of Australia, 2011).

[131] Carbon Pollution Reduction Scheme Bill 2009 (Cth).

[132] Commonwealth, Parliamentary Debates, Senate, 30 Nov. 2009, 9602-3. The Prime Minister subsequently decided to delay the scheme; see Prime Minister Kevin Rudd, 'Press Conference: Prime Minister's Courtyard', 4 May 2010.

[133] Clean Energy Act 2011 (Cth).

[134] Clean Energy Finance Corporation Act 2012 (Cth).

https://doi.org/10.1017/S204710252000045X Published online by Cambridge University Press

Australian Renewable Energy Agency,[135] and introduced a dedicated Climate Change Authority as an advisory body to the government charged with reviewing central climate change policies.[136]

Here, with international climate law commitments as a very clear driver, a response at the federal level was seen as most appropriate, echoing similar discussions in the clean energy federalism debate.[137] Indeed, some states responded by letting their own policies be subsumed by the expanded federal RET.[138] However, following the election of a conservative government in 2013, an unprecedented move to abolish climate legislation followed.

5.3. *Stagnation in Contemporary Federal Renewable Energy Policy*

The new federal government sought to abolish both the Australian Renewable Energy Agency[139] and the Clean Energy Finance Corporation,[140] both of which are organizations that support renewable energy projects. It also introduced legislation to Parliament to abolish the Climate Change Authority.[141] All of these measures, while ultimately unsuccessful in the Senate, exemplify the turnaround that Australian climate policy had taken with the election of the new government.[142]

The carbon pricing measures were also short lived and repealed by the Clean Energy Legislation (Carbon Tax Repeal) Act 2014.[143] Their replacement, a Direct Action Plan,[144] was based on the national government paying for lowest-cost abatement from a range of mitigation activities drawn from an emissions reduction fund (now called a climate solutions fund).[145] The fund favours land sector initiatives and carbon sequestration, and has been the main climate policy measure at the federal level for the last five years. The Climate Tracker provides a scathing review of the scheme, 'which is failing to contribute to any significant emissions reductions'.[146]

While the RET scheme continued, the government undertook a review of its merits in 2014,[147] with an emphasis on the impact the scheme has on electricity affordability and on the competitiveness of Australian industry.[148] As a result of this review, the

[135] Australian Renewable Energy Agency Act 2011 (Cth).
[136] Climate Change Authority Act 2011 (Cth).
[137] See Mormann, n. 22 above.
[138] Victorian Renewable Energy Amendment Act 2009 (Vic).
[139] Australian Renewable Energy Agency (Repeal) Bill 2014 (Cth).
[140] Clean Energy Finance Corporation (Abolition) Bill 2014 (Cth).
[141] Climate Change Authority (Abolition) Bill 2013 (Cth).
[142] See also Prest, n. 126 above.
[143] Clean Energy Regulator, 'Carbon Pricing Mechanism' (2015).
[144] Ibid.
[145] See Carbon Farming Initiative Amendment Act 2014 (Cth).
[146] Climate Action Tracker, n. 117 above.
[147] Renewable Energy Target Scheme Expert Panel, 'Report of the Expert Panel', 15 Aug. 2014, available at: https://apo.org.au/node/41058.
[148] G. Hunt (Minister for the Environment) & I. MacFarlane (Minister for Industry), 'Review of the Renewable Energy Target, Joint Media Release, 17 Feb. 2014, available at: https://www.minister.industry.gov.au/ministers/macfarlane/media-releases/review-renewable-energy-target.

https://doi.org/10.1017/S204710252000045X Published online by Cambridge University Press

scheme was cut and the government decided not to extend the scheme beyond 2020, leading to considerable uncertainty in the industry and a massive drop in investment.[149]

Others have described the capture of the federal government by climate denialists as a major contributor to climate inaction.[150] The states and territories have now once again become the main drivers of climate action and renewable support in Australia.

5.4. *Strong State Action on Renewable Energy Policy*

All state governments have adopted emissions reduction targets of zero net emissions by 2050.[151] Most states also have RETs.[152]

The Australian Capital Territory (ACT) has legislated a RET of 100% by 2020.[153] A reverse auction mechanism has been implemented to achieve this target.[154] Queensland has a political target of 50% renewable energy by 2030.[155] South Australia has already overachieved on its legislated RET of 33.3% by 2020[156] and has an aspirational target of 100% renewables before 2030.[157] While no targeted support mechanism has been implemented (beyond favourable land-use planning laws for renewable installations),[158] South Australia has the best wind resources in the country and generated almost 40% of its electricity from renewable energy in 2018–19.[159] Victoria has a legislated RET of 50% by 2030.[160] Similar to the ACT scheme, a reverse auction scheme supports the investment into large-scale renewable energy. Tasmania, which already relies predominantly on hydro power to generate electricity,[161] is committed to a 100% RET by 2020.[162]

In summary, renewable energy investment is now supported by largely favourable state policy and legislation, although only the ACT and Victoria provide for express

[149] For further detail see J. Prest & G. Soutter, 'The Future of Australia's Federal Renewable Energy Law' (2018) 92(10) *Australian Law Journal*, pp. 799–813, at 803.

[150] Prest, n. 126 above.

[151] IEA, *Energy Policies of IEA Countries: Australia 2018 Review* (IEA, 2018), p. 30. The ACT has recently committed to achieving zero emissions by 2045: Climate Change and Greenhouse Gas Reduction (Interim Targets) Determination 2018 (ACT), Cl. 3.

[152] See also P. Stock et al., *Renewables Ready: States Leading the Charge* (Climate Council of Australia, 2017).

[153] Climate Change and Greenhouse Gas Reduction Act 2010 (ACT), s. 9.

[154] Electricity Feed-In (Large-Scale Renewable Energy Generation) Act 2011 (ACT).

[155] Queensland Government, Department of Resources, 'Powering Queensland', updated 1 Apr. 2020, available at: https://www.dnrme.qld.gov.au/energy/initiatives/powering-queensland.

[156] Climate Change and Greenhouse Emissions Reduction Act 2007 (SA), s. 5. Note that the 20% target in legislation has been raised by ministerial determination under this section.

[157] E. Weisbrot et al., *State of Play: Renewable Energy Leaders and Losers* (Climate Council of Australia, 2019), p. 18.

[158] Pastoral Land Management and Conservation Act 1989 (SA), ss 4, 49A ff.

[159] Australian Energy Market Operator, 'South Australia Electricity Report', Nov. 2019, p. 30.

[160] Renewable Energy (Jobs and Investment) Act 2017 (Vic), s 7; Renewable Energy (Jobs and Investment) Amendment Bill 2019.

[161] P. Stock et al., n. 152 above, p. 10.

[162] W. Hodgman (Premier of Tasmania) & G. Barnett (Minister for Energy), 'Tasmania Powers National Renewable Energy Achievement', Press Release, 4 Sept. 2019, available at: http://www.premier.tas.gov.au/releases/tasmania_powers_national_renewable_energy_achievement.

additional mechanisms to support large-scale renewable energy. This reflects their resource base as well as their current political leadership by Labour governments. While Victoria is well endowed with lignite resources, the health impact of recent mine fires[163] and the closure of ageing generator infrastructure[164] have led to strong pressures to support renewable energy. By comparison, the ACT, a small territory containing the capital of Canberra, has no fossil fuel resources of its own. Consequently, while the ACT scheme allows for investment in renewable generation across the NEM,[165] the Victorian scheme requires investment within the state of Victoria.[166] These state-level commitments, which are in stark contrast to federal inaction, have been made even though state governments in South Australia, New South Wales and Tasmania are, at the time of writing,[167] led by the same party as the federal government. On the other hand, the coal-rich states of New South Wales and Queensland have not yet provided additional support mechanisms for their renewable energy industries.[168]

The main impact of the Australian renewable energy policy uncertainty is that investors have moved into a holding pattern, postponing investment until there is policy clarity.[169] Australia's renewable industry now relies on a patchwork of different policies supporting renewable energy across different states. State-level policies have been less affected by changes of government than the federal schemes, as states seek to protect local benefits, such as the development of local industries and protection of local jobs in the clean energy sector.[170] Policy innovations, such as the introduction of reverse auction feed-in tariffs in the ACT, have now led to the introduction of a similar mechanism in Victoria. In the Australian context, and echoing similar sentiments in the US,[171] Kildea and Lynch argue that competitive federalism by the states can 'give rise to diversity and innovation'.[172]

Similar patterns of state action in the face of federal inaction have been observed in Canada and the US,[173] which could point to the state level as being the appropriate

[163] See Hazelwood Mine Fire Inquiry, 2014, available at: http://report.hazelwoodinquiry.vic.gov.au/introduction.html.

[164] Finkel Review, n. 11 above.

[165] G. Buckman, J. Sibley & R. Bourne, 'The Large-scale Solar Feed-in Tariff Reverse Auction in the Australian Capital Territory, Australia' (2014) 72(C) *Energy Policy*, pp. 14–22.

[166] For more detail of the respective schemes, see Victorian State Government, Department of Environment, Land, Water and Planning, 'Victorian Renewable Energy Auction Scheme', updated 13 July 2020, available at: https://www.energy.vic.gov.au/renewable-energy/victorian-renewable-energy-auction-scheme.

[167] Dec. 2020.

[168] Please note that the New South Wales parliament has recently passed a new Electricity Infrastructure Investment Bill 2020, which seeks to support renewable-friendly network infrastructure development with a range of measures; details available at: https://www.parliament.nsw.gov.au/bills/Pages/bill-details.aspx?pk=3818.

[169] P. Simshauser & A. Tiernan, 'Climate Change Policy Discontinuity and its Effects on Australia's National Electricity Market' (2018) 78(1) *Australian Journal of Public Administration*, pp. 17–36.

[170] See, e.g., the aptly named Renewable Energy (Jobs and Investment) Act 2017 (Vic).

[171] See May, n. 30 above.

[172] P. Kildea & A. Lynch, 'Entrenching Cooperative Federalism: Is It Time to Formalise COAG's Place in the Australian Federation?' (2011) 39(1) *Federal Law Review*, pp. 103–29, at 114.

[173] K. Harrison, 'Federalism and Climate Policy Innovation: A Critical Reassessment' (2013) 39(Supp. 2) *Canadian Public Policy*, pp. S95–S108.

location for renewable support. From a dynamic federalism perspective, however, the return to the states as the main policymakers for renewable energy does little to provide for cross-cutting regulatory authority or to reduce fragmentation. In particular, there is no clear mechanism to integrate state renewable policy with the NEM framework.

Nevertheless, the high growth in renewable energy experienced by Australia, both in wind and solar, has substantive impacts on the electricity system.[174] High renewable penetration needs to be supported by targeted network development and has an impact on market operation.[175] These issues, however, sit within the domain of energy market regulation which, as already discussed, is an entirely separate legal and regulatory framework. An unsuccessful attempt to integrate climate and energy policy has been made with the ill-fated National Energy Guarantee.

5.5. *The National Energy Guarantee: An Unsuccessful Attempt at Cooperative Federalism in Climate Law*

The National Energy Guarantee sought to enact one of the recommendations in the wake of the Finkel Review. The Guarantee was to include two distinct parts: a reliability requirement, and an emissions requirement. Both requirements were to be imposed as obligations on electricity retailers.[176]

The emissions requirement would have required electricity retailers to meet a specific electricity emissions target. Crucially for the purposes of this article, this emissions requirement was envisioned to be integrated as part of the National Electricity Market legal and regulatory settings. Thus, while setting the target itself would have been the responsibility of the federal government as part of its Paris Agreement commitments,[177] its mechanism would have become integrated into the cooperative federalism-based NEM regulatory framework. Accordingly, there were to be 'joint rules similar to the National Electricity Rules, and the AEMC would be the rule-maker and the AER responsible for compliance for the scheme'.[178] The emissions target was planned to be lowered gradually in order to achieve Australia's emissions reduction targets under the Paris Agreement by 2030. This level of climate commitment proved too much for the federal government and was shelved by then Prime Minister Malcolm Turnbull in August 2018.[179] Ultimately, his support for the Guarantee was considered to be a major factor in Turnbull's later disposal as Prime Minister.[180]

---

[174] See further Kallies, n. 45 above.

[175] See also Australian Energy Market Operator, 'Renewable Integration Study', available at: https://aemo.com.au/en/energy-systems/major-publications/renewable-integration-study-ris.

[176] See further Energy Security Board, 'The National Energy Guarantee: Advice', 20 Nov. 2017, available at: http://www.coagenergycouncil.gov.au/sites/prod.energycouncil/files/publications/documents/Report%20on%20the%20National%20Energy%20Guarantee.pdf.

[177] Ibid., pp. 4–5.

[178] Ibid., p. 35.

[179] M. Grattan, 'Prime Minister Malcolm Turnbull Shelves Emissions Reduction Target as Leadership Speculation Mounts', *The Conversation*, 20 Aug. 2018, available at: https://theconversation.com/malcolm-turnbull-shelves-emissions-reduction-target-as-leadership-speculation-mounts-101811.

[180] See, e.g., Prest, n. 126 above, p. 66.

https://doi.org/10.1017/S204710252000045X Published online by Cambridge University Press

The other aspect of the National Energy Guarantee – the reliability obligation – was intended to force retailers to invest in generation capacity that improves the reliability of the electricity system. It required retailers to enter into contracts for dispatchable resources. This part of the Guarantee, which could be passed without federal legislation, was agreed in the form of a Retailer Reliability Obligation by CoAG in 2019 and is now part of the National Electricity Law and National Electricity Rules. It will require AEMO to identify potential reliability gaps in the NEM. Where such a gap has been identified, the obligation will be triggered.[181] However, without the linked emissions requirement, the opportunity to integrate climate and energy policy has been missed once again.

6. MOVING FORWARD: INTEGRATING CLIMATE AND ENERGY POLICY?

In summary, Australia's example shows that energy transitions require a fresh look at energy federalism, its scope and its mechanisms. While a national solution exists for the NEM, it is now the states rather than the federal government that lead the way on climate change mitigation efforts, with flow-on effects for the cooperative energy market arrangements. Despite this, transitioning our energy system remains a whole-of-nation challenge. An agreement on a timely and fair energy transition needs all parties at the table. It will need national coordination and a whole-of-system perspective.

Set against Osofsky and Wiseman's principles for dynamic energy federalism, the regulation of the electricity market and its enabling regulatory framework seems to have some promising features. The market framework provides for 'institutions or multi-institutional structures with capacity for multi-level, cross-cutting regulatory authority', its institutions 'reduce simultaneous overlap and fragmentation by creating structures through which hierarchy can be defined, cooperation can take place, and conflicts can be resolved and integrate key public and private stakeholders with structural and procedural protection'.[182] Cooperative federalism has created a legislative framework for the electricity market which transcends constitutional constraints and applies across all participating states in the NEM. It also has proved to be hard to reform and prone to lowest common denominator decisions. However, and crucially for this analysis, this framework does not extend to the integration of renewable energy policy. At the heart of dynamic energy federalism is a focus on the whole energy system and its complexity. It transcends the question of the 'right' level of energy regulation and instead focuses on interactions and cooperation. The lack of institutions that provide structures for this interaction is arguably destabilizing the Australian electricity system.[183]

[181] For detail, see CoAG Energy Council, 'Retailer Reliability Obligation', Bulletin, July 2019, available at: http://www.coagenergycouncil.gov.au/sites/prod.energycouncil/files/publications/documents/RRO%20Bulletin%20-%2020190701.pdf.

[182] Osofsky & Wiseman, n. 17 above, pp. 841–2.

[183] See also Simshauser & Tiernan, n. 169 above.

https://doi.org/10.1017/S204710252000045X Published online by Cambridge University Press

In this context, Australia's energy federalism example can provide important lessons for transition efforts in other jurisdictions across the world. Firstly, cooperative federalism solutions can be helpful in achieving national solutions for the energy sector, where centralization of power in the federal government is not constitutionally possible or politically opportune.

Secondly, in Australia, as elsewhere,[184] old certainties of clearly defined policy areas designated to specific levels of government no longer hold true under transition conditions. Australia's particular federalism solutions in a context which keeps electricity market policy separate from renewable energy policy have proved to be increasingly outdated and indeed provide barriers to Australia's energy transition.

Thirdly, the durability and success of the energy transition will require the ability of energy market frameworks to respond to renewable energy policy changes in a flexible and timely manner. State-level or federal-level policy to support renewable energy will remain an important driver of innovation and investment. However, energy market frameworks need to contain mechanisms that allow them to evolve alongside these policies. Australia's future energy federalism solution will need to reconsider how to coordinate and communicate for an integrated development of energy policy and renewable energy policy. Given the unified national framework for the electricity market, this communication may best be achieved by renewable energy support at either the federal level or through a cooperative federalism solution. Yet, for either of these options there is currently a lack of political will.[185] However, the level of government may be less important than the mechanisms employed to integrate energy and climate decision making. Australia has so far not been successful in addressing this lack of integration.

As Australia faced prolonged drought and an unprecedented fire season in 2019–20, Australians are once again reconsidering their nation's response to climate change. This may provide an opportunity to consider future convergence of these two overlapping areas of policy and lawmaking to achieve a proactive and planned transition to a decarbonized energy system.

[184] See also Rossi, n. 18 above, p. 401.

[185] See, e.g., S. Marsden, 'The "Triangle" of Australian Energy Law and Policy: Omissions, Connections and Evaluating Environmental Effects' (2017) 29(3) *Journal of Environmental Law*, pp. 475–503.

https://doi.org/10.1017/S204710252000045X Published online by Cambridge University Press