Convergent Evolution: Framework Climate Legislation in Australia

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ABSTRACT

Australia is a well-known climate laggard with a history of political conflict over climate policy and the dubious distinction of being the only country to repeal a national emissions trading scheme (ETS). This article examines the puzzle of why four subnational governments in Australia's federation succeeded in enacting durable framework climate legislation based on a model that came to be widely regarded as 'best-practice'. We show that in 2007 South Australia was the first jurisdiction in the world to enact framework climate legislation with a 2050 emissions reduction target and an independent expert advisory committee to provide guidance on the implementation of interim targets. We show that this local legislative innovation set off a process of political learning, policy transfer and a virtuous political competition among like-minded Labor and Labor-Green governments at the subnational level. We call this 'convergent evolution' insofar as the legislative innovation and diffusion over the period 2007-2015 was similar to, but occurred independently of, the UK Climate Change Act 2008 and the diffusion of this model elsewhere in Europe. Common to all cases was a strong commitment by the premier and/or the relevant minister to pursue a decarbonisation strategy via targets, and reliance on sources of advice for legislative reform that were professionally and/or politically committed to climate action rather than from vested industry groups. More generally, we argue that framework climate legislation carries lower political risks than an ETS because it does not draw attention to the upfront costs of action. The diffusion of subnational climate change legislation, accompanied by renewable energy promotion, has helped to limit the impacts of Australian national climate policy failure while also providing a springboard for renewed climate legislative momentum at the national level.

Key policy insights

- Similar innovations in climate policy and legislation can occur independently in different regions in response to similar global pressures.
- Framework climate legislation based on long-term and progressive interim targets carries lower political risks than an ETS because it does not draw as much attention to the upfront costs of action.

- Innovation in subnational framework climate legislation in a federation can generate a virtuous competition in target setting and renewable energy promotion in states that are not heavily dependent on fossil fuels or close to retiring fossil fuel assets.

Key words: Australian climate policy, framework climate legislation, federalism, climate policy learning, transfer and diffusion, Climate Change Act 2008 (UK).

1. Introduction

Australia has a history of political polarisation and conflict over national climate policy and the dubious distinction of being the only country to dismantle a national emissions trading scheme (ETS) (Chubb 2014; Crowley 2017; Copland 2020). It also has a reputation as a climate laggard. Since 2015, Australia has been routinely ranked close to the bottom of the annual Climate Performance Index (Germanwatch 2021). Australia's 2030 emissions reduction target (26-28% below 2005 levels) is weak by OECD standards. Yet, starting in 2007, Australia has seen world-leading, strong and enduring framework climate legislation adopted with little political rancour in four of its eight subnational States and Territories.

Given the failure of successive national governments to produce durable and effective climate legislation in Australia, the central question addressed in this paper is: why have subnational governments in Australia – starting with South Australia in 2007 – nevertheless succeeded in producing strong climate policy using a legislative model with most of the hallmarks of what is considered best practice? This model, exemplified in the United Kingdom's *Climate Change Act 2008* (hereafter the UK CCA), includes a legislated long-term emissions reduction target, interim targets or carbon budgets, and a requirement that the relevant minister take into account advice from an independent expert committee in setting targets and developing supporting policies and regulations. This model has been defended as best practice because it seeks to lock-in an enduring commitment to reducing emissions, which provides certainty and a clear direction for investors and society at large (McGregor et al. 2012; Lockwood 2013; Rietig & Laing 2017). It also provides a scientifically informed and transparent process for setting targets through reporting and parliamentary accountability

mechanisms, and a basis for whole of government planning and inter-agency coordination (Bennett 2018; Fankhauser *et al*. 2018).

In responding to our central question, we bring together research on comparative climate policy to shed light on policy *divergence* between Australia's national and subnational governments, and research on policy learning, transfer and diffusion, to account for policy *convergence* among subnational governments. Cross-national research has shed light on the structural conditions that are most conducive to climate leadership and laggardship, with historical dependence on fossil fuels and the presence of well-organised fossil fuel-interests strongly correlated with laggardship (e.g. Mildenberger 2020). Research on policy learning and transfer focuses on political agency and emphasises the path-dependent nature of policy learning. Studies on policy diffusion (e.g. Marsh and Sharman 2009; Tews 2015) and subnational climate leadership in federal systems (Harrison 2013; Engel 2015) seek to explain broader patterns, including the conditions that hinder or enhance diffusion. We draw out insights and connections across these different literatures in addressing our core question.

Our analysis found that differences in fossil fuel dependency were not the most decisive factor in explaining the enactment of subnational climate legislation and/or convergence around the same legislative model. Rather, we show that the process began with local legislative innovation by a subnational Labor government with a strong commitment to addressing climate change. This was followed by local policy transfer and diffusion between other, like-minded subnational Labor or Labor-Green governments engaged in a virtuous competition over climate policy. Borrowing from evolutionary theory, we call this process 'convergent evolution', because the processes of local innovation, transfer and diffusion in Australia were similar to but, until 2015, independent of the UK's legislative innovation and the spread of this model elsewhere in Europe (e.g., Nash and Steurer, 2019). Since 2015, the UK CCA has become more influential in shaping Australian climate legislation and private member climate bills.

The remainder of this paper is divided into five sections. Section two reviews the scholarly literature and draws out a range of possible answers to our question, while section three outlines our method. Section four provides a brief overview of the failures of Australian national climate legislation and then provides an account of each subnational legislative development. The fifth section analyses the possible explanations derived from our literature

review We conclude in section six by drawing together the main threads of our argument and reflecting on the implications for climate policy in Australia.

2. Literature Review

Cross-national research has found that a left-wing government can serve as a sufficient condition for ambitious climate policy in OECD countries (Tobin 2017). However, an earlier cross-national study of the factors that drive climate change laws found that the presence of a left-wing or right-wing government made no significant difference, except in Anglo-Saxon countries where 'a climate-sceptic right has affected the passage of climate change legislation' (Fankhauser *et al*. 2015, 60). This is most pronounced in the United States and Australia, where climate scepticism has contributed to strong political polarisation over climate policy (e.g. Tranter 2013), leading to policy gridlock in the legislature or right-wing governments repealing or weakening climate laws introduced by a previous left-leaning government (e.g. Crowley 2017). Both countries have well-organised fossil fuel interests, and Farstad's cross-national study has shown that the presence of organised fossil fuel interests is generative of political polarisation and climate policy gridlock when combined with pluralist political institutions, a majoritarian rather than proportional representation voting system, and many rather than few veto points (Farstad 2016). All of these conditions hold at the national level in the United States and Australia. More generally, comparative research on climate laggards has highlighted the constraining (Steves and Teytelboym 2013) or 'lock-in' (Unruh 2000) effects that flow from a significant historical dependence on fossil fuels, especially when coupled with fossil fuel mining and exports (LaChappell and Paterson 2013, 565; Fankhauser *et al*. 2015, 59). Mildenberger (2020) has shown that when there are organisational links between carbon-dependent economic stakeholders and the major political parties, then progress on climate policy can be slowed or stymied (Mildenberger 2020). In light of this research, we would expect new subnational climate legislation to be more easily enacted by Labor or Labor-Green governments in jurisdictions that are not historically dependent on fossil fuels. This would also rule out or lessen the influence of organised fossil fuel interests and also reduce political polarisation on climate policy. Moreover, the relative political influence of these interests may also reflect differences in the extent and types of fossil fuel dependency in specific jurisdictions.

Comparative research on federal systems offers two possible additional explanations for subnational climate policy leadership. The first is that subnational states/provinces seeking to attract investment may, depending on local factors, engage in "virtuous competition" over climate policy to maximise competitive advantage (for instance, to attract new renewable energy technologies) and also garner other benefits such as security and reliability of electricity supply (Rabe et al. 2005, 3; Harrison 2013, 99). The second explanation, by Engel (2015), addresses 'the enigma' of subnational climate policy innovation. She argues that most subnational climate policies are not in fact new but rather borrowed from pre-existing national or international innovations, and this borrowing reduces the political risks and implementation costs of subnational climate measures (Engel 2015, 182-183, 185). In the United States, California – a major policy innovator – is the exception, not the rule, due to its larger economic size and population, and its culture of innovation, while other US states are merely 'scale innovators', not policy innovators (Engel 2015, 171). Combing these two arguments, we would expect to see virtuous competition in subnational jurisdictions to attract investment and garner energy security, along with borrowing from successful national and international legislative models rather than local innovation.

To understand the spread of a distinctive model of climate legislation, we turn to research on policy learning, transfer and diffusion. Whereas policy convergence may occur for a variety of different reasons (including coercion), policy transfer and diffusion presuppose a prior process of voluntary learning and transfer (Bennet 1991, 220; Knill 2005; Jordan and Huitema 2014, 720). As Dolowitz and Marsh (2000, 9) point out, transfer may take many forms: copy, emulation, inspiration or a mixture. The sources of learning may be many and varied including: close personal ties between political leaders or policymakers, particularly when they share the same political and legal system (Torney 2017, 248); 'fraternal policy transfer' between governments of the same political persuasion (O'Neil 2016); knowledge sharing via membership of local or transnational clubs (Perkins and Nachmany 2019); or simply research into 'best practice', which routinely occurs when agencies or advisory bodies are requested by governments to recommend policy and legislative reform. We therefore focus on tracking the sources of 'legislative learning' in Australia, noting that the object of learning may include not only policy efficacy but also the political consequences and symbolic effects of prior legislation (Gilardi 2010, 651). Political learning from abroad may also be employed as an 'argumentative resource' to enhance policymakers' persuasive power or credibility vis-à-vis their competitors or other stakeholders (Müller and Slominski 2017,

52). This body of research suggests that policy learning and transfer would be most likely among subnational governments with prior connections, such as political affiliations or similar ambitions.

Finally, some types of policy and legislation may diffuse more easily than others. For example, Tews (2015, 73) has argued that policies that are likely to generate distributional conflicts with powerful interest groups are less likely to diffuse. We would expect that climate legislation that focuses solely on goals and target setting would generate less distributional conflict and therefore be less politically risky than legislation that included a carbon pricing mechanism, especially if proposed in the wake of the failure of carbon pricing at the national level.

3. Method and data sources

Our empirical investigation of subnational climate legislation in Australia proceeded in three steps. First, we conducted a systematic search of the legislative record throughout Australia's federation to identify climate legislation designed to reduce emissions, including amendments. We also examined bills that were proposed but not enacted as well as legislative initiatives that have been enacted and then weakened and/or repealed. Through process tracing (Collier 2011), we then searched for evidence that provided a solid basis for concluding that the similarities with earlier legislative models arose from conscious lesson-drawing and policy transfer via emulation or inspiration from the earlier model or from innovation or other reasons, by tracking down the key sources of learning and, where possible, ruling out other likely sources of learning. The sources of data are primary sources, such as ministerial second reading speeches, government reports commissioned to advise the minister on climate legislative reforms, ministerial media releases, relevant local campaigns by environmental nongovernment organisations (ENGOs) as well as relevant secondary sources. Where the sources of influence could not be discerned from documentary sources, we obtained human research ethics approval to conduct a small number of supplementary interviews (n=7) with key actors associated with each legislative development to fill gaps in the process tracing. Where interviews were not possible, we engaged in correspondence with key actors (n=2). The list of interviewees and correspondents is included after the references. We present the data in narrative form to highlight the path-dependent nature of policy transfer, and then offer our explanation, which includes our analysis of the structural drivers.

4. **Australian framework climate legislation**

National climate legislation

Nothing directly resembling framework climate legislation has appeared or survived at the national level in Australia. Instead, there have been two attempts to legislate a national ETS: the Rudd Labor Government's failed *Carbon Pollution Reduction Scheme* (CPRS) Bill of 2009, and the Gillard Labor-Green Government's short-lived *Clean Energy Act 2011*. The CPRS Bill had included an expert committee to advise the relevant minister on emissions limits (but with no legislative targets) and a five-year cycle for specifying annual emission limits, which emulated the carbon budget cycles in the UK model. According to its architect, Ross Garnaut, the CPRS Bill was only 'broadly influenced by discussion leading up to the UK Act' (Correspondence: Garnaut 2020).

The 2010 national election led to the unprecedented formation of a minority Labor-Greens government, led by Julia Gillard. The Greens' key condition for entering into this tenuous alliance was that substantial action on climate change, including a carbon price, should follow quickly. A Multi-Party Climate Change Committee (MPCCC) recommended a package of measures that passed into law in November 2011 (Crowley 2017). The Gillard Government's Clean Energy Future package included the *Clean Energy Act 2011*, which established a carbon pricing mechanism intended to transition into an ETS while leaving the determination of the emissions cap to executive regulation. This Act, derived from work done for the CPRS and refined through further advice from the Garnaut Review 2011 (Garnaut 2011), did not include any of the features of best practice climate framework legislation. However, the accompanying *Climate Change Authority Act 2011* established an independent statutory body (the Climate Change Authority) to advise the minister on targets and caps for the ETS. This was broadly modelled on the UK Climate Change Committee, although its role and authority were weak by comparison. Senator Christine Milne, the Greens' Deputy Leader and climate change spokesperson, notes that, 'the independent advisory committee [Climate Change Authority] was essential to solving the problem of deep disagreement between the Greens and Labor over targets' (Interview: Milne 2020). The British High Commission had been active in Australia since 2008, providing briefings on climate negotiations prior to

COP15 in Copenhagen in 2009. At the beginning of the MPCCC process, the High Commission approached the Greens with a copy of the UK Act. The High Commission was keen to promote the UK legislation, and answered questions about its potential viability in Australia. The UK Act 'eased the political task of promoting targets, given the legitimacy of the source and the success of its implementation' (Interview: Woldring 2020).

The carbon pricing schemes proposed by the Rudd and Gillard Governments were strenuously opposed not only in the Parliament, but also by the fossil fuel mining industry (Copland 2020, McKnight and Hobbes 2017; Pearse 2017; Wilkinson 2020). The first transitional step towards a floating carbon price under the ETS was misnamed a carbon tax by Gillard. This mistake was exploited mercilessly by Tony Abbott, who led the Opposition's vitriolic campaign to 'axe the tax' that precipitated Labor's electoral loss in 2013 (Chubb 2014; Crowley 2017, 2; Wilkinson 2020). The *Clean Energy Act 2011* was repealed by the Abbott Liberal-National Coalition Government in July 2014. The Climate Change Authority survived, but has been largely sidelined as a policy actor. The Coalition has remained in government since 2013 and has shown no inclination to pursue national framework climate legislation.

Subnational climate legislation

South Australia

In 2007, South Australia was the first government in Australia to enact framework climate legislation and the first government in the world to enshrine a 2050 target in legislation.[1] Labor Premier Mike Rann was committed to making South Australia a leader on climate policy and renewable energy development in order to put pressure on the national Howard Coalition Government while also goading other States and Territories to do better (Interview: Rann 2021). South Australia's legislation was in direct response to the absence of national climate policy leadership.

In 2006, together with Victorian Labor Premier Bracks, Rann instigated and then served as the inaugural Chair of the Council for the Australian Federation (CAF), established as a forum for State and Territory political leaders to discuss common concerns in the absence of

national level leadership (Interview: Rann 2021). At that time, Labor governments had been in power in all States and Territories since 2002. The Premiers and Chief Ministers shared criticisms of the Howard Coalition Government's national agenda and many of the leaders had close personal ties (Tiernan, 2008, 123-125). In 2007, the CAF issued a declaration on climate change that included a call for a national ETS (CAF 2007, principle 5). The CAF also had commissioned the Garnaut Review (Garnaut, 2008), which shaped the two national ETS initiatives.

Elected first in 2002 and re-elected in 2006, Premier Rann, who also served as Minister for Sustainability and Climate Change, released the *Climate Change and Greenhouse Emissions Reduction Bill* for public consultation in June 2006, around 17 months ahead of the UK Labour government's Climate Change bill (introduced on 14 November 2007). The Bill was passed on 2 July 2007 (hereafter the SA Act), more than a year earlier than the UK Act (28 October 2008). Announcing the new Bill to Parliament in 2006, Premier Rann declared that, 'this historic legislation will provide direction for all climate change initiatives undertaken in the State. I hope it will also encourage other states and territories as well as the federal government to follow suit' (Rann 2006, 674). He noted that several other jurisdictions (including the UK) had 2050 targets, 'but are yet to pursue these targets into law' (Rann, 2006, 673).

Despite appearing well before the UK CCA, the SA Act included most of the signature features of the UK model. First, it enshrined a 2050 emissions reduction target (initially at least 60% from 1990 levels), and it empowered the relevant Minister 'to set sector-based targets and additional interim targets' (s.5(3)(c)). As of 2021, the interim target for 2030 is -50% from 2005 levels (Govt. of SA 2021). The SA Act also included a mandatory renewable energy target of -20% by 2014. Second, it established the Premier's Climate Council as an independent statutory body, comprised of scientists and public and private sector representatives 'with a commitment to climate action' and 'understanding of the issues and impacts associated with climate change (section 9(3)) to provide independent advice to the Minister on reducing emissions and adaptation. The Council's primary role is to provide advice on *achieving* the interim and long-term targets rather than *setting* interim targets (which is a major role of UK Climate Change Committee). Third, the Minister is required to lay the independent advice before Parliament, explain whether it is heeded, explain progress towards achieving targets every two years and arrange a review of the Act every four years.

The Minister was given broad powers to develop policies to give effect to the Act, with a duty to 'demonstrate the Government's leadership in dealing with climate change through the management and reduction of its own greenhouse gas emissions' (s.14(2)(b)). The long-term and sector-based targets adopted were the result of an extensive public education and consultation process during Rann's first term, followed by a major stakeholder summit chaired by former Labor Prime Minister Bob Hawke (Interview: Rann 2021). In this respect, the SA Act merely supplemented and reinforced a much larger strategy to decarbonise the State's electricity supply via renewable energy promotion. The Rann Government was also the first government in Australia to introduce solar feed-in tariffs (in 2008) and streamlined land-use planning regulations to attract windfarms.

The SA Act represented a major innovation in climate legislation, with only some elements inspired by other subnational initiatives, most notably California's climate legislation (Interview: Rann 2021). Premier Rann had a background as an environmental campaigner with Greenpeace. He also established and drew inspiration from the Adelaide 'Thinkers in Residence Program', which had included IPCC lead author Stephen Schneider and Herbert Giradet, and he met with Californian Governor Schwarzenegger (Interview: Rann 2021). Under Rann's leadership, South Australia was a founding member of the Climate Group, a transnational organisation that worked with subnational governments over the period 2007-2008 to drive new targets and initiatives. Although Rann stepped down in 2011, Labor retained government until 2018, when it was replaced by a Liberal government that has remained committed to the Act.

Tasmania

The Tasmanian *Climate Change (State Action) Act 2008* ('the Tasmanian Act') was directly inspired by the SA Act. Tasmania's path was paved by Labor Premier Paul Lennon, who initiated preparation of a new climate bill by the Tasmanian Climate Change Office (CCO) early in 2008. Premier Lennon was keen to match the South Australian legislative initiative and, to this end, his political advisors developed a close working relationship with their South Australian counterparts when preparing the Bill (Interview: Maddock 2020). According to Maddock, political advisor to Lennon and subsequently Deputy Manager of the CCO in 2008, the CCO was aware of the UK Act at the time, but the Tasmanian Bill was directly modelled on the South Australian Act (Interview: Maddock 2020). The Tasmanian Act was

passed on 22 October 2008. It included a legislated target to reduce emissions by at least 60% below 1990 levels by 2050, empowered the minister to make regulations prescribing interim targets, and established the Tasmanian Climate Action Council to provide advice to the minister. The Act also required four-yearly reviews.

However, in September 2014, six months after Prime Minister Abbott's failed attempt to abolish the national Climate Change Authority, the new Hodgman Liberal Government amended the Tasmanian Act to abolish the independent Tasmanian Climate Action Council and its reporting requirements (Tasmanian Government 2014). The official reason for abolition was the need to reduce the number of government boards and committees (Groom 2014). In response, eight former members of the Council joined forces to relaunch it as an independent community-funded organisation, renamed Climate Tasmania, to inform and engage with the broader community and monitor progress under the Act (Mounster 2014).

An independent review of the Act in 2016 by a consulting firm, commissioned by the Gutwein Liberal Government, noted that interim sector-based targets could 'be mandated by an independent body such as the UK's Committee on Climate Change' (Jacobs Australia, 2016, 34). However, the review recommended merely an aspirational target of zero net emissions by 2050, a set of guiding principles, and the creation of a statutory obligation for the government to have a climate change action plan. The Gutwein Government accepted the aspirational net zero target (Tasmanian Government, 2017) but, at the time of writing (June 2021), has not followed up with new legislation. Meanwhile, the Greens presented a more radical *Safe Climate Bill* to the Tasmanian Parliament in 2020, which included reinstating an independent advisory board.

Australian Capital Territory

The first climate bill to appear in the Legislative Assembly of the Australian Capital Territory (ACT) was *The Climate Change (Greenhouse Gas Emissions Targets) Bill*, presented in July 2008 by the Liberal Opposition – the first and only example to date of a climate legislative initiative by a Liberal Party in Australia. This rarity can be explained by the ACT's proportional representation voting system, which enables stronger political representation of the Greens and more virtuous party competition over climate change. *The Bill followed the

structure of the SA Act, and it included a 2020 target of 30%, and a 2050 target of 60% below 1990 levels, along with ambitious renewable energy targets.

An election late in 2008 resulted in a minority ACT Labor government, supported by the Greens, and a stronger version of the Liberals' Bill was a key condition of their support (Rattenbury 2010, 4574). The Greens focused on strengthening the targets and reporting requirements but did not raise any issues with the basic legislative model. In December 2008, the government requested the Parliamentary Standing Committee on Climate Change, Environment and Water to provide advice on the new legislation, particularly targets. Following community consultation, the Committee's second Interim Report (ACT Parliament 2009) recommended new legislation. The *Climate Change and Greenhouse Gas Reduction Act* was passed in 2010. It enshrined a long-term target of net zero emissions by 2060 and stronger interim targets of 40% by 2020 and 80% by 2050; a requirement that per capita emissions must peak by 30 June 2013; and a renewable energy target of 100% by 2020. The Act also established a Climate Change Council to advise the Minister, along with a more stringent set of Ministerial reporting duties and review requirements. The architecture of the Act was based directly on the SA model, particularly the Objectives, Administration, Establishment of a Climate Change Council, Sectoral Agreements, and provisions for Review of the Act (Correspondence: McGlynn 2020).

As Greens member Shane Rattenbury explained to the ACT Parliament, the SA Act had served as the model for the Bill, but a wider review of other bills and legislation – primarily of targets in other subnational jurisdictions – had also been conducted (Rattenbury 2010, 4579). In 2016, the Act's net zero target was revised, brought forward to 2050 to align with Paris Agreement; in 2018, it was amended to 2045 (Rattenbury, 2018, 3049). Also in 2018, Rattenbury, now the Greens Minister for Climate Change, announced a ministerial determination under the Act of five-yearly interim targets (Rattenbury, 2018 3051). This was consistent with the Victorian Climate Change Act 2017 (partly inspired by the UK Act, as we show below).

Victoria

Victoria, also under a Labor government, in 2006 declared Australia's first renewable energy target, and supported the development of a national ETS (via the CAF). Labor Premier

Brumby also championed what became Victoria's *Climate Change Act 2010.* The Victorian Act was developed in parallel to the SA Act through a process of 'virtuous competition'. As one government participant explained:

> Being the first was very important to us and there was frustration that the South Australians got their legislation in first. The South Australian Act was very thin in terms of its content and we took that as a sign that they'd also been racing... There was awareness of what was going on in other jurisdictions and a lot of camaraderie between the Labor States wanting to put pressure on the Feds collectively...
>
> No one really imagined that that those early climate change acts were going to be major drivers of policy change. They were more symbolic markers... legitimising the idea of emissions reduction, setting targets and processes even if those targets were long term. The idea was that this would filter up and the Feds would have a proper emissions reduction scheme and a proper renewable energy target' (Interview: Senior Bureaucrat, Victoria 2020).

On the advice of the Premier's Climate Change Reference Group, and under pressure from Environment Victoria (the lead Victorian ENGO), the Victorian Government included an interim legislated target, set at 20% below 2000 levels by 2020. Other aspects of the Act relating to mitigation were relatively modest.

The 2010 Act was first reviewed in 2011 (Williams 2011) under a new Victorian Liberal-National Coalition government, following the enactment of the national Gillard Government's legislative package. The Review was to assess the impact of a national carbon price on Victorian policy, remove any duplication of effort and make Victorian mitigation policies 'complementary' and subordinated to national efforts. Following the Review's advice, the Government repealed the Act's emissions target for 2020.

The 2014 elections saw a new Labor government elected (under Premier Andrews), which established an Independent Review Committee (IRC) to re-examine the 2010 Act. An element of political competition drove this process: in its 2014 election platform, Labor had committed to being a leader on climate change and therefore put itself under pressure to go

beyond the climate targets and policy processes adopted by South Australia, Tasmania and the ACT. The IRC, in developing its recommendations, 'was guided by the principles of best-practice regulatory design from many jurisdictions' (Wilder *et al*. 2015, 6). It cited other subnational governments in Australia and overseas that had adopted ambitious targets (Wilder *et al*. 2015, footnote 55). The IRC recognised both the volatility of national climate policy and the unique additional contribution subnational governments can make to achieving national goals. It therefore advised that, for the Act to be more effective and enduring, 'it must be clearly separated from the Commonwealth's approach to climate change' (Wilder *et al.* 2015: 34 and 40). The IRC recommended that the Government adopt the Paris Agreement's long-term emissions target of net zero emissions by 2050 as a minimal basis for action. And, influenced by the UK Act (referenced in its report), the IRC also proposed that the long-term target be supported by five-yearly interim emissions reduction targets, enshrined in the Act, and recommended by independent expert advice and based on best available science (Wilder *et al.* 2015: 95, 97). It also recommended, following the Paris Agreement, that a bottom-up pledge-and-review approach be used to establish sectoral and whole-of-Government activity, and that mitigation, adaptation and disaster risk reduction be addressed in an integrated manner through a five-yearly Victorian Climate Strategy (Wilder *et al.* 2015: 22-32).

The Government accepted all but two of the 33 recommendations. In 2016 the revamped bill was passed in the lower House, but Labor did not have a majority in the upper chamber. In 2016, Friends of the Earth (FOE) (Melbourne) devised a campaign called 'Act on Climate Change', to build support for the climate bill in the upper house (FOE 2018). This campaign was directly inspired by the successful campaign waged by FOE (UK), which played a key role in building cross-party support for the UK CCA (Interview: Walker) (Carter and Childs, 2017). FOE's campaign secured the support of two Independents, who voted with Labor and the Greens to secure passage of the bill in February 2017 (Interview: Ewbank 2021).

The resulting *Climate Change Act 2017 (Vic)*, successor to the 2010 Act, positioned Victoria as a leader in subnational climate legislation in Australia, alongside South Australia. It is also the only subnational legislation in Australia that directly draws inspiration from the UK CCA, most notably the interim carbon budgets. The Victorian Act includes an overarching legislated emissions reduction target of net zero greenhouse emissions by 2050 (s.6). It

requires the Premier and the Climate Minister to determine five-yearly interim mitigation targets from 2020 onwards (s.10), with these targets to be laid before the House (s.15). In setting these interim targets, the Minister and Premier must have regard to independent expert advice from one or more persons (s.12, s.14) (rather than from a standing statutory committee), and that this advice be tabled in Parliament (s.13). The Act also includes ratcheting mechanisms for tightening mitigation efforts, with the requirement that 'each recommended interim target constitutes a greater reduction in emissions than the previous interim target' (s.14[2]). The Minister must prepare a report at the end of each interim target period stating whether a target was met, and if not, why not (s13[1]).

In March 2019, the Expert Advisory Panel established under the Act recommended interim targets of between 32% and 39% below 2005 levels for 2025, and between 45% and 60% for 2030 (Combet *et al*. 2019). On 2 May 2021, after a delay due to the COVID-19 pandemic, the Victorian Government released its *Climate Change Strategy* and associated interim emissions reduction targets, committing the State to a 28-33% reduction from 2005 levels by 2025 and a 45-50% reduction by 2030. These targets are considerably more ambitious than the national government's. Although not quite as ambitious as South Australia's and the ACT's targets, they are much more consequential given Victoria's significantly greater emissions profile (discussed below).

Other jurisdictions

No other subnational governments in Australia have enacted framework climate legislation. However, private member climate bills modelled on the UK Act have been presented to the New South Wales (NSW) Parliament in 2015 and 2016 by the Greens, and in the federal Parliament in 2020 by an Independent. Climate bills have also been presented by the Greens in Western Australia and Tasmania in 2020. Moreover, in 2021, the NSW Liberal Government created (by executive regulation) the 'Net Zero Emissions and Clean Economy Board', which is reported to be directly modelled on the UK Climate Change Committee, to provide advice on emissions reductions for the period up to 2030 (Hannam, 2021). A complete list of all climate change legislation and bills in Australia is provided in Table 1.

Table 1: Climate Change Legislation and Bills in Australia 2007-2021

YEAR	Commonwealth (National) Acts & Bills	Subnational Acts	Subnational Bills presented and not enacted
2007	Carbon Pollution Reduction Bill 2007 (LAB), failed to pass the Senate	Climate Change & Greenhouse Emissions Reduction Act 2007, South Australia (LAB)	
2008		Climate Change (State Action) Act 2008, Tasmania (LAB)	The Climate Change (Greenhouse Gas Emissions Targets) Bill 2008, Australian Capital Territory (LIB)
2010		Climate Change & Greenhouse Gas Reduction Act 2010, Australian Capital Territory (LAB-G) Climate Change Act 2010, Victoria (LAB)	
2011	Clean Energy Act 2011 & Climate Change Authority Act 2011 (LAB-G)	Amendment to Change Act 2010 (Victoria) - 2020 emissions target abolished (LIB)	
2014	Clean Energy Act 2011 repealed (LN)	Amendment to Climate Change (State Action) Act 2008, Tasmania - Climate Action Council abolished (LIB)	
2015			Climate Change Bill 2015, New South Wales (G)
2016		Amendment to Climate Change & Greenhouse Gas Reduction Act 2010 (Australian Capital Territory) –long-term net-zero target changed from 2060 to 2050 (LAB-G)	Climate Change Bill 2016, New South Wales (G)
2017		Climate Change Act 2017 (Vic)	
2018		Amendment to Climate Change & Greenhouse Gas Reduction Act 2010 (Australian Capital Territory) –long-term net-zero target changed from 2050 to 2045 (LAB-G)	
2020	Climate Change (National Framework for Adaptation & Mitigation) Bill 2020 (Ind, supported by G)		Safe Climate Bill 2020, Tasmania (G) Climate Change and Greenhouse Gas Emissions Reduction Bill 2020, Western Australia (G)

National and sub-national acts, major amendments and bills resembling the three core elements of the UK CCA; LAB=Labor government; LN=Liberal-National Coalition government; LIB=Liberal government; LIB-O= Liberal opposition; G=Greens; Ind=Independent; LAB-G=Minority Labor government with support of Greens

5. Analysis: Convergent evolution in the Australian Federation

Our 7identified a range of possible answers to our core question, which we group and analyse in relation to the three literatures examined.

Expectations from cross-national research

The first set of expectations was that new subnational climate legislation would be enacted only by Labor or Labor-Green governments and only in jurisdictions with a low dependence on fossil fuels, where one would also expect to find no or weak political influence by organised fossil fuel interests and therefore less political polarisation. We found that all of the new climate legislation at the subnational level was enacted by left-leaning governments led by Labor (or Labor-Green) parties. The only instances of amendment to weaken the legislation occurred under non-Labor governments in Victoria and Tasmania. However, whereas Tobin (2017) found a left-wing government to be a sufficient condition for ambitious climate policy, it is merely a necessary but not sufficient condition for subnational climate legislation in Australia because not all subnational Labor governments have enacted such legislation. Moreover, low dependence on fossil fuels (and therefore the absence of fossil fuel interests and political polarisation) certainly sheds light on but cannot fully account for this variation because only two of the four States and Territories that enacted climate legislation had low dependence on fossil fuels at the time of enactment: Tasmania and the ACT.

Tasmania has a historically long and high dependence on hydroelectricity (around 80% of total electricity generation), increasingly supplemented by wind energy, with gas generation used only as back-up in periods of low rainfall. Likewise, the ACT has a very small territory and population, almost no manufacturing base, and no locally fossil fuel-generated electricity. All its electricity is imported through the national electricity market. The ACT government can simply specify the source without any local restructuring, and indeed in 2019, the Minister for Climate Change mandated that 100% of ACT's electricity must come from renewable sources in 2020 (ACT Government 2019).

In contrast, in 2002, when the Rann Government first won office, South Australia's electricity supply was entirely dependent on coal and gas, with 30% deriving from interstate coal-based generation (McGreevy 2021, 4). While this presented a significant political challenge for new legislation driving decarbonisation, supply and price insecurities associated with dependence on imported electricity also provided an incentive to develop a local energy source and an opportunity to attract new investment in renewable energy. The main parliamentary opposition to the Bill came from the Liberal Party, but this eventually gave way in the face of the popularity, high motivation and creative political agency of the Rann Government. Labor's subsequent long period of incumbency (2002-2018) ensured the SA Act's durability and acceptance even by a later Liberal government. By 2018, the local generation of wind and solar electricity in South Australia had reached 52% (McGreevy 2021, 3) and is expected to reach 100% by 2025 (Bowyer and Kuiper 2021, 2). By 2018, South Australia's emissions had fallen 32% from 2005 levels (Govt. SA, 2021).

Victoria faced even bigger political hurdles, being historically heavily dependent on brown coal-fired power generation and having a nationally significant manufacturing sector. In 2017, when the strengthened version of the Victorian Climate Act was passed, Victoria was the nation's third highest greenhouse gas emitter (behind Queensland and NSW), contributing 20.7% of Australia's emissions, around half of which came from its electricity sector (Australian Government 2019, 3). High economic dependency on privatised coal-fired generation created substantial short-term political risks for any government promoting an ambitious emissions reduction strategy. These factors make Victoria the most consequential state and the most puzzling. Here we identify one shift in these conditions that helped to lower the political risk for Victoria. At the time of the 2010 Act, Victoria had four coal-fired power stations. Of these, Hazelwood, the oldest and most emissions-intensive powerplant in Australia, was responsible for 12.7% of Victoria's emissions (Victoria State Government 2018, 19). In November 2016, *Engie* (the French corporate owner of Hazelwood) announced that Hazelwood would close in 2017. The second oldest station, Yallourn, is scheduled for closure in 2028. These completed and impending closures have been commercially rather than politically determined; market forces and technological senescence have enabled – and required – government planning for more aggressive mitigation and renewable energy promotion.

While the climate acts of all subnational Labor governments have faced varying degrees of opposition from Liberal/National Parties, this opposition has been weak relative to the national level. There have been no significant internal divisions within State Labor Party ranks over climate policy of the kind that have plagued the federal Labor Party. Nor has there been organised opposition by fossil fuel interests or close personal ties between ministers, their staff and the mining industry, of the kind that has impeded national climate policy (Wilkinson 2020). This absence can be partially attributed to the fact that neither South Australia nor Victoria are dependent on fossil fuel exports, unlike major fossil fuel mining states like NSW and Queensland. In two jurisdictions, new climate legislation was facilitated by civil society campaigns and the growing parliamentary presence of the Greens. In the ACT, the minority Labor government depended on the support of the Greens (and new climate legislation was a condition of their cooperation), and their proposed targets were supported by a community campaign. In Victoria, the 2017 Act would not have passed without the support of the Greens and FOE's campaign to muster votes in the upper house.

Expectations from comparative federalism

Our second set of possible explanations was that new climate legislation could arise from a virtuous competition in subnational jurisdictions to attract investment and garner energy security (Rabe et al. 2005, 3), and also by borrowing from successful national and international legislative models and without local innovation (Engel 2015). However, Rabe's explanation only partially holds for Australia. A virtuous subnational competition over renewable energy investment has developed in Australia, but this applies to *all* of the major States and not just those that enacted climate legislation. Engel's argument that subnational climate legislative innovation is based on borrowing pre-existing policy, which reduces the political risks of new climate policy, helps to explain the diffusion in Australia of the SA model. But it cannot explain the origin of innovation in South Australia, which is not comparable to California in size or influence, although it does have a tradition of policy innovation. While the Rann Government looked internationally to other subnational jurisdictions for inspiration, the SA Act was a new legislative model based on creative synthesis of different ideas, both borrowed and new, and this innovation then served as the provocation for other Labor States to follow. South Australia's political success reduced the political risks for subsequent adopters – specifically, Tasmania and ACT. Victoria faced higher risks but was in a race with South Australia to enact the first climate legislation. By

2017, when the Victorian Labor Government revamped its climate legislation (inspired in part by the UK Act), growing domestic demand for climate action in the wake of the Paris Agreement and in the face of ongoing national failure reduced the political risks and raised the rewards for stronger climate legislation.

Political learning, legislative transfer and diffusion

The final posited explanations provide the strongest resonance with our findings, namely, that political learning and legislative transfer are more likely among subnational governments with prior connections, such as political affiliations or similar ambitions, and that new framework climate legislation is less politically risky than carbon pricing. We found that subnational convergence around the same model of climate legislation occurred largely as a result of local legislative innovation, followed by path-dependent political learning and policy transfer by Labor or Labor-Green governments. This was also partly driven by a virtuous competition over mitigation targets, initiated (but not perpetuated) by subnational cooperation (via the CAF) in the unusual context of Labor governments presiding in all States and Territories over the period 2002-2007. However, by 2015, this virtuous competition also led the reviewers of Victoria's legislation to look abroad for insights on best practice models, such as the UK CCA. We also found that the UK CCA's symbolic power as a marker of best practice and as an argumentative resource has grown, evidenced by the rise in new climate bills based on or influenced by the UK model.

Common to all cases was a political commitment by the Premier and/or the relevant minister to pursue a decarbonisation strategy via mitigation targets. While each subnational government drew on different types of advice in developing their legislation, in all cases this advice came from sources that were professionally and/or politically committed to climate action. This is most pronounced in the case of the Rann Government in South Australia. The SA model diffused to Tasmania and the ACT via 'fraternal policy transfer'. Victoria drew on the advice of an Independent Review Committee, which included a survey of global 'best practice', including the UK Act.

Finally, the *type* of legislative model and associated measures that diffused at the subnational level are also highly relevant in explaining political success. An ETS draws political attention to the up-front costs imposed on a concentrated cluster of losers (big carbon polluters) and

energy consumers in general, generating distributional conflicts. In contrast, a legislative model that focuses on goals and non-carbon pricing mechanisms is much less political risky during the enactment phase because it does not bring into view the immediate costs of action. When preceded or accompanied by an aggressive renewable energy strategy, the pathway to mitigation can be also defended as providing local economic and other co-benefits. We are not suggesting that framework climate legislation was chosen to avoid distributional conflict, although the review of the Victorian Act had recommended that the new act should be 'clearly separated' form the national approach. The CAF declaration made it clear that subnational governments regarded an ETS as a measure best administered by the national government, which is the primary reason why they chose not to pursue this measure. However, our case studies show that there was very little distributional conflict associated with the passage and aftermath of this legislation compared to the national ETS, and that this lowered the political risks for policy transfer and diffusion.

6. Conclusion

Given the failure of any national government in Australia to produce enduring climate legislation, the key question animating this study is: why have four subnational governments succeeded in adopting and maintaining the same stringent model of framework climate legislation over the period 2007-2017? We showed that this question can only be partly explained by differences in the degree of fossil fuel dependence at the subnational level, which lowered the political risks for new climate initiatives (especially for Tasmania and the ACT, which are not reliant on fossil fuels for their electricity). This also helps to explain why NSW, Queensland, and Western Australia – all of which are much more dependent on fossil fuel mining and exports for employment and revenue than other Australian States and Territories – have not pursued framework climate legislation. Instead, they have pursued renewable energy strategies while maintaining a commitment to fossil fuels. However, this cannot explain South Australia's role as the lead innovator or why Victoria, which is heavily reliant on coal for power generation, adopted demanding framework climate legislation in 2017.

Identifying the structural conditions that are more, or less, conducive to new climate policy initiatives cannot explain why particular policy instruments are chosen and when and why they diffuse. The most critical factors that explain the emergence and diffusion of a particular legislative model at the subnational level were not structural but rather agential: political commitments, political ties, political learning, policy choices and political timing. That is, it was the personal commitments of the Labor Premiers and/or relevant ministers to address climate change; the nature and sources of their chosen policy advisors, which were not beholden to fossil fuel interests; local and international policy and political learning (including from the failure of national carbon pricing); a rare convergence of Labor Premiers and Chief Ministers in power at the same time, which enabled subnational cooperation via the CAF; and in the ACT and Victoria, campaigns by local ENGOs, the latter based on political learning from abroad. Although the Victoria government faced the biggest structural obstacles, these were lessened by the influence of market forces and technological senescence in opening a political space for legislative innovation.

More generally, we found much less distributional conflict associated with the passage of framework climate legislation at the subnational level compared to the ETS at national level. This lowered the political risks of policy transfer and diffusion. Moreover, the political risks associated with adopting strong framework legislation have lessened over time in Australia, given the rapid uptake of renewable energy. Indeed, as a consequence, all subnational jurisdictions in Australia have adopted net zero targets for 2050 or sooner, while the national Morrison Coalition Government has merely declared this net zero target as 'preferable' (Coorey 2021).

We also found that the diffusion of similar climate framework legislation in Australia arose from domestic processes of convergent evolution involving *local* legislative innovation, transfer and diffusion. While the UK CCA has inspired framework climate legislation in other countries in western Europe, the influence of the UK model in Australia has been relatively modest. However, the UK Act's mandatory five-yearly interim budgets are incorporated into the 2017 Victorian Act and an amended version of the ACT legislation. Post-2015, the UK CCA has been emulated in four separate private members' bills at the subnational and national level, indicating its growing symbolic power as 'the gold standard' by political proponents of stronger climate action.

Despite Australia's international reputation as a climate laggard, Australia's subnational sphere of government has been a global leader in climate legislative innovation, learning and diffusion. These legislative developments, along with aggressive renewable energy policies, have helped to compensate for national climate policy failure while also providing a political springboard for renewed climate legislative momentum at the national level.

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6. Mike Rann, former Premier of South Australia (2002-2011). Interviewed on 31 March 2021.

7. Senior Bureaucrat, Victoria: Interviewed in December 2020.

8. Cam Walker, Campaign Coordinator, Friends of the Earth Australia. Interviewed on 1 April 2021.

9. Oliver Woldring, former lead researcher to Senator Milne (former Leader of the Australian Greens). Interviewed on 13 November 2020.

[1] Alberta's *Climate Change and Emissions Management Act 2003* was the first climate act to enshrine a short-term target (an interim emissions-intensity target of -50% by 2020 from 1990 levels), followed by *California's Global Warming Solutions Act 2006* (to reduce

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