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Climate Governance and Federalism

An Introduction

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Climate change is one of the great challenges of our time, but is it more so or less so for federal systems? Federalism could be an asset thanks to its more numerous sites for action and different governance scales. On the other hand, its division of powers and number of governments could well complicate and undermine climate governance through conflict, shirking, or poor co-ordination. This book brings together a diverse range of country experiences to provide some insights into that question.

That diversity reminds us, though, that ‘federalism’ is a generic term for a broad type of government and, as discussed later in this chapter, each federation embodies the federal principle in its own way. Each federation also has its own underlying social and economic character that determines the way it operates. And the institutional structures of federalism are likely to have varying and often contradictory effects with complex interactions depending on the issue at hand and the political dynamics at the time.

This book examines how climate governance has played out in an array of federations and decentralised systems, focusing on the role that constituent units – the states, provinces, cantons, *Länder*, and so on – play in fostering the emergence of low-carbon and climate-resilient societies. To set the scene for that, this chapter lays out some ways of thinking about federalism’s implications for policymaking and explores its diversities.

1.1 The Challenges of Climate Change Governance

Climate governance has two ‘fundamentally different’ components: *mitigation* and *adaptation* (Biesbrook and Lesnikowski 2018, 306). Mitigation efforts address the causes of anthropogenic climate change through measures that reduce carbon and other greenhouse gas (GHG) emissions or remove carbon dioxide currently in the atmosphere. Adaptation measures address the effects of climate change through

adjustments to infrastructure and practices. Both have been the subject of international negotiations and agreements and both are affected by the way a system of federal or devolved governance operates.

The Paris Agreement of 2015 set a goal of limiting the increase in global average temperatures to well below 2 degrees Celsius by 2100 and committed to efforts at limiting this increase to 1.5 degrees Celsius. For the world to achieve the latter objective, the Intergovernmental Panel on Climate Change (IPCC) estimated that global anthropogenic carbon emissions need to decline by about 45 per cent from 2010 levels by 2030 and reach net zero by 2050. To limit global warming to below 2 degrees Celsius requires reductions of 20 per cent by 2030 and the achievement of carbon neutrality around 2075. To that end, the Paris Agreement requires participating governments to prepare and communicate emissions reductions commitments known as Nationally Determined Contributions (NDCs) every five years, with a view to a progressive increase in their mitigation efforts.

Around 76 per cent of the world's GHG emissions result from electricity and heat production, industrial processes, and transportation. The remaining 24 per cent is produced by deforestation, the conversion of land for agriculture and human settlement, the degradation of soils, and agricultural activities (IPCC 2014). While the measures needed to limit global warming can yield significant co-benefits, such as improved air quality and human health from reductions in carbon emissions, the costs are substantial. Industrialised economies must remake themselves; developing countries must find a different path to the future they seek. In the industrialised countries, GHG emissions are embedded in the basic structures of production, consumption, and everyday life and disruptive change of these 'locked-in' patterns is required. This is being tackled on a variety of fronts (e.g., Fekete et al. 2021; IPCC 2022).

The costs of this energy transition are upfront and the intended benefits down the track – although any co-benefits would have more immediate effect. Costs, furthermore, may well be unevenly distributed, underpinning a clash of interests alongside ideological divisions. In addition, the uncertainties that characterise complex social and ecological systems and our imperfect ability to predict their future dynamics and effects adds further challenges to policymaking in this domain. For low-income countries, instead of developing energy infrastructure based on fossil fuels, there is some opportunity to 'leapfrog' straight to cleaner, low-carbon technologies, the potential for which is rapidly increasing in the electricity sector with the steep fall in the cost of renewables (Arndt et al. 2019).

There are a range of policy instruments governments may use to 'de-carbonise' their economies, many of them complementary. The simplest, and in some ways 'first-best', option is to change the economic incentives by altering the pricing structure: imposing a cost on carbon emissions through the creation of a tax or cap-

and-trade system (Nordhaus 2013; OECD 2019; Rabe 2018). However, taxes that will potentially terminate valuable industries and drive up costs for consumers are not going to be popular, especially in jurisdictions with carbon-intensive industries. A carbon tax sufficiently punitive to be effective is unlikely to be politically feasible (Dolphin, Pollitt, and Newbery 2020; Jenkins 2014; Mildenerger 2020, 24; Rabe 2018). The more politically viable alternative has often been de facto or surrogate carbon taxes of one form or another (Rabe and Borick 2012). Beyond such market-based instruments, governments have introduced a variety of other mitigation policies, such as subsidising the development and adoption of low-carbon forms of energy and transportation; banning certain carbon-intensive products; and investing in efforts to enhance carbon sequestration in forests and soils (Fekete et al. 2021).

Moreover, acting on the assumption that anthropogenic climate change is unlikely to be arrested, and to cope with changes that may already be occurring, there must be a second string to the bow: adaptation.¹ In general, adaptation planning must contend with both slow-onset alterations in ecological systems (such as gradual increases in temperatures or decreases in the availability of water) and rapid-onset events (such as floods or hurricanes). This requires the development of adaptive processes and pathways to predict and assess the risks and consequences that come with these different types of change, and to increase resilience to their direct and indirect effects. These risks and consequences will naturally vary in their nature and extent from region to region, and thus adaptation has a more inherently local character. Nonetheless, it will frequently require or benefit from learning and collaboration between governments. Under the Paris Agreement, states have committed to developing and implementing adaptation plans and actions and to provide the United Nations Framework Convention on Climate Change (UNFCCC) with periodic updates on their efforts in doing so.

1.2 The Intersection of Federalism and Climate Governance

Much has been written about climate governance as a multi-level enterprise spanning everything from the local village to the global community (e.g., Jänicke 2017). Here we are interested more specifically in climate governance in federal systems. These systems are characterised by the coexistence of two (or occasionally three) constitutionally entrenched orders of government, each accountable to, and acting upon, its population. Federalism thus has two lines of division: vertically between the central government and the constituent units, and horizontally between each of the latter. There are always local governments as well, but these generally have a distinctly subordinate or ambiguous status (Steytler 2009).

Depending on the division of powers, constituent units may well be an important component in the implementation of national climate change commitments. The fact alone that climate change is ‘intrinsically multilevel’ suggests that federalism provides for an appropriately dispersed range of actions and may be well suited to the task (Brown 2012, 324). This underpins the recognition given by the 2015 Paris Agreement to ‘the importance of the engagement of all levels of government and various actors, in accordance with respective national legislations of Parties, in addressing climate change’. It is also consistent with the subsidiarity principle that underlies federalism – tasks should be carried out as locally as practicable – and the associated notion that broad scope for territorial diversity in policies should thereby exist. However, there are also reasons to think that federalism may also create impediments to effective climate governance.

1.2.1 Cutting Both Ways

Federalism often seems like a ‘double-edged sword’ in this regard: capable of exerting quite contrary effects (Karapın et al. 2020). Which one dominates in any given situation will be the consequence of specific circumstances. In addition, the effects of federalism often cross-cut and neutralise each other (Weaver 2020). Drawing on work by a number of scholars, we suggest three possible ways in which federalism might prove favourable for climate change governance, and, conversely, three ways in which it might prove less so (Balthasar, Schreurs, and Varone 2020; Hueglin and Fenna 2015, 41–6; Jordaan et al. 2019; Weaver 2020).

Federalism’s vertical and horizontal divisions can *facilitate governance* by providing scope for:

1. Locally appropriate and responsive measures.
2. A ‘fail-safe’ degree of redundancy whereby the constituent units can step in and compensate for failure or inaction by the central government.
3. Policy experimentation and inter-jurisdictional learning.

On the other hand, the divisions and fragmentation of a federal system may *impede governance* in any or all of the following three ways:

1. The existence of multiple ‘veto points’ may obstruct policymaking or lead to blame-shifting.
2. Federalism may result in a patchwork of policies with varying effectiveness, poorly co-ordinated either vertically or horizontally.
3. Constituent units may be constrained by collective actions problems and a ‘race-to-the-bottom’ competitive dynamic.

1.2.2 Federalism as Facilitator

One of the very earliest advantages claimed for federalism was the way it allows policymaking to reflect the differences in conditions and preferences from region to region (de Tocqueville 1848, 262). With regard to climate change, there may be significant differences between the regions of a country in economic structure and associated carbon intensity, natural resource endowment, exposure to different climate risks, public institutions and capabilities, expertise on climate issues, and political dynamics and cultures. In federations, relevant powers such as those over land-use planning, natural resources, transportation, electricity supply, water management, and emergency preparedness are typically assigned to the constituent units. They are thus able to craft policies most aligned with their context, interests, and disposition.

A second possible virtue of federalism lies in the redundancy of two orders of government (Landau 1973, 188). Federalism is thus an ‘opportunity structure’ with the potential for constituent units to take up the slack by launching their own mitigation or adaptation programmes in what has been labelled ‘compensatory federalism’ (Derthick 2010). One way this occurs is through ‘venue shopping’ by activists targeting the most receptive and relevant government (Pralle 2003). This can be expected to reflect partisan differences when the two orders of government are in ideologically different hands (Bulman-Pozen 2014) – differences reflective of the alignment between environmental attitudes and the traditional Left–Right ideological spectrum. For such compensatory action to be possible, the constituent units must, of course, have the requisite powers and financial resources.

Conceivably, the collective effort of individual jurisdictions could even amount to much the same as that which would have been achieved by an effective national programme. Even if it does not, that collective effort could be a reasonable surrogate, with a diversity of initiatives having an incrementally additive nature (Ostrom 2012). Furthermore, constituent unit action may play an instigating role whereby a dynamic process of ‘multilevel reinforcement of policy action’ generates momentum that drives action at the national level (Balthasar, Schreurs, and Varone 2020, 6). In turn, constituent units may continue to advance overall policy goals with programmes that complement and augment those implemented by the central government (Buzbee 2015).

Finally, the existence of multiple jurisdictions creates the potential for governments to learn from each other. It was long ago identified as an advantage of federal as distinct from unitary government that it provides multiple sites for ‘a people to try experiments in legislation and administration’ (Bryce 1893, 353). In what thus came to be called the ‘laboratory federalism’ thesis, if these ‘experiments’ prove worthy of emulation, they will diffuse in either the horizontal

or the vertical plane. In the latter event, the experiments can be seen as playing a ‘catalysing’ role for central government action (Bernstein and Hoffman 2018). We can distinguish here between lessons about which solutions are effective or efficient, and lessons about which are politically feasible or practicable – ‘instrumental policy learning’ and ‘political learning’ (May 1992).

1.2.3 Federalism as Hindrance

On the other hand, the inhibiting effects of federalism are potentially substantial. First, it is possible that federalism’s division of powers may itself act as an obstacle to policymaking. Historically, this often seemed to be the case, as captured by Dicey’s (1915, 167) declaration that ‘Federal government means weak government’. One way to express this is in terms of the multiple ‘veto points’ through which federalism may stymie policymaking. These could lie in the way the division of powers denies either order of government authority to act or creates a misalignment between responsibilities and capabilities. One set of studies, for instance, concluded that mitigation action by the central governments of both Austria and Switzerland in one particular policy domain was hamstrung by constituent unit non-compliance (Casado-Asensio and Steurer 2016). And vice versa, it is possible that constituent units are constrained by jurisdictional limits.

A quite separate veto point exists if the constituent units enjoy input into central government decision-making through their representation in second chambers. In such circumstances, it is quite possible that a number of them could impose a lowest-common-denominator policy.

Second, mitigation or adaptation efforts may take varying forms and be implemented to varying degrees between constituent units and between orders of government, even working at cross-purposes. This can reduce both the efficacy and the efficiency of measures substantially. Intergovernmental co-ordination is an important component of policymaking and implementation in modern federalism where the division of powers and responsibilities has become less and less clear. Furthermore, if responsibility is carried in large part by the constituent units, advances made in some jurisdictions where conditions and attitudes are more conducive may well do little to compensate for inaction in others more closely tied to high-emissions industries. ‘Attempts to reduce greenhouse gas (GHG) emissions by one jurisdiction are meaningless if others allow emissions to increase by an equal (or greater) amount’, argues Gordon (2015, 122–3). If that is the case, it is quite possible that an ‘effective response . . . requires vertical co-ordination’ – which in this case seems to be a euphemism for central government control.

Third, constituent units in general may tend to under-invest in environmental protection. Simply put, the incentives are not there for them to take action in a broader public interest that they perceive as being contrary to their material

self-interest (Engel and Rose-Ackerman 2001; Weibust 2009). They carry the full cost of any measure they implement while others share the benefits. And, if there is any environmental issue where the gulf between local costs and collective benefits is a yawning one and the incentive to free ride or shirk responsibility compelling, surely climate change is it (Adler 2008). At the extreme, this might induce an environmental ‘race to the bottom’, where jurisdictions minimise actions perceived as deterring inward investment and growth (Woods 2021). At the very least, there are reasons why we might expect foot-dragging by constituent units, and, again, top-down policies would seem to be required. These dynamics represent ‘a substantial risk for success of a national policy if the focus is mitigation, but that risk is significantly reduced if the focus is adaptation’, since benefits of the latter are much more likely to be retained locally (Fowler 2020, 153).

1.3 Varieties of Federalism and Other Variables

To this point we have treated *federalism* as if it were a single or undifferentiated phenomenon. In reality, it is only an abstraction; the real world is made up a range of *federations* or federal systems each with its own characteristics, style, and underlying realities (Fenna 2019). Federations differ in several important ways, all of which have an impact on the way they are likely to function in climate change governance. This book showcases a good part of that diversity. Not all are unambiguously federations. Spain does not formally describe itself as federal, though it is regarded by many observers as being so. The European Union, meanwhile, must be seen as only proto-federal – still more confederal in the degree to which its constituent units retain sovereignty and exercise the bulk of policymaking responsibility. It is also a meta-federation of sorts, since some of its members are themselves federations. In addition, we include two major cases, China and Indonesia, that while not federations at all, have systems of devolved governance through which their climate change policies are implemented. With its extraordinary degree of societal and geographical diversity, Indonesia would seem a natural home for federalism, but a deep ‘aversion’ to such a divided form of government has prevailed since independence (Kingsbury 2013; Reid 2007). Those diversities were given recognition, though, in the devolutionary programme of 2001 whereby provinces and municipalities now jostle for roles and resources with the central government. Finally, as an authoritarian – indeed, in several ways totalitarian – regime, China is a particularly distinctive case here.

1.3.1 Varieties of Federalism

Dividing Powers. Included in this book are federations where powers are divided in a ‘dualist’ fashion and those characterised by ‘administrative federalism’. In

dualist federations such as Australia, Canada, and the United States, the two orders of government exercise full powers of policymaking, implementation, and administration within their assigned areas of jurisdiction. In federations where an administrative approach prevails, the central government exercises a broad policymaking power but responsibility for implementation and administration rests with the constituent units. Administrative federalism originated in Germany, but is characteristic now of Austria, Switzerland, and the EU as well. It also influenced the design of the 1996 South Africa constitution (Choudhry 2020).

The distinction between the two models is not a pure one, with administrative federations dividing some powers in the dualist fashion and the dualist federations increasingly taking on characteristics of administrative federalism; however, the distinction remains an important one (Mueller and Fenna 2022).

Decentralised/Centralised. The division of powers is also one of ‘degree’ as well as ‘type’. The federations canvassed in this collection vary considerably in their degree of centralisation or decentralisation. This can be evident in either or both the kinds of powers available to the constituent units and the fiscal resources they have at their disposal (Dardanelli et al. 2019a). While the established federations have generally undergone considerable centralisation over the years, Canada and Switzerland remain relatively decentralised (Dardanelli et al. 2019b). India and South Africa have notably centralised features – accentuated in the South African case by one-party rule (Tapscott 2015).

In some federations, the division of powers regarding climate change policy is largely a settled issue, but in others it remains a live one. There is also always the possibility that jurisdictional conflict will arise and have to be resolved by the courts as they do in almost all federations for the constitutional division of powers more generally (Aroney and Kincaid 2017).

Bicameralism. In both the German and EU cases, the administrative division of powers is complemented by arrangements whereby the constituent units enjoy direct representation in the central government and thus a degree of ‘co-determination’ over that process of central government policymaking. In Germany’s system of integrated federalism, the *Länder* exercise their co-decision power through the second chamber of the federal parliament, the *Bundesrat* (Federal Council). In the EU, Member States exercise their direct influence through the Council of Ministers. While Switzerland does not have an equivalent chamber, the country’s powerful system of direct democracy plays an important role in regulating the respective roles of the federation and the cantons. The interlocking structures of German and EU federalism have been accused of creating conditions for a ‘joint-decision trap’ (*Politikverflechtungsfalle*), imposing a high threshold for policy change and thus entrenching the status quo or biasing the system toward lowest-common-denominator policymaking. Switzerland’s

system of direct democracy has been accused of having the same effect (e.g., Mueller 2020).

Constituent units do not enjoy council-style representation in other federations and so federal bicameralism is not a factor outside Germany and the EU (Hueglin and Fenna 2015, 205–37). However, there are other federations with strong second chambers – Australia and the United States, for instance – so even if not meaningfully ‘federal’, bicameralism can still represent a significant veto point.

Conflict and Co-operation. All federations have had to develop mechanisms and processes of intergovernmental relations (IGR) through which governments can work together (Hueglin and Fenna 2015, 238–74; Poirier and Saunders 2015; Schnabel 2020). These practices of co-operative federalism have become a crucial feature of systems where overlap between orders of government and degree of policy interdependence means an increasing need for co-ordination, even if they vary in how and how well they work from one policy area to another as well as from one country to another.

In parliamentary federations, IGR takes the form of ‘executive federalism’, typically structured in two tiers: a layer of portfolio-defined councils comprising the relevant cabinet ministers; and, at the peak level, a heads-of-government meeting. In a presidential system with its separation of powers such as the United States, the head of government cannot speak for the whole government, but only ‘the administration’, and thus peak intergovernmentalism tends to be absent.

Presidential or Parliamentary? As the above suggests, the way a federation functions is influenced by the mode of representative democracy in operation. While Australia, Canada, and the United States are all similar in being dualist federations, the United States is distinctive in its presidential, separation-of-powers system of government. By contrast with parliamentarism, which concentrates authority in the executive, presidentialism disperses it between the executive and legislative branches. In addition to affecting the style of intergovernmental relations, this makes policymaking subject to more veto points. As a number of studies (e.g., Greer 2010, 181) have noted, what can look at first blush like a policy-retarding effect of federalism in the United States, ‘is mostly due to a federal government riddled with internal veto points’.

1.3.2 Societal and Economic Factors

Federations differ in manifold other ways, including their level of political and economic development, their degree of federal diversity, and their economic base and resource structure. The cases here encompass countries across a wide range of economic and political development, as well as ones with deep diversity and those with a single national identity. Canada’s bicomunal nature is intrinsic to the

operation of its federal system, for instance, while Ethiopia is an extreme form of ethno-federalism (Fiseha and Habib 2010; Gagnon and Simeon 2010). Australia and Germany are far more homogeneous.

Countries such as Australia and Canada have a strong basis in the resource sector, including in hydrocarbons. At the other extreme are countries such as Switzerland without any significant petroleum or coal resources. Germany's high level of industrialisation was made possible historically by its coal reserves and it still relies on coal for one-quarter of its electricity generation. Not only does a substantial endowment of high-emissions resources affect the approach a country might take to climate change, but it is rare for such resources to be equally distributed *within* any federation, and thus the political geography of their resource economy will have significant consequences for the operation of federalism when it comes to climate governance (Brown 2012, 324). Similarly, not only do countries vary significantly in the range of renewable energy sources they can tap, but such potential often varies substantially within those federations.

1.4 Looking Ahead

The chapters that follow provide a picture of the way systems of federal or decentralised governance function in managing responses to this one particular – and particularly significant – policy issue. Has federalism enhanced climate governance by allowing policies to be tailored to regional conditions and preferences, by providing a fail-safe redundancy, and/or by multiplying opportunities for policy experimentation and learning? To what extent, by contrast, has it hindered climate governance by multiplying veto points, inviting a dysfunctional patchwork of policies, or imposing collective action constraints? The wide range of cases that follow provide an opportunity to reflect on the way these dynamics might work in very different institutional, political, economic, and societal circumstances.

Notes

- 1 Adaptation policy is defined by the IPCC as 'adjusting to the effects of both anthropogenic and natural climate change through initiatives that prevent or minimize harms as well as exploit opportunities generated by changes to the climatic system'.

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