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# Symposium Foreword

Symposium on 'The Law of Energy Transition in Federal Systems' held by the Eberhard Karls University of Tübingen, Faculty of Law, and the University of North Carolina at Chapel Hill, School of Law, in Tübingen (Germany), 27 June 2019

# *The Law of Energy Transition in Federal Systems*

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Energy systems are changing in many countries around the world as a result of new energy policies, advances in energy technology, and shifting energy economics. Many countries are guiding the energy transition from fossil fuels to renewable energies with new policies to reduce greenhouse gas (GHG) emissions and other energy-related pollutants. Almost 200 nation states (and the European Union (EU)) are parties to the 2015 Paris Agreement, which calls for GHG neutrality within the course of the 21st century.[1] Renewable energy costs have declined rapidly over the past decade, making many types of renewable energy generation cost-competitive with fossil fuels.[2] Renewable energies dominate global capacity expansion in energy generation with particular importance attached to solar and wind energy. The International Renewable Energy Agency (IRENA) reports that renewable energy accounted for 73% of total energy capacity expansion in 2019 and 82% in 2020,[3] while solar and wind energy combined amount to 91% of all net renewable additions in 2020.[4] The United States (US) Energy

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

2 See, e.g., 'Levelized Cost of Energy and Levelized Cost of Storage: 2020', *Lazard*, Oct. 2020, available at: https://www.lazard.com/perspective/levelized-cost-of-energy-and-levelized-cost-of-storage-2020 ('When U.S. government subsidies are included, the cost of onshore wind and utility-scale solar is competitive with the marginal cost of coal, nuclear and combined cycle gas generation').

3 IRENA, 'Renewable Capacity Highlights', 31 Mar. 2021, p. 3, available at: https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2021/Apr/IRENA_-RE_Capacity_Highlights_2021.pdf?la=en&hash=1E133689564BC40C2392E85026F71A0D7A9C0B91.

4 Ibid., p. 1.

Information Administration projects that global renewable energy generation could surpass coal by 2025, and renewables could 'account for almost half of total world electricity generation' by 2050.[5] Costs are also falling for battery storage technologies, expanding the hours of the day during which renewable energy may help in meeting electricity demand.[6]

Managing the energy transition to ensure that it results in effective climate change mitigation and ensures affordable and accessible electricity requires coordination across international, national, and subnational legal systems. This Symposium collection of *Transnational Environmental Law* explores the challenges that energy transitions present to federal legal orders. A classical account[7] defines federalism as a combination of 'self-rule' at a central level of authority and constituent units of government and 'shared rule' between these levels of government.[8] The basic features of shared governance over a particular territory distinguish federal systems from unitary systems.[9] Currently, there are about 25 to 30 fully federalized states around the world – the exact number depends on the theoretical and normative criteria used in the analysis.[10] In addition, many more do not formally qualify as federal states, but do have 'some form of federal arrangements'.[11] Within the broader framework of federalism, the organization and dynamic of federal structures can vary widely. Federalism theory reflects the pluralism of federal structures responding to a range of differing notions and concepts (or paradigms), including legislative federalism, executive federalism, unitary federalism, cooperative federalism, competitive federalism, (a)symmetrical federalism, and supranational federalism.[12]

Drawing on specific federal legal orders, the contributions to the Symposium analyze the effects of the combination of 'self-rule' and 'shared rule' across two or more levels of government in the field of energy transition. They address the allocation of lawmaking authority among federal and sub-federal actors, and take into account that energy decision making at the federal and state levels is influenced by different economic circumstances, political ideologies, and energy resources.

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5 US Energy Information Administration, 'International Energy Outlook 2019', Sept. 2019, p. 90, available at: https://www.eia.gov/outlooks/ieo/ppt/ieo2019.pptx.

6 W. Cole & A. Frazier, 'Cost Projections for Utility-Scale Battery Storage', National Renewable Energy Lab, June 2019, available at: https://www.nrel.gov/docs/fy19osti/73222.pdf.

7 D.J. Elazar, *Exploring Federalism* (University Alabama Press, 1987), p. 5.

8 For reference and discussion see, e.g., A. Benz & J. Broschek, 'Introduction', in A. Benz & J. Broschek (eds), *Federal Dynamics* (Oxford University Press, 2013), pp. 1–23, at 2; W. Swenden, 'Territorial Strategies for Managing Plurinational States', in J. Loughlin, J. Kincaid & W. Swenden (eds), *Routledge Handbook of Regionalism and Federalism* (Routledge, 2013), pp. 61–75, at 64; B. Galligan, 'Comparative Federalism', in R.A.W. Rhodes, S.A. Binder & B.A. Rockman (eds), *The Oxford Handbook of Political Institutions* (Oxford University Press, 2006), pp. 261–80, at 264.

9 See V.C. Jackson, 'Comparative Constitutional Federalism and Transnational Judicial Discourse' (2004) 2(1) *International Journal of Constitutional Law*, pp. 91–138, at 94.

10 J. Kincaid, 'Introduction', in J. Kincaid (ed.), *A Research Agenda for Federalism Studies* (Edward Elgar 2019), pp. 1–14, at 1.

11 F. Palermo & K. Kössler, *Comparative Federalism* (Hart, 2017), p. 3.

12 See R. Watts, 'Typologies of Federalism', in Loughlin, Kincaid & Swenden (eds), n. 8 above, pp. 19–33; A. von Bogdandy, 'Neither an International Organization nor a Nation State: The EU as a Supranational Federation', in E. Jones, A. Menon & S. Weatherill (eds), *The Oxford Handbook of the European Union* (Oxford University Press, 2012), pp. 761–75.

The contributions to this Symposium analyze concrete examples of energy transition experiences in national (and – in the case of the EU – supranational) federal orders against the backdrop of a broad spectrum of hypothetical effects of federalism on energy transition. On the one hand, federal legal orders may help to facilitate the transition to cleaner energy systems by allowing experimentation by different governments. On the other hand, however, removing market barriers and aligning public policy to promote cleaner, cheaper forms of energy may be more complex in countries with federal systems of government. Moreover, the effects of federal 'self-rule' across various levels of governance may differ. Democratic attributes in layered decision-making processes may either foster accountability vis-à-vis goals of energy transition or constitute veto positions that hinder energy transition legislation. Different choices at federal and state levels can create conflicting goals regarding preferred types of generation, the environmental impacts of the electricity sector, or reliance on energy markets, which may hinder the pursuit of a clear course in energy policy or which may foster inefficiencies that result in higher energy costs.

Energy federalism is an expanding area of legal scholarship, as researchers recognize the critical connections between the allocation of legal authority and the evolution of energy systems.[13] The articles in this Symposium collection contribute to this scholarship by providing a comparative perspective on federalism and energy transitions. The authors participated in a workshop hosted by the Eberhard Karls University of Tübingen (Germany) and the University of North Carolina School of Law (US), entitled 'The Law of Energy Transition in Federal Systems', in June 2019. Workshop participants presented case studies that explored how different federalist legal systems affect energy transitions in countries such as Australia, South Africa, Switzerland, Germany, the US, and in the legal order of the EU. The articles build upon those workshop discussions to evaluate the role of federalism in individual states and compare the role of federalism across different states. An additional focal point is the relationship between the EU and its Member States as a federal structure between supranational and national actors.[14] The EU is pursuing ambitious goals in the fight against climate change and in energy transition,[15] and EU renewable energy policies are increasingly influential for the scope and structures of renewable energy policies in the 27 Member States.[16]

[13] See, e.g., A. Klass & J. Rossi, 'Reconstituting the Federalism Battle in Energy Transportation' (2017) 41(2) *Harvard Environmental Law Review*, pp. 423–92; A. Stein, 'Regulating Reliability' (2017) 54(5) *Houston Law Review*, pp. 1191–262; J. Rossi, 'The Brave New Path of Energy Federalism' (2016) 95(2) *Texas Law Review*, pp. 399–466; F. Mormann, 'Clean Energy Federalism' (2015) 67(5) *Florida Law Review*, pp. 1621–81; H. Osofsky & H. Wiseman, 'Dynamic Energy Federalism' (2013) 72(3) *Maryland Law Review*, pp. 773–969.

[14] On the federal character of the EU see in this Symposium collection Fehling, n. 25 below.

[15] Commission Communication, 'The European Green Deal', 11 Dec. 2019, COM(2019) 640 final, p. 4; Commission Communication, 'Proposal for a Regulation establishing the Framework for Achieving Climate Neutrality and amending Regulation (EU) 2018/1999 (European Climate Law)', 4 Mar. 2020, COM(2020) 80 final.

[16] E. Brosset & S. Maljean-Dubois, 'The Paris Agreement, EU Climate Law and the Energy Union', in M. Peeters & M. Eliantonio (eds), *Research Handbook on EU Environmental Law* (Edward Elgar, 2020), pp. 412–27, at 412, 426–7.

The Symposium collection begins with articles focused on national federal orders in Australia, South Africa and Switzerland, respectively. In the first article, 'The Australian Energy Transition as a Federalism Challenge: (Un)cooperative Energy Federalism?', Anne Kallies argues that Australia's federalist system is struggling to keep pace with the energy transition under way and complicates national and subnational responses to climate change.[17] Australian energy federalism has produced 'an intricate national framework for energy markets', which depends upon the interaction of parallel state legislation and shared oversight by state and federal authorities.[18] Federal and state governments have adopted legislation to mitigate climate change, including support for renewable energy, but shifting goals and political disputes between federal and state governments risk undermining energy and climate mitigation policies.

The second article, 'A Just Energy Transition and Functional Federalism: The Case of South Africa', by Tracy-Lynn Field, describes the 'functional federalism' system that is impacting on South Africa's energy transition.[19] South Africa formally is not a federal state, but rather is a unitary democratic state.[20] Nonetheless, Field argues that there exists a form of functional federalism, which involves multiple levels of government and interactions between governmental and non-governmental actors. Together, these national, subnational, and non-governmental actors interact to influence the evolution of the country's energy system and affect the ability to achieve climate, sustainability, and just transition goals at the national level.

The third article, 'Federalism and Mitigating Climate Change: The Merits of Flexibility, Experimentalism, and Dissonance,' by Johannes Reich, analyzes the impact of federalism on domestic climate mitigation policies, drawing from the legal structures and procedures of Swiss federalism.[21] Reich examines whether the representation of the earth's climate as a global public good implies a trade-off between federalism and the effectiveness of policies to reduce GHG emissions. Reich provides a more nuanced assessment by identifying constitutional and administrative institutions that unleash the potential of federalism for innovation and experimentalism on the one hand, and guard against the incentives for subnational entities to free ride on the other. Reich illustrates that there is ample room for regulatory experimentalism at the levels of both constituent units and municipalities, and that formal channels of influence for constituent units on policy formulation at the federal level can enable policy innovation and competition. According to Reich, considerable federal powers, constitutional procedures to overcome political impasse, and a degree of institutional flexibility may work as checks on incentives for subnational units to free ride. Such close intertwining between all

[17] A. Kallies, 'The Australian Energy Transition as a Federalism Challenge: (Un)cooperative Energy Federalism?' (2021) 10(2) *Transnational Environmental Law*, pp. 211–35.

[18] Ibid., p. 211.

[19] T.-L. Field, 'A Just Energy Transition and Functional Federalism: The Case of South Africa' (2021) 10(2) *Transnational Environmental Law*, pp. 237–61.

[20] Ibid., pp. 239–44.

[21] J. Reich, 'Federalism and Mitigating Climate Change: The Merits of Flexibility, Experimentalism, and Dissonance' (2021) 10(2) *Transnational Environmental Law*, pp. 263–91.

levels of federalism, Reich argues, thus may provide for both effective and innovative climate change mitigation.

'Renewable Energy Federalism in Germany and the United States', by Johannes Saurer and Jonas Monast, uses a comparative approach to analyze the impacts of the different energy federalism models.[22] Germany allocates more authority to the federal government, and the US relies on a decentralized cooperative federalism model that preserves key roles for state actors. The article uses renewable energy policies to explore the relevance of federal legal structures in each country, first identifying the relevant constitutional and statutory frameworks, and then discussing legal and empirical dimensions of renewable energy expansion at the federal and state levels. The article concludes with observations about federalism conflicts, path dependencies, and exposure to policy shifts as renewable energy has matured and state and federal goals have evolved.

Felix Mormann also uses a comparative approach in his article 'Of Markets and Subsidies: Counter-intuitive Trends for Clean Energy Policy in the European Union and the United States'.[23] As Mormann explains, the US is frequently portrayed as a nation with a strong commitment to markets and competition, whereas the EU is cast as a 'highly bureaucratized polity favouring interventionist economic governance over free market capitalism'.[24] The history of clean energy policies in each jurisdiction suggests that this conventional wisdom is wrong. US clean energy policies rely on tax credits and other direct government support. EU clean energy policies, in contrast, reflect an ongoing commitment to market-based instruments. Mormann argues that these differences result not only from statutory and regulatory choices, but also from different approaches to judicial enforcement in the two jurisdictions.

The final Symposium article, 'Energy Transition in the European Union and its Member States: Interpreting Federal Competence Allocation in the Light of the Paris Agreement', by Michael Fehling, addresses energy transition in the supranational federal order of the EU.[25] The article discusses the allocation of authority between the EU and the Member States in the field of renewable energy policies through an analysis of the relevant provisions on EU competences in the Treaty on the Functioning of the European Union (TFEU).[26] It explores the capacity for ordinary EU legislation to promote measures at the international level 'to deal with regional or worldwide environmental problems, and in particular combating climate change' (Article 191(1) TFEU) and to promote 'energy efficiency and energy saving and the development of new and renewable forms of energy' (Article 194(1)(c) TFEU). It also reviews potential

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

[23] F. Mormann, 'Of Markets and Subsidies: Counter-intuitive Trends for Clean Energy Policy in the European Union and the United States' (2021) 10(2) *Transnational Environmental Law*, pp. 321–37.

[24] Ibid., p. 321.

[25] M. Fehling, 'Energy Transition in the European Union and its Member States: Interpreting Federal Competence Allocation in the Light of the Paris Agreement' (2021) 10(2) *Transnational Environmental Law*, pp. 339–63, at 340–1.

[26] Lisbon (Portugal), 13 Dec. 2007, in force 1 Dec. 2009 [2012] OJ C 326/47, available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2012:326:FULL:EN:PDF.

limits to these EU treaty provisions resulting from neighbouring treaty provisions.[27] Fehling argues for an international law-friendly interpretation of the relevant EU treaty provisions which resolves potential conflicts between the treaty provisions in favour of the provision that enables EU legislation to fulfil the EU's obligations under international law, including the Paris Agreement.[28]

The 2019 Symposium and the resulting articles focused on the intersections between federalism and energy transitions rather than identifying federal frameworks that are more, or less, effective than others. Important common themes emerge from these examples of energy federalism in Australia, South Africa, Switzerland, Germany, the US, and the EU. As the articles demonstrate, the allocation of lawmaking authority among supranational, national, and subnational actors, and the interaction between energy and environmental policies at these different levels of government, are key factors affecting energy transitions in federalist systems. In each case the allocations of authority predated the widespread changes in the energy system occurring today, and the shared jurisdiction has a direct impact on energy economics, energy markets, and energy and environmental policies. Depending on the level of autonomy enjoyed by different subnational governments, divergent supranational, national, and subnational politics may also affect the transition. Prior energy governance choices may create path dependencies for policy choices, energy resources, or both. Furthermore, there is an enhanced need for coordination of various levels of government, particularly as the global community strives toward the ambitious GHG reduction goals in the Paris Agreement and many countries aim to rapidly deploy renewable energy technologies.

[27] Art. 192(2)(c) TFEU sets out a unanimity requirement for EU legislation on measures 'significantly affecting a Member State's choice between different energy sources and the general structure of its energy supply'. Art. 194(2)(2) TFEU states that EU legislation 'shall not affect a Member State's right to determine the conditions for exploiting its energy resources, its choice between different energy sources and the general structure of its energy supply'.

[28] Fehling, n. 25 above, pp. 352–5.

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