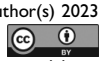
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The interface between EU climate and energy law

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Abstract

This article critically discusses the interface between EU climate and energy law. It argues that legal scholarship should explore and expose the interrelationships between these legal disciplines through shared understanding and evaluation of both the disparities and synergies found. It maps the origins of EU climate and energy law to demonstrate how they have evolved side by side, guided by separate legal rationales and distinct legislative developments yet sharing partially overlapping objectives and instruments. By comparing EU climate and energy law as legal disciplines, the article identifies dynamic and static attributes that characterize the interface between EU climate and energy law. These attributes, combined with the evolution of EU climate and energy law, are key elements in facilitating disciplinary convergence. As an outcome of the analysis, the article calls for critical legal scholarship that acknowledges the climate and energy law interface, allowing disciplinary convergence to develop between them.

Keywords

EU climate law, EU energy law, disciplinary convergence, critical legal scholarship

1. Introduction

The EU climate and energy *acquis* is evolving at an unprecedented pace. In late June 2021, the European Union (EU) adopted the European Climate Law, which sets out a binding objective of climate neutrality in the EU by 2050 and a net greenhouse gas emission (GHG) reduction target of at least 55% by 2030.[1] In addition to the GHG emission reduction target, the climate neutrality

1. Articles 1 and 4 of Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999

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objective in the energy sector is pursued through gradually tightening targets on the use of renewable energy and on the improvement in energy efficiency.[2] In July 2021, the European Commission published the 'Fit for 55' package,[3] which is an extensive cluster of interconnected legislative proposals to achieve the promises of the European Climate Law and the European Green Deal,[4] which is a green growth strategy published by the Commission in 2019. The 'Fit for 55' package will revise and update several key pieces of EU climate and energy legislation.[5]

As demonstrated by the recent developments in the EU, climate and energy law are inherently interconnected. Yet climate and energy law scholars often argue past one other when trying to capture the essence of each other's discipline. We tend to follow different journals, emphasize different elements of the same legal instruments in our teaching, and our scholarly perceptions of EU climate and energy law are distinctly divergent. In recent years, for example, the progressive development of EU climate and energy law has been discussed in EU climate and energy law scholarship, with energy law scholars describing the framework as *ambitious*[6] and climate law scholars describing it as *not ambitious enough*[7] to achieve decarbonization. Why would two legal disciplines so close to one another have such different perceptions of the same body of legal norms? This seemingly simple perception highlights a divergence in legal thinking that inspired the writing of this article and motivated a broader study of EU climate and energy law and scholarship to understand and explore the misalignment in relation to the study of each other's fields.

('European Climate Law'). See also European Commission, Stepping up Europe's 2030 climate ambition. Investing in a climate-neutral future for the benefit of our people, COM(2020) 562 final, p. 2.

2. The targets in the legislative framework currently in force require cuts of at least 40% in GHG emissions (from 1990 levels), a 32% share of renewable energy and a 32.5% improvement in energy efficiency. See European Council conclusions, (23–24 October 2014), para. 2 and 4. The targets for renewable energy and energy efficiency were revised upwards in 2018. See Article 3(1) of Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources, [2018] OJ L 328/82. These targets reflect the targets enshrined in legislation currently in force. Achieving climate neutrality set in the European Climate Law requires enhanced contributions from all economic sectors for which emissions or removals of GHGs are regulated under EU law. The relevant climate and energy legislation, also covering, e.g., effort sharing and the land use sector, is to be revised. See Recitals 10 and 26 of the European Climate Law.
3. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, 'Fit for 55': delivering the EU's 2030 Climate Target on the way to climate neutrality, COM (2021) 550 final, p. 10 (hereinafter 'the "Fit for 55" package'); K. Huhta, 'The 'Fit for 55'-package in the Context of EU Energy Law and Policy', 1 *Oil, Gas & Energy Law* (2022).
4. European Commission, The European Green Deal, COM(2019) 640 final.
5. The 'Fit for 55' package.
6. For example, L. Hancher, K. Talus and M. Wüstenberg, 'Retrospective Application of Legal Rules in the European Union: Recent Practice in the Energy Sector', 39 *Journal of Energy and Natural Resources Law* (2021), p. 65, 72; J. M. Jankowski, 'A European Legal Perspective on Wind Energy', 28(2) *Journal of Energy & Natural Resources Law* (2010), p. 265; R. Rybski, 'Energy in the European Green Deal: Impacts and Recommendations for MENA Countries', *Journal of World Energy Law & Business* (2022), https://doi.org/10.1093/jwelb/jwac033.
7. See, e.g., K. Kulovesi and S. Oberthür, 'Assessing the EU's 2030 Climate and Energy Policy Framework: Incremental Change Toward Radical Transformation?', 29 *Review of European, Comparative & International Environmental Law* (2020), p. 151, 165; H. Jonker, 'How the EU Can Achieve its Bold New Climate Target', World Resources Institute, 16 December 2020, C. Schwarte, 'EU Climate Policy under the Paris Agreement', 11 *Climate Law* (2021), p. 157, 160; W. Obergassel et al., 'Turning Point Glasgow? An Assessment of the Climate Conference COP26', 4 *Carbon & Climate Law Review* (2021), p. 271, 272–273. On climate law's incremental development, see C. Dupont, S. Oberthür and I. von Homeyer, 'The Covid-19 Crisis: A Critical Juncture for EU Climate Policy Development?', 42(8) *Journal of European Integration* (2020).

This article contributes to EU climate and energy law scholarship by critically discussing the interface between them. The article considers climate law as broadly encompassing the legal governance frameworks needed to control the anthropogenic effects of climate change, and energy law as concerning the legal governance of energy resources from exploration and production to final consumption.[8] The article builds on the premise that climate law and energy law are two independent legal disciplines – both are acknowledged as such in legal scholarship.[9] In this context, we address an important problem: the lack of understanding between climate and energy law as *distinct* yet *deeply interconnected* legal disciplines, jointly in charge of facilitating EU's transformation from fossil-fuel-based systems into a zero-carbon, climate-neutral society. By exploring and exposing the interrelationships between the legal disciplines, we work to enhance the understanding of climate and energy law's interface and encourage the active development of disciplinary convergence. We see disciplinary convergence as a mutual and shared understanding of the origins and the characteristic attributes between the two disciplines.

We acknowledge disciplinary convergence as an important contribution from legal scholarship to the society that is striving to transform from a fossil-fuel-dependent to a climate-neutral society. Climate and energy law scholars that wish to be able to convincingly speak of and to their counterparts should seek to understand the other discipline. Absence of mutual recognition of the origins of the disciplines and their characteristic attributes risks unnecessary conflict between EU climate and energy law scholarship. This issue is aptly reflected in discourses where, for example, legal scholarship views energy expertise reductively as 'operating within the arcane silo of energy security',[10] and lacks broader understanding of the plurality of objectives that affects the discipline. Similarly, energy law scholarship has voiced dismissive or confrontational views of climate and environmental expertise,[11] equally disregarding the disciplinary overlaps and differences between the two disciplines. These are alarming examples of situations where EU climate and energy law scholarship clash with one another due to a lack of mutual understanding between the disciplines. Considering

8. See S. Oberthür and L. Groen, 'Explaining Goal Achievement in International Negotiations: The EU and the Paris Agreement on Climate Change', 25 *Journal of European Public Policy* (2018), p. 708; J. Peel, 'Climate Change Law: The Emergence of a New Legal Discipline', 32 *Melbourne University Law Review* (2012), p. 922, 927; A. Bradbrook, 'Energy Law as an Academic Discipline', 14(2) *Journal of Energy and Natural Resources Law* (1996), p. 193; R.J. Heffron and K. Talus, 'The Evolution of Energy Law and Energy Jurisprudence: Insights for Energy Analysts and Researchers', 19 *Energy Research and Social Science* (2016), p. 1.
9. On the *raison d'être* of climate law as a legal discipline, see e.g. 'The diversity of legal developments with respect to climate change reviewed in this article amply makes the case that the last few years have witnessed the emergence of a new legal discipline, that of climate change law'. J. Peel, 32 *Melbourne University Law Review* (2012), p. 977. For discussion on energy law as a legal discipline, see e.g. 'Over the past three decades, largely because of privatization and liberalization of energy markets across the globe, the ongoing 'energy transition' (primarily related to climate change considerations), and the internationalization of and changes in energy markets, energy law as a legal discipline has grown and matured'. R. Heffron et al., 'A Treatise for Energy Law, 11 *Journal of World Energy Law & Business* (2018), p. 34.
10. N. Gunningham, 'Confronting the Challenge of Energy Governance', 1 *Transnational Environmental Law* (2012), p. 119, 120.
11. K. Talus, *EU Energy Law and Policy: A Critical Account* (Oxford University Press, 2013), p. 209, which claims that '[e]nvironmental lawyers, who mostly have no economic training or interest (and may even be hostile to economic analysis of environmental issues) and who are steeped in the prohibit–allow culture of public law and in sympathy with morally attractive – though often practically irrational – NGO campaigning' are pulled 'away from a realistic assessment of the cost and benefit of environmental action'.

society's need to decarbonize through the transition away from fossil fuels, legal scholarship in this area cannot afford such conflict.

More research is needed in the intersection between climate and energy law to help recognize these clashes and conflicts and, more importantly, the blind spots or misconceptions that cause them. Having said that, conflict is undeniably important in legal scholarship. At its best, it invites new and critical scholarly interventions, is built constructively on existing scholarship, and contributes to the evolution of legal disciplines. However, the conflicts between EU climate and energy law have primarily focused on substance and ongoing legal developments rather than on systemic analysis of the disciplines.[12] Such debates are not enough to foster disciplinary convergence between climate and energy law. It is important for the development of interdisciplinary discourse between EU climate and energy law that the deeper misconceptions are brought to light. If disregarded, the contribution of legal scholarship in these areas will never reach its full potential for the benefit of the EU's progressive objectives in the climate and energy sphere. This article is the first step in addressing this gap in existing legal scholarship. Furthermore, as EU climate and energy law are dynamic and fast-developing fields of contemporary and globally influential EU law, the perspectives highlighted in this article speak directly to a large group of European and international legal scholars.

This article approaches its key argument by comparing EU climate and energy law through their key substantive developments as well as their respective scholarship and jurisprudence. The distinct dynamic and static attributes, emerging from climate and energy law scholarship respectively, characterize the disciplines' central features. These attributes represent the differences and similarities between climate and energy law that facilitate the development of disciplinary convergence. The article first dissects its key argument and explains why legal scholarship should explore and expose the interrelationship between the disciplines (section 2). It then traces the evolution of EU climate and energy law and shows how the key substantive developments of the two fields are converging increasingly (section 3). Building on the origins of these two legal disciplines, it next identifies attributes that characterize the interface between EU climate and energy law (section 4). Exposing these attributes is of key importance in facilitating the convergence between the two disciplines and form important areas for further research in legal scholarship. Finally, conclusions are drawn (section 5).

2. The importance of disciplinary convergence in EU climate and energy law

EU climate and energy law's paths are connected through the transformative agenda[13] executed through contemporary EU law. Climate and energy law are so 'obviously interrelated' that they will 'inevitably be drawn together'.[14] The EU's overarching objective of being a climate-neutral

12. See, e.g., B. Mayer, 'The Critical Functions of Scholarship in Climate Law', 8 *Climate Law* (2018), p. 151; M. Peeters, 'EU Climate Law: Largely Uncharted Legal Territory', 9 *Climate Law* (2019), p. 137; R.B. Mitchell, 'Climate Law: Accomplishments and Areas for Growth', 8 *Climate Law* (2018), p. 135, 137. In energy law, see L. Hancher, K. Talus and M. Wüstenberg, 39 *Journal of Energy and Natural Resources Law* (2021), p. 65, for instance.
13. European Green Deal, p. 2 and 4.
14. The argument made by Freeman in the context of environmental and energy law applies perfectly also to the interface between climate and energy law. See J. Freeman, 'The Uncomfortable Convergence of Energy and Environmental Law', 41 *Harvard Environmental Law Review* (2017), p. 339, 342.

economy by 2050 is to be operationalized by means of a comprehensive legislative reform extending to key climate and energy law instruments. The progressive plan to deepen the substantive integration of EU climate and energy law underlines the need to promote further scholarly dialogue on their disciplinary convergence.[15]

The distinction between the integration of legislative instruments and what we mean by disciplinary convergence should be emphasized. The former concerns integration in the traditional sense, requiring that climate change concerns – along with EU environmental objectives, principles and criteria – be integrated into energy policy.[16] It entails focus on legal substance, i.e., what is being legislated and how these substantive rules align or integrate with other rules. This kind of integration has been analysed in EU climate and energy law scholarship.[17] In contrast, EU climate and energy law scholarship lacks research that identifies the disciplinary interconnections beyond the integration of individual legal instruments and the mere overlap of scopes of application.[18] In surveying recent legislative developments in EU climate and energy law, we see that the legal fields no longer develop linearly in isolation from one another but also interdependently. The EU's transformative agenda can be regarded as a joint factor in bringing about the congruence between the two legal fields, almost by forcing it.[19] As *Freeman* points out, legal scholarship has not (yet) 'embraced convergence as an independent goal, but rather have achieved it incrementally and indirectly, as a consequence of pursuing their traditional missions during a time of change.'[20]

In EU law, one legal discipline is not more imperative than the other nor is one subordinate to the other. This balance between the two fields allows legal scholarship to compare their legal rationales and realities in a way that enables the development of disciplinary convergence. However, disciplinary convergence between the legal fields does not simply happen on its own, but necessitates active recognition in EU legal scholarship.[21] Its development requires legal scholarship to go 'beyond prior work in describing the legal mechanisms through which greater congruence and coordination between the two fields have been achieved'.[22] That is to say that in addition to focusing on how *lawmakers and policymakers* should better integrate climate and energy law, *climate and energy law scholars* should also actively improve their understanding of one another's disciplines.

Accordingly, promotion of much-needed disciplinary convergence between climate and energy law calls for a move away from the fragmented research approach where 'much academic analysis

15. For discussion on the convergence between legal fields, including environmental, climate and energy law, see e.g. A.B. Klass, 'Climate Change and the Convergence of Environmental and Energy Law', 24 *Fordham Environmental Law Review* (2013), p. 180, 182 and 203; J. Freeman, 41 *Harvard Environmental Law Review* (2017), p. 342–343.
16. Articles 11 (principle of integration) and 192 (environmental objectives and principles) of the Treaty on the Functioning of the European Union, [2012] OJ C 326/47 (hereinafter TFEU).
17. See, for example C. Dupont, *Climate Policy Integration into EU Energy Policy: Progress and Prospects* (Routledge, 2015); A. Hardiman, 'Climate, Energy – and Environment? Reconciliation of EU Environmental Law with the Implementation Realities of EU Climate Law', 12 *Climate Law* (2022), p. 242, 246–247.
18. In particular, we do not refer to the integration of climate and energy law, which has been extensively discussed in C. Dupont, *Climate Policy Integration into EU Energy Policy: Progress and Prospects*, and C. Dupont and S. Oberthür, 'Insufficient Climate Policy Integration in EU Energy Policy: The Importance of the Long-term Perspective', 8 *Journal of Contemporary European Research* (2012), p. 229.
19. A.B Klass, 24 *Fordham Environmental Law Review* (2013), p. 188.
20. J. Freeman, 41 *Harvard Environmental Law Review* (2017), p. 339.
21. E. Fisher, E. Scotford and E. Barritt, 'The Legally Disruptive Nature of Climate Change', 80 *Modern Law Review* (2017), p. 193–197. See also A.B. Klass, 24 *Fordham Environmental Law Review* (2013), p. 188–189.
22. J. Freeman, 41 *Harvard Environmental Law Review* (2017), p. 343.

is based on the descriptive study of regimes in isolation – often understood as one-off successes and failures – without a broader analytical perspective being taken'.[23] Fragmentation per se is not problematic, but if it 'results in a failure of scholars to focus on the legal interrelationships and commonalities',[24] then 'one probably should go further'.[25] It has been aptly pointed out that the diversity of knowledge to adequately approach environmental problems, such as climate change, 'is not just a nice thing to have', but also necessary for epistemological consistency and social justice.[26]

Identification and acknowledgement of both disciplines' origins and characteristic attributes is the first step towards facilitating disciplinary convergence. However, the next generation of EU climate and energy law scholarship should do more than that, and actively take into account the deeper legal rationales and realities of the other discipline. While such steps may not be relevant for *all* EU climate and energy law, they are unavoidably key to EU law that operates in the intersection between the disciplines, such as renewable energy law. One possible future avenue for taking such steps may be found in the emerging just transition[27] and energy democracy[28] discourses, which emphasize the justice dimensions of societal sustainability transitions and are accordingly geared conceptually towards taking into account the legal rationales and realities affecting the EU's transformative agenda. Ultimately, the role of individual legal scholars is key to advancing the development of disciplinary convergence. We need self-reflection and 'heightened awareness'[29] of the blind spots and even biases that affect a climate law scholar's understanding of energy law and vice versa and should transparently share these shortcomings with the broader community of EU law scholars.[30]

3. The origins of EU climate and energy law

EU climate and energy law are both relatively new but in different ways and in different phases of their evolution. However, the developments in EU law over the last two decades have brought climate and energy law into proximity as they deal with two sides of the same coin: traditional energy sources have fuelled modern economies while bringing about one of our generation's greatest challenges by contributing to global warming. To expose the interrelationships between the disciplines and foster disciplinary convergence, we explore how EU climate and energy law have evolved to where they are today – as interrelated instruments of the EU's transformative agenda.

23. E. Fisher et al., 'Maturity and Methodology: Starting a Debate about Environmental Law Scholarship', 21 *Journal of Environmental Law* (2009), p. 213, 240.
24. Ibid., p. 241; K. Huhta, 'The Coming of Age of Energy Jurisprudence', 39 *Journal of Energy and Natural Resources Law* (2021), p. 199, 203.
25. D. French and L. Rajamani, 'Climate Change and International Environmental Law: Musings on a Journey to Somewhere', 25 *Journal of Environmental Law* (2013), p. 437, 457.
26. L. Fisher, 'Environmental Law, Scholarship, and Epistemic Responsibility', 33 *Journal of Environmental Law* (2021), p. 521, 523.
27. See, e.g., R. Mauger, 'Cast Away? How EU Energy Law Provides for a Just Transition for EU Islands', 1 *Oil, Gas & Energy Law* (2021), p. 1.
28. R.C. Fleming, K. Huhta, and L. Reins, *Sustainable Energy Democracy and the Law* (Brill, 2021); I. del Guayo et al. (eds), *Energy Justice and Energy Law* (Oxford University Press, 2020).
29. K. Kulovesi, M. Mehling and E. Morgera, 'Global Environmental Law: Context and Theory, Challenge and Promise', 8 *Transnational Environmental Law* (2019), p. 405, 429.
30. L. Fisher, 33 *Journal of Environmental Law* (2021), p. 521, 522.

Energy has a long tradition in EU law.[31] Governing the exploitation of energy was at the heart of the European peace project of the 1950s, as two of the three original Founding Treaties focused on the governance of steel, coal and nuclear energy.[32] Contrary to what might be expected, given the focus of the Founding Treaties, however, primary law was not systematically applied to the energy sector until the 1990s.[33] For decades after the entry into force of the Founding Treaties, the energy sector was too politically charged and considered too connected to sensitive national security interests to be governed at an EU level.[34] The 1990s marked the first extensive package of secondary law for the energy sector, followed by further packages in 2003 and 2009 and, finally, in 2018–2019, all progressively implementing the internal markets in electricity and gas and addressing an increasing number of objectives that continue to drive the energy sector. These legislative packages were accompanied by a progressively strengthening and robust institutional setup driven by regulators on both EU and national levels.[35]

In contrast to the EU's longer legislative and institutional history concerning the energy sector, EU climate law is of more recent origin. Climate change has been a key global issue since the late 1980s, and a significant body of law has been developed in response to it. Since the 1990s, the EU has played a prominent role in the development of legal approaches to climate change. Climate law, in broad terms, addresses climate change and the main responses to it, which are essentially mitigation and adaptation.[36] Closely connected to developments in international fora and intertwined with the EU's internal political developments, the EU has established a gradually evolving and expanding legal framework on climate change.[37] After a slow start, EU climate law has evolved from sectoral instruments in the 1990s to the detailed legal framework now in place.[38]

31. See in general, M. Roggenkamp et al., *Energy Law in Europe: National, EU and International Regulation* (third edition, Oxford University Press, 2016) and specifically on the evolution of energy in EU law K. Huhta, 'The Scope of State Sovereignty under Article 194(2) TFEU and the Evolution of Competences in the Energy Sector', 70(4) *International and Comparative Law Quarterly* (2021), p. 991.
32. Treaty establishing the European Coal and Steel Community, Paris, 18 April 1951 (ECSC); Treaty establishing the European Atomic Energy Community (Euratom), Rome, 25 March 1957; K. Talus, *EU Energy Law and Policy: A Critical Account*, p. 15 and 21–22; K. Huhta, 70(4) *International and Comparative Law Quarterly* (2021), p. 991–1010.
33. K. Huhta, 70(4) *International and Comparative Law Quarterly* (2021).
34. K. Huhta, 'Too Important to Be Entrusted to Neighbours? The Dynamics of Security of Electricity Supply and Mutual Trust in EU Law', 6 *European Law Review* (2018), p. 920.
35. K. Huhta, 'C-718/18 Commission v Germany: Critical Reflections on the Independence of National Regulatory Authorities in EU Energy Law', 30(6) *European Energy and Environmental Law Review* (2021).
36. O.C. Ruppel, 'Intersections of Law and Cooperative Global Climate Governance – Challenges in the Anthropocene', in O.C. Ruppel, C. Roschmann and K. Ruppel-Schlichting (eds), *Climate Change: International Law and Global Governance. Volume I: Legal Responses and Global Responsibility* (Nomos, 2013), p. 39, 37; D. Bodansky, J. Brunnée and L. Rajamani, *International Climate Change Law* (Oxford University Press, 2017), p. 10–11.
37. On the different phases of EU climate law's development, see also J. Delbeke, 'Have 25 Years of EU Climate Policy Delivered?', in J. Delbeke and P. Vis (eds), *Towards a Climate-Neutral Europe: Curbing the Trend* (Routledge, 2019), p. 1, 4–20.
38. For a detailed account on the development of EU climate law, see, e.g., S. Oberthür and C. Roche Kelly, 'EU Leadership in International Climate Policy: Achievements and Challenges, 43 *The International Spectator* (2008), p. 39–42; C.P. Carlarne, *Climate Change Law and Policy: EU and US Approaches* (Oxford University Press, 2010), p. 188–189; C. Dupont, *Climate Policy Integration into EU Energy Policy: Progress and Prospects*, p. 2–21; E. Woerdman, M. Roggenkamp and M. Holwerda (eds), *Essential EU Climate Law* (Edward Elgar, 2015), p. 10–12 and 21–41; E. Brosset and S. Maljean-Dubois, 'The Paris Agreement, EU Climate Law and the Energy Union', in M. Peeters and M. Eliantonio (eds), *Research Handbook on EU Environmental Law* (Edward Elgar, 2020), p. 412, 419–427.

As demonstrated by the origins of both disciplines, EU climate and energy law have grown independently from one another and EU climate and energy law scholars have developed their disciplines in a similarly independent manner. Yet the roots of their close relationship in EU law were laid down decades ago. The interconnection between energy and environmental matters was acknowledged in EU law in the late 1980s and early 1990s.[39] The Treaty revisions then introduced a legal basis for environmental legislation that required the 'prudent and rational utilization of resources'[40] and limited EU competences where their usage would affect a Member State's 'choice between different energy sources and the general structure of its energy supply'.[41] Because of this early constitutional connection, the close relationship with energy was already built into the structures of EU competences when climate law began to make its mark as a discrete field of EU law.

The past decade has witnessed a remarkable increase in the Europeanization and convergence of the substance of EU climate and energy law, which is reflected in both primary and secondary law.[42] The objectives of EU climate and energy law, and the EU competences to pursue those objectives, were explicitly included in primary law under the Treaty of Lisbon in 2009.[43] EU climate law is included in the environmental policy provision of Article 191 TFEU, under which EU environmental policy will promote measures at international level to deal with regional or worldwide environmental problems and, in particular, combat climate change.[44] Accordingly, the climate objective operates in proximity to the broader EU environmental law objectives but has multidimensional scope. EU energy law was given its own legal basis in Article 194 TFEU, which establishes functioning energy markets, security of supply, the development of renewable energy and the promotion of energy efficiency, energy saving and the interconnection of energy networks as objectives of EU energy policy. In this constitutional context, it is the development of renewable energy, energy efficiency and energy savings that explicitly connect the objectives of EU energy law with EU climate law. EU action in both policy areas fall under shared competence and both are restricted by explicit competence limitations.[45] This increased interdependence between these legal fields increases the importance of grasping the differences and similarities between them at the interface of climate and energy law scholarship.

The following sections identify and analyse six attributes that characterize the interface between EU climate and energy law as legal disciplines. These attributes emerge from the contemporary context of EU climate and energy law scholarship and are repeatedly dealt with and analysed in

39. The Single European Act, [1987] OJ L169/1; and the 1992 Maastricht Treaty. C. Dupont, *Climate Policy Integration into EU Energy Policy: Progress and Prospects*, p. 16; R. Wägenbaur and R. Wainwright, 'European Community Energy and Environment Policy', 16 *Yearbook of European Law* (1996), p. 59–60.
40. Article 130r of the Single European Act and Article 191(1) TFEU after the Treaty of Lisbon.
41. Article 130s of the 1992 Maastricht Treaty and in literature; R. Wägenbaur and R. Wainwright, 16 *Yearbook of European Law* (1996).
42. S. Oberthür and C. Roche Kelly, 43 *The International Spectator* (2008), p. 42; A. Monti and B. Martinez Romera, 'Fifty Shades of Binding: Appraising the Enforcement Toolkit for the EU's 2030 Renewable Energy Targets', 29 *Review of European, Comparative & International Environmental Law* (2020), p. 221, 225–226; T. Maltby, 'European Union Energy Policy Integration: A Case of European Commission Policy Entrepreneurship and Increasing Supranationalism', 55 *Energy Policy* (2013), p. 435.
43. Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community, signed at Lisbon, 13 December 2007, [2007] OJ C 3061.
44. The provision reflects the high priority given to climate change by the EU. See, e.g., K. Kulovesi, E. Morgera and M. Muñoz, 'Environmental Integration and Multi-faceted International Dimensions of EU Law: Unpacking the EU's 2009 Climate and Energy Package, 43 *Common Market Law Review* (2011), p. 829, 839.
45. Article 194(2) TFEU and Article 192(2) TFEU. K. Huhta, 70(4) *International and Comparative Law Quarterly* (2021).

both climate and energy law scholarship. These attributes are found in shared discourses: they are features and approaches that are fundamental to both EU climate and energy law. While this is not an exhaustive list of what characterizes the interface between EU climate and energy law, it exposes the different attributes of EU climate and energy law interface that both facilitate or even expedite the convergence between the disciplines but also create friction and differentiation between the disciplines.

4. Exposing the attributes in the interface between EU climate and energy law

A. The dynamic attributes bringing EU climate and energy law together

1. Climate and energy law are irreplaceable parts of the European transformative agenda. The EU is on a quest for 'deeply transformative policies'.[46] Indeed, the European Green Deal prescribes comprehensive legal revisions or policy reforms reaching several regulated areas beyond climate and energy law, from the internal market to digitalization and social aspects, and new mechanisms and tools for regulation.[47] Although the EU's strategic vision for the future affects EU law across legal disciplines, climate and energy law are at the core of the strategy for the achievement of a more sustainable Europe.[48] The production and use of energy account for approximately 75% of the EU's GHG emissions and decarbonization of the entire energy system is crucial in order to meet the climate targets.[49] Climate and energy law are irreplaceable parts in the legal evolution required by the European transformative agenda as the moulders and facilitators of the underlying regulatory preconditions.[50] In the context of this transformation, climate-related legislative instruments translate climate considerations into legally enforceable targets and mechanisms for their implementation, while energy law remodels the energy sector to ensure the action required by the transition is effectively executed.[51] Without further efforts to understand EU climate and energy law's interface, the EU's ambitious transformative agenda cannot succeed.

Therefore, the most obvious shared feature as between EU climate and energy law is that both contribute to the European transformative agenda driven by the European Green Deal. Most importantly, they are in the key role to ensure that the European economy transitions away from fossil-fuel-based energy systems. There is a clear scientific causality between the GHGs produced

46. European Green Deal, p. 4. For broader discussion, see, e.g., J. Delbeke, 'Ten Personal Reflections on the Difficult Journey Towards Climate Neutrality', in J. Delbeke and P. Vis (eds), *Towards a Climate-Neutral Europe: Curbing the Trend* (Routledge, 2019), p. 200, 202–216.
47. Stepping up Europe's 2030 climate ambition, p. 14.
48. European Green Deal, p. 8; Stepping up Europe's 2030 climate ambition, p. 2–19.
49. European Environmental Agency, EEA greenhouse gas – data viewer (2021), www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer.
50. M. Mehling, K. Kulovesi and J. de Cendra, 'Climate Law and Policy in the European Union: Accidental Success or Deliberate Leadership?', in E. Hollo, K. Kulovesi and M. Mehling (eds), *Climate Change and the Law* (Springer, 2013), p. 509, 514–515.
51. R.J. Heffron and K. Talus, 'The Development of Energy Law in the 21st Century: A Paradigm Shift?', 9 *Journal of World Energy Law & Business* (2016), p. 1, 13; A.J. Jordan, D. Huitema and H. van Asselt, 'Climate Change Policy in the European Union: An Introduction', in A.J. Jordan et al. (eds), *Climate Change Policy in the European Union: Confronting the Dilemmas of Mitigation and Adaptation?* (Cambridge University Press, 2010), p. 3, 11.

by the energy sector and global warming.[52] This causality has also brought these two into proximity in the context of law and lawmaking. The existing and forthcoming EU law and policy also make climate and energy law integral mechanisms that facilitate the European Green Deal's new growth strategy into action.[53]

2. Interdisciplinarity is a distinct approach in EU climate and energy law. EU climate and energy law are inherently interdisciplinary, as reflected in the ways in which they incorporate aspects from *other areas of law* and pervade *beyond law* entirely different disciplines and areas of expertise.

Climate and energy law are both well known to absorb normative material from other legal disciplines,[54] and scholarship on both disciplines acknowledges that the disciplines borrow normative material from other fields of law[55] and, in that sense, they admit to the absence of a single or autonomous 'climate law' or 'energy law'. Due to its widespread impacts and inherently complex nature, climate change cannot be confined under a single legal structure.[56] Instead, the scopes of both disciplines are defined by societal needs to address climate change and to secure a reasonably priced energy supply. These ineliminable societal needs make climate and energy law characteristically political and accordingly blur the lines between law and policy in these areas.[57]

It makes sense that legal disciplines with such problem-based scopes systematically invade the legal spaces of other legal disciplines to benefit from their normative developments.[58] Both are known to step into each other's arenas[59] and into fields such as constitutional law, human rights law, administrative law, environmental law, investment and trade law, contract law, criminal law and tax law.[60] For example, the fossil fuel phaseout inevitably raises questions as to the right to property and the freedom to conduct business enshrined in the EU Charter of Fundamental Rights.[61] Compensation for the shutdown of energy activities is often assessed under investment

52. M.R. Allen, 'Summary for Policymakers', in V. Masson-Delmotte et al. (eds), *Global Warming of 1.5°C. An IPCC Special Report on the Impacts of Global Warming of 1.5°C Above Pre-industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty* (World Meteorological Organization, 2018), p. 4 and 12–15.
53. European Green Deal, p. 2; the 'Fit for 55' package.
54. K. Huhta, 39 *Journal of Energy and Natural Resources Law* (2021), p. 199; D. French and L. Rajamani, 25 *Journal of Environmental Law* (2013), p. 439.
55. A. Bradbrook, 14(2) *Journal of Energy and Natural Resources Law* (1996), p. 193; R.J. Heffron and K. Talus, 9 *Journal of World Energy Law & Business* (2016), p. 2; T.L. Muinzer, 'What are National "Climate Change Acts"?', *Journal of Energy and Natural Resources Law* (2021).
56. K. Kulovesi, 'Exploring the Landscape of Climate Law and Scholarship: Two Emerging Trends', in E. Hollo, K. Kulovesi and M. Mehling (eds), *Climate Change and the Law* (Springer, 2013), p. 31–33.
57. R.J. Heffron and K. Talus, 9 *Journal of World Energy Law & Business* (2016), p. 11; A.J. Jordan, D. Huitema and H. van Asselt, in A.J. Jordan et al. (eds), *Climate Change Policy in the European Union: Confronting the Dilemmas of Mitigation and Adaptation?*, p. 3.
58. D. French and L. Rajamani, 25 *Journal of Environmental Law* (2013), p. 439.
59. K. Huhta, 39 *Journal of Energy and Natural Resources Law* (2021), p. 206; J. Peel, 32 *Melbourne University Law Review* (2012), p. 927; M. Mehling et al., 'Teaching Climate Law: Trends, Methods and Outlook', 32 *Journal of Environmental Law* (2020), p. 417, 417–418.
60. J. Peel, 32 *Melbourne University Law Review* (2012), p. 976, 978; O.C. Ruppel, in O.C. Ruppel, C. Roschmann and K. Ruppel-Schlichting (eds), *Climate Change: International Law and Global Governance. Volume I: Legal Responses and Global Responsibility*, p. 39.
61. Charter of Fundamental Rights of the European Union, [2012] OJ C 326/391.

law and not climate or energy law.[62] In the 2021 Shell case, a climate claim was decided on the basis of Dutch tort law.[63] Similarly, the construction of electricity and natural gas infrastructures involves many environmental and administrative permitting processes. In other words, EU climate and energy law comprise the sum of EU legal norms that govern climate change and the energy sector.[64]

However, EU climate and energy law are not just the routine application of any EU law to climate change or the energy sector.[65] Instead, the legal disciplines are fundamentally shaped by intrinsic connections between law and other disciplines. Climate and energy law cannot be treated as self-contained disciplinary and regulatory areas that manage their objectives without integrating themselves within the broader regulatory framework, in both international and national contexts. Lawmaking and legal scholarship in these areas are often meshed with fields such as economics, geography, environmental sciences, engineering, atmospheric physics and social sciences.[66] The role of science is crucial in adopting and applying climate and energy law. For instance, the scientific basis for climate change is widely accepted – the extensive regulatory frameworks would not be in place without the input of scientific knowledge.[67] Similarly, the achievement of legal objectives in the energy sector can be either enabled or prevented by technologies developed by engineers, among others.[68] For example, the fact that electricity cannot be stored on a large scale means that EU legal and policy frameworks must be able to ensure security of supply even when the wind does not blow and the sun does not shine.[69] Science pervades EU climate and energy law, and this is reflected in the way EU climate and energy law scholarship is conducted: scholars adopt and absorb facts, theories and methods from these external disciplines. This interdisciplinarity has important implications for the drafting and interpretation of EU law. For example, an EU climate or energy law scholar that has not grasped the basic physical limitations of energy technologies as regards, for example, the storability of electricity,[70] may be at risk of suggesting legal solutions that are unfeasible in practice.

62. I. Damjanovic and Ottavio Quirico, 'Intra-EU Investment Dispute Settlement under the Energy Charter Treaty in Light of Achmea and Vattenfall: A Matter of Priority', 26 *Columbia Journal of European Law* (2019), p. 102; Euractiv, 'Germany's RWE uses Energy Charter Treaty to Challenge Dutch Coal Phase-out' (2021), https://www.euractiv.com/section/energy/news/germanys-rwe-uses-energy-charter-treaty-to-challenge-dutch-coal-phase-out/.
63. Case *Milieudefensie et al. v. Royal Dutch Shell plc.* C/09/571932 / HA ZA 19-37 (26.5.2021).
64. O.C. Ruppel, in O.C. Ruppel, C. Roschmann and K. Ruppel-Schlichting (eds), *Climate Change: International Law and Global Governance. Volume I: Legal Responses and Global Responsibility* , p. 39.
65. K. Huhta, 39 *Journal of Energy and Natural Resources Law* (2021), p. 207.
66. R.J. Heffron and K. Talus, 9 *Journal of World Energy Law & Business* (2016), p. 1–2; M. Faure and J. Liu, 'Urgently Needed: Climate Lawyers', 8 *Climate Law* (2018), p. 166; D. Bodansky, J. Brunnée and R. Rajamani, *International Climate Change Law*, p. 1–10.
67. Article 3 of the European Climate Law. See also, e.g., N.S. Ghaleigh, 'Science and Climate Change Law – The Role of the IPCC in International Decision-Making', in C. Carlarne, K. Gray and R. Tarasofsky (eds), *The Oxford Handbook of International Climate Change Law* (Oxford University Press, 2016) p. 55. See also J. Gheuens and S. Oberthür, 'EU Climate and Energy Policy: How Myopic Is It?', 9 *Politics and Governance* (2021), p. 337, 338.
68. K. Huhta, 'The Contribution of Energy Law to the Energy Transition and Energy Research', *Global Environmental Change* (2022), p. 73.
69. K. Huhta, *Capacity Mechanisms in EU Energy Law: Ensuring Security of Supply in the Energy Transition* (Kluwer Law International, 2019), p. 18–21. On emerging ways to store electricity, see M. Andreasson and L. Van Nieuwkoop, 'Transitioning to an Integrated Renewable Energy System in the Dutch North Sea', in R. Fleming et al. (eds)*, A Force of Energy: Essays in Energy Law in Honour of Professor Martha Roggenkamp* (University of Groningen Press, 2022).
70. S. Romppanen, 'The Role of Science in Regulating Sustainable Energy Democracy', in R.C. Fleming, K. Huhta and L. Reins, *Sustainable Energy Democracy and the Law* (Brill, 2021), p. 54.

3. Climate change and the energy sector are both governed at multiple levels. The third shared approach of EU climate and energy law is that both are identifiable as dynamic participants in a multilevel system of governance. Given its *sui generis* legal nature as a supranational organization, the EU's governing system could be understood as inherently multilevel and multisectoral.[71] The context described here bespeaks a broader notion of multilevel governance as an integrated perspective on law and regulatory approaches.[72] Addressing climate change and the challenge of energy governance necessitates legislative and regulatory responses at all levels, from global to local, across jurisdictions and between different levels of governance.[73] Climate and energy law scholars agree that their respective disciplines have a shared complementary yet constituent dimension stemming from their multilevel character.[74] A multilevel governance approach facilitates consideration of the polyvalent nature of climate and energy policies[75] and, due to its more decentralized and disaggregated features, accommodates the hybridity of legal interferences within a broader governance framework.[76] This is a precondition for coherent governance of the complex climate and energy fields.

The fragmentation of climate and energy law's domains make multilateral governance a suitable approach to them. Given the borderless nature of the climate change challenge, climate law needs to be able to cater for different views and multiple levels of action.[77] Furthermore, gradual changes in the governance of the energy sector have moved energy governance beyond the unilateral context towards a more interconnected system.[78] The close interdependence between different legal initiatives and the need to coordinate the levels of legislative and regulatory action are features shared between climate and energy law, and aspects captured by multilevel governance.[79] Identifying the different levels on which EU climate and energy law operate and acknowledging the ways in

71. L. Hooghe and G. Marks, *Multi-Level Governance and European Integration* (Rowman & Littlefield Publishers, Inc., 2001), p. 2–3.
72. C. Möllers, 'European Governance: Meaning and Value of a Concept', 34 *Common Market Law Review* (2006), p. 313; J. Shaw, 'Series Editors' Preface', in J. Dawson (ed.), *New Governance and the Transformation of European Law: Coordinating EU Social Law and Policy* (Cambridge University Press, 2011), p. xiii; N. Chowdhury and R. Wessel, 'Conceptualising Multilevel Regulation in the EU: A Legal Translation of Multilevel Governance?', 18 *European Law Journal* (2012), p. 335, 341–342.
73. Mehling et al., 32 *Journal of Environmental Law* (2020), p. 418; K. Kulovesi, in E. Hollo, K. Kulovesi and M. Mehling (eds), *Climate Change and the Law*, p. 32; A. Cherp, J. Jewell and A. Goldthau, 'Governing Global Energy: Systems, Transitions, Complexity', 2 *Global Policy* (2011), p. 75.
74. See, e.g., J.B. Skjærseth, 'Linking EU Climate and Energy Policies: Policy-making, Implementation and Reform', 16 *International Environmental Agreements* (2016), p. 509, 512; M. Mehling et al., 32 *Journal of Environmental Law* (2020), p. 418; J. Scott, 'The Multi-Level Governance of Climate Change', 1 *Carbon & Climate Law Review* (2011), p. 25; K. Huhta, 39 *Journal of Energy and Natural Resources Law* (2021), p. 205; H.H.B. Vedder, 'Multi-level Governance in EU Climate Law', in E. Woerdman, M.M. Roggenkamp and M. Holwerda (eds), *Essential EU Climate Law*.
75. The multilevel governance approach is not unique to climate and energy policy per se but found also in other domains of EU law. See, e.g., A.H. Schakel, 'Multi-level Governance in a "Europe with the Regions"', 22 *The British Journal of Politics and International Relations* (2020), p. 767, 768.
76. C. Möllers, 34 *Common Market Law Review* (2006), p. 316; J. Peel, L. Godden and R. Keenan, 'Climate Change Law in an Era of Multi-Level Governance', 1 *Transnational Environmental Law* (2012), p. 245, 278.
77. J. Peel, 32 *Melbourne University Law Review* (2012), p. 974.
78. K. Huhta, 39 *Journal of Energy and Natural Resources Law* (2021), p. 205; A. Cherp, J. Jewell and A. Goldthau, 2 *Global Policy* (2011), p. 77.
79. J. Peel, 32 *Melbourne University Law Review* (2012), p. 976; A. Cherp, J. Jewell and A. Goldthau, 2 *Global Policy* (2011), p. 85.

which they interact, within and beyond the EU legal order, is crucial for the operation of the dispersed domains of the climate and energy *acquis*.

B. The static attributes differentiating EU climate and energy law

1. International and national pressures affect energy and climate law differently. Climate law is more tied to international developments (i.e., the global climate regime) while energy law traditionally focuses on safeguarding security and affordability interests at national level. Although climate change and the energy sector are extensively governed by EU law, the pressure for EU action in these areas emerges from distinct interests on different governance levels in view of the fact that energy has traditionally been a national matter with close linkages to state sovereignty and national security.[80] As distinct from EU energy law, the EU's climate governance framework has largely emerged in response to international developments.[81]

This divergence between energy and climate law is comprehensible within the broader contexts of global warming and the energy sector. Climate change is inherently global. It cannot be addressed on national and local levels alone, nor can its effects be prevented from crossing national borders.[82] Energy, conversely, is infrastructure-dependent and highly susceptible to delicate national security interests.[83] The linkages between infrastructure and security[84] explain why energy infrastructures have traditionally been constructed within national borders to serve predominantly national, not transnational or European, interests.[85] While global geopolitics are often the source of energy security concerns and protecting energy security has also become an issue of EU law,[86] the governance of the energy sector still remains at the heart of national sovereignty and impacts EU competences.[87]

The notion that, in the EU context, climate law is international while energy law is national is a simplification of the nuances involved. In fact, it is clear that energy law has internationalized and climate law has localized.[88] Due to energy's geopolitical aspects, international considerations as to

80. K. Huhta, 6 *European Law Review* (2018), and K. Talus, *EU Energy Law and Policy: A Critical Account*, p. 17; R. Lyster and A. Bradbrook, *Energy Law and the Environment* (Cambridge University Press, 2012), p. 34–35.
81. See, e.g., R.K.W. Wurzel, J. Liefferink and D. Connelly, 'Introduction. European Union climate leadership', in R.K.W. Wurzel, J. Liefferink and D. Connelly (eds), *The European Union in International Climate Change Politics: Still Taking a Lead?* (Routledge, 2017), p. 3; C. Dupont, *Climate Policy Integration into EU Energy Policy: Progress and Prospects*, p. 13–23.
82. D. Bodansky, J. Brunnée and R. Rajamani, *International Climate Change Law*, p. 35. O. Edenhofer et al., 'The Atmosphere as a Global Commons', in L. Bernard and W. Semmler (eds), *The Oxford Handbook of the Macroeconomics of Global Warming* (Oxford University Press, 2015).
83. K. Huhta, 70(4) *International and Comparative Law Quarterly* (2021); T. Van de Graaf, *The Politics and Institutions of Global Energy Governance* (Palgrave MacMillan, 2013), p. 4.
84. On the relationship between infrastructure and security, see S. Hindelang and A. Moberg, 'The Art of Casting Political Dissent in Law: The EU's Framework for the Screening of Foreign Direct Investment', 57 *Common Market Law Review* (2020), p. 1427, 1431.
85. K. Huhta, n 69 above, p. 3 and 222.
86. A. Boute, 'The Principle of Solidarity and the Geopolitics of Energy: Poland v. Commission (OPAL Pipeline)', 57 *Common Market Law Review* (2020), p. 889.
87. K. Huhta, 70(4) *International and Comparative Law Quarterly* (2021).
88. In relation to the EU, see C. Dupont, *Climate Policy Integration into EU Energy Policy: Progress and Prospects*, p. 13–23; K. Kern, 'Cities as leaders in EU multilevel climate governance: embedded upscaling of local experiments in Europe', 28 *Environmental Politics* (2019), p. 125, 125–127; ; S. Romppanen, 'The Role of Subnational Authorities'

exploring for and supplying energy can never be dispensed with.[89] Energy trade and investment are nowadays profoundly international and the externalities of global energy activities make energy sector governance a global issue.[90] Similarly, climate law and, in particular, the actions needed to comply with international climate commitments undeniably require deep political commitment on national and local levels.[91] Furthermore, the EU has assumed a role as a leading global actor in both policy areas, but especially in the field of climate law.[92] The EU has actively engaged with the strategy of 'leading by example' in international climate policy for decades. While perceptions of its leadership have varied over the years,[93] it is clear that the EU's pronounced climate actorship and presence in international fora have strongly shaped its internal legal efforts on climate change.[94]

However, these nuances do not change the basic structural setting that underlines EU climate and energy law: energy is predominantly driven by national and climate by global pressures. National preferences in energy law and international political compromises in climate law are factors that impact on the EU's legal instruments and approaches.[95] Consequently, in order for EU climate law initiatives to succeed, EU climate law scholarship must understand and take into account the national interests underlying energy law, including energy security and the protection of national economies. These issues are reflected in the recent European Climate Law for example,[96] and should also be acknowledged in legal scholarship.

2. Energy law has many objectives while climate law is more clearly guided by one. EU climate and energy law also differ in their approaches to legal objectives: climate law has a clearer single goal of combating anthropogenic global warming[97] while energy law is characterized by a plurality

Climate Action in Transition to Zero Carbon Societies' in G. Wood, et al. (eds), *The Palgrave Handbook on Zero Carbon Energy Systems and Energy Transitions* (Palgrave Macmillan, 2022), p. 1.

89. A. Boute, 57 *Common Market Law Review* (2020); A. Goldthau and J.M. Witte, *Global Energy Governance: The New Rules of the Game* (Brookings Institution Press, 2010), p. 2.
90. R.J. Heffron and K. Talus, 9 *Journal of World Energy Law & Business* (2016), p. 11; R. Lyster and A. Bradbrook, *Energy Law and the Environment*; A. Cherp, J. Jewell and A. Goldthau, 2 *Global Policy* (2011), p. 76; C. Verburg, 'On Energy Law and Cross-Border Energy Investments: Is International Energy Investment Law a Distinct Subset of Law?' in R. Fleming and others (eds), *A Force of Energy: Essays in Energy Law in Honour of Professor Martha Roggenkamp* (University of Groningen Press, 2022).
91. C. Dupont, *Climate Policy Integration into EU Energy Policy: Progress and Prospects*, p. 48–54.
92. European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank, A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy, COM(2015) 80 final, p. 6–7.
93. See, e.g., K. Kulovesi, 'Climate Change in the EU's External Relations: Please Follow My Example or I Might Force You To', in E. Morgera (ed.), *The External Environmental Policy of the European Union: EU and International Law Perspectives* (Cambridge University Press, 2012), p. 115; T. Rayner and A. Jordan, 'The European Union: The Polycentric Climate Policy Leader?', 4 *WIRES Climate Change* (2013), p. 75; E. Brosset and S. Maljean-Dubois, in M. Peeters and M. Eliantonio (eds), *Research Handbook on EU Environmental Law*, p. 417; R.K.W.Wurzel, J. Liefferink and D. Connelly, in R.K.W. Wurzel, J. Liefferink and D. Connelly (eds), *The European Union in International Climate Change Politics: Still Taking a Lead?*, p. 3–16; S. Oberthür and C. Roche Kelly, 43 *The International Spectator* (2008), p. 36–37.
94. Article 191(1) TFEU on the EU's environmental objectives ties combating climate change to measures at international level, giving the EU a clear internal mandate for a progressive international climate policy.
95. S.R. Schubert, J. Pollak and M. Kreutler, *Energy Policy of the European Union* (Palgrave MacMillan, 2016), p. 1–2.
96. e.g. Article 4(5) of the European Climate Law.
97. Article 191(1) TFEU.

of goals. This, again, is a simplification of the nuances involved, but is a justified observation for reasons discussed below.

It is well established that energy law is driven by various potentially conflicting objectives,[98] which, in EU law, are set out in Article 194(1) TFEU. In energy law scholarship, these conflicting interests are referred to as the 'energy trilemma': the balancing of competitiveness, security and environmental interests in the energy sector.[99] This amounts to a conceptualization of the means by which to ensure the uninterrupted availability of affordable energy to citizens and industry while protecting the environment. In practice, the plurality of goals means that choices made in energy law and policy contexts must balance these mutually competing interests against each other.[100] For instance, heavy reliance on indigenous coal resources can be a useful energy policy in terms of ensuring affordable and secure energy, while being detrimental to the environment and the climate. There is no standard mechanism by which to balance these objectives,[101] nor does EU law prioritize one objective over the others. Instead, all EU legal instruments on energy entail ad hoc balancing of competing interests. The Commission's legislative initiatives have 'rested on the linking of differently valued issues between DG Energy and DG Environment',[102] whereas 'DG Environment favoured a stringent climate policy'[103] and 'DG Energy was more concerned with energy security'.[104]

In contrast, climate law is geared towards achieving a single yet multidimensional goal: tackling anthropogenic global warming. This is reflected through EU Treaty provisions that establish combating climate change as one of the objectives of EU environmental law[105] and require that climate change considerations are integrated into other EU policies.[106] The multidimensionality of climate law's objective is also present in secondary law instruments: for instance, the EU emissions trading system, which has one primary goal, namely the reduction of GHGs, and multiple secondary goals, including cost-effectiveness and technological (low-carbon) innovation.[107] Although the central objective of tackling global warming operates among environmental objectives, it has a distinct, prominent and dynamic scope. The objective of combating climate change affects a diverse group of interests and actors that are addressed through different fields of EU law. Therefore, the divergence between EU climate and energy law is much more nuanced in practice.[108]

The singularity versus plurality of objectives in EU climate and energy law respectively has profound implications for the mindset of both legal disciplines. Climate law instruments aim to facilitate achievement of the overarching goal of tackling anthropogenic global warming, while, in the

98. R.J. Heffron and K. Talus, 9 *Journal of World Energy Law & Business* (2016), p. 1 and 4; R. Heffron, D. McCauley and B. Sovacool, 'Resolving Society's Energy Trilemma Through the Energy Justice Metric', 87 *Energy Policy* (2015), p. 168–176.
99. R.C. Fleming, 'The Energy Trilemma', in M. Roggenkamp, K.J. de Graaf and R.C. Fleming (eds), *Energy Law, Climate Change and the Environment* (Edward Elgar, 2021), p. 31, 31–33.
100. S.R. Schubert, J. Pollak and M. Kreutler, *Energy Policy of the European Union*, p. 12.
101. R.J. Heffron and K. Talus, 9 *Journal of World Energy Law & Business* (2016), p. 4–5.
102. J.B. Skjærseth, 16 *International Environmental Agreements* (2016), p. 515.
103. Ibid.
104. Ibid.
105. Article 191(1) TFEU.
106. Article 11 TFEU. See also K. Kulovesi, E. Morgera and M. Muñoz, 43 *Common Market Law Review* (2011), p. 834.
107. See, for instance, E. Woerdman, 'EU Emissions Trading System', in E. Woerdman, M.M. Roggenkamp and M. Holwerda (eds), *Essential EU Climate Law* (Edward Elgar, 2021), p. 44–73.
108. C. Hilson, 'Hitting the Target? Analysing the Use of Targets in Climate Law', 32 *Journal of Environmental Law* (2020), p. 195.

energy law context, climate considerations are one of three objectives that compete with one another on an equal basis. Consequently, energy law sometimes seems conservative and resistant to legal responses in climate law, while climate law finds common cause with energy law's sustainability objective but focuses less on the need to ensure energy security and competitiveness.

3. Climate law is more mature as a legal discipline than energy law. Partly owing to the mounting effects of global warming and the urgency of developing legal responses to climate change, understanding of climate law as an independent legal discipline has advanced relatively swiftly since the development of the first regulatory responses. There is no full scholarly agreement on climate law's exact properties as a legal discipline as views on it vary[109] – its disciplinary boundaries are 'unquestionably porous'.[110] Nevertheless, the scholarly discourse moulding and informing our perception of climate law has been vibrant for a couple of decades already.[111] Therefore, climate law's disciplinary characteristics (i.e., key concepts, principles and objectives) can be identified to the extent that we perceive it as a distinct legal discipline.

The same cannot be said in the context of energy law, which some prominent energy law scholars still consider to be a relatively new area of law, despite its extensive legislative history.[112] While climate scholarship has gradually matured and been shaped through active scholarly debate, energy law has not 'evaluated itself' or 'grown theoretically' through established academic literature.[113] The issue is debated, but it may be that the perceived maturity of EU climate law, as compared to energy law, stems from the proximity of its developmental paths to, and its constitutional connections with, EU environmental law, which has a longer tradition of legal scholarship relating to the theoretical foundations of the discipline.[114] Although energy law scholarship has not yet exhaustively mapped its characteristics as a legal discipline compared to that of climate law, debate on this issue is emerging within the energy law community.[115] These emerging

109. Some think that climate law is 'a full-fledged discipline'. See B. Mayer, *The International Law on Climate Change* (Cambridge University Press, 2018), p. xiii–xiv, and M. Peeters, 9 *Climate Law* (2019), p. 137–139. Others take a different, more cautious view by stating that climate law is not 'a discrete body of law', but 'sits squarely' within other relevant fields of law. D. Bodansky, J. Brunnée and R. Rajamani, *International Climate Change Law*, p. 11. See also, e.g., J. Peel, 32 *Melbourne University Law Review* (2012), p. 923; K. Kulovesi, in E. Hollo, K. Kulovesi and M. Mehling (eds), *Climate Change and the Law*, p. 32–33; J.B. Ruhl and J. Salzman, 'Climate Change Meets the Law of the Horse', 62 *Duke Law Journal* (2013), p. 975, 1013.

110. M. Mehling et al., 32 *Journal of Environmental Law* (2020), p. 418.

111. See, e.g., R.B. Mitchell, 8 *Climate Law* (2018), p. 135; B. Mayer, 8 *Climate Law* (2018), p. 151–152; D. French and L. Rajamani, 25 *Journal of Environmental Law* (2013), p. 460; M. Faure and J. Liu, 8 *Climate Law* (2018), p. 168.

112. R.J. Heffron and K. Talus, 9 *Journal of World Energy Law & Business* (2016), p. 2.

113. R.J. Heffron et al., p. 11 *Journal of World Energy Law & Business* (2018), p. 35.

114. C. Carlarne, K. Gray and R. Tarasofsky, 'International Climate Change Law: Mapping The Field', in C. Carlarne, K. Gray and R. Tarasofsky (eds), *The Oxford Handbook of International Climate Change Law* (Oxford University Press, 2017), p. 1, 7; J. Peel, 32 *Melbourne University Law Review* (2012), p. 978. See also, e.g., C. Hilson, 'It's All About Climate Change, Stupid! Exploring the Relationship Between Environmental Law and Climate Law', 25 *Journal of Environmental Law* (2013), p. 359, 360; C. Dupont, *Climate Policy Integration into EU Energy Policy: Progress and Prospects*, p. 32–36; L. Fisher et al., 21 *Journal of Environmental Law* (2009), p. 213.

115. Early on T. Daintith, 'Editorial: Laszlo Gombos and the Construction of Energy Law: A Valediction', 10 *Journal of Energy and Natural Resources Law* (1992), p. 319 and A. Bradbrook, 14(2) *Journal of Energy and Natural Resources Law* (1996), and since then e.g. T. Daintith, 'A Mirror of Change? The Journal and the Development of Energy Law' (2012) 30(4) *Journal of Energy & Natural Resources Law* 469; R.J. Heffron and K. Talus, 9 *Journal of World Energy Law & Business* (2016), p. 2; K. Huhta, 39 *Journal of Energy and Natural Resources Law* (2021), p. 199–200;

debates promote views, inter alia, on the principles,[116] properties[117] and theoretical dimensions[118] of energy law.

As shown by the preceding analysis, the normative foundations and evolution of climate and energy law converge. Each has benefited from normative developments elsewhere[119] and, as dynamic fields of modern EU law, this process is likely to continue. EU energy law scholarship could, for example, look to the debates of climate law to ascertain what has shaped it as a legal discipline. Disciplinary convergence[120] between the two fields is one of the most interesting aspects of this mutual learning process.

5. Towards disciplinary convergence: Concluding thoughts

To highlight the divergence in legal thinking in EU climate and energy law respectively, this article began with a simple question: why do climate and energy law scholars have such different perceptions of the level of ambition of EU climate and energy law? The divergence in legal thinking was also uppermost in our minds while writing this article. We ceaselessly sought out shared language that could capture the essence of both climate and energy law rather than that of one or the other exclusively. Our debates on the shared characteristic attributes of climate and energy law formed the framework for the arguments advanced in this article. These challenges offered further evidence that there is divergence between these disciplines that we wanted to address in our analysis. This required co-first authorship and a symbiotic process of writing. Such an approach was essential not only because of the choice of writing style, but also because of the nature of our research agenda.

Motivated by the value of bridging contrasting views, the article built gradually towards its argument as to the necessity of exploring and exposing the interrelationship between EU climate and energy law. After dissecting this key argument, the article traced the evolution of EU climate and energy law and showed how the key substantive developments of the two fields are converging increasingly. Building from the origins of these two legal disciplines, the article identified six key attributes that characterize their interface. This exercise was carried out for the purposes advancing shared understanding on and development of disciplinary convergence between climate and energy law. Climate and energy law's central contribution to the European transformative agenda towards a low-carbon society as well as the inherent features of interdisciplinarity and multilevel governance facilitate or even expedite the convergence between the two disciplines. They are shared attributes that unify EU climate and energy law and solidify the interconnections between these two disciplines. In contrast, EU climate and energy law's interactions with international and national pressures, the objectives driving climate and energy law's legislative action and the ways in which the two have positioned themselves as legal disciplines can create friction and differentiation between the disciplines. They are characteristic attributes that separate EU climate and energy law and have the potential to generate conflicts or misconceptions between EU climate and energy law scholars.

M. Roggenkamp, 'Regulating the Energy Chain', in M. Roggenkamp et al. (eds), *Energy Law, Climate Change and the Environment* (Edward Elgar, 2021).

116. See, e.g., cases T-883/16 *Poland v Commission*, EU:T:2019:567 and C-848/19 P *Germany v Poland*, EU:C:2021:598 and A. Boute, 57 *Common Market Law Review* (2020).
117. K. Huhta, 39 *Journal of Energy and Natural Resources Law* (2021), p. 204–209.
118. R.J. Heffron and K. Talus, 9 *Journal of World Energy Law & Business* (2016), p. 2.
119. D. French and L. Rajamani, 25 *Journal of Environmental Law* (2013), p. 439; K. Huhta, 39 *Journal of Energy and Natural Resources Law* (2021), p. 206.
120. J. Peel, 32 *Melbourne University Law Review* (2012), p. 974.

In our view, recognizing these characteristic attributes and voicing our differences – even exposing our blind spots – is the way to enhance disciplinary convergence between EU climate and energy law. We believe that our observations better equip energy and climate law scholars to advance a mutual and shared understanding between the two disciplines. We call for critical legal scholarship that acknowledges these attributes and enables the two disciplines to capture the legal evolution required by the EU's objectives in EU climate and energy law.

We view the shared understanding as contributing to the EU's efforts to fully capture the facilitative potential of these two legal fields. Perspectives and targets promoted by the EU's transformative agenda, such as the climate neutrality target for 2050 and the acceleration of the clean energy transition,[121] demand a thorough alignment of EU policies across all sectors. While EU law's overall contribution is pivotal in turning transformative policies into action, EU climate and energy law specifically perform a key role in prompting the EU's transition to a low-carbon future. This deep interconnection combined with EU law's transformative agenda highlights the need for EU climate and energy law scholars, respectively, to better comprehend each other's conceptual underpinnings at the interface between them. Hence, the heightened role for climate and energy law also extends to *legal scholarship*. Our analysis suggests that while both EU climate and energy law can handle their share of the legal problems emerging from Europe's transformative agenda as autonomous legal disciplines, the pooling of efforts will help us to effectively tackle the challenges that lie ahead.

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121. European Commission, United in delivering the Energy Union and Climate Action – Setting the foundations for a successful clean energy transition, COM(2019) 285 final, p. 1.