ARTICLES

CLIMATE LAW EDUCATION AND ITS PLACE IN CANADIAN LAW SCHOOLS

By

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Canadian law schools have approached climate law through diverse legal curricula. The increased diversity of their course contents and pedagogies showcases not only the range of knowledge, skillset, and attentiveness fostered in classrooms but also the experimental and inconsistent character of climate law teaching. This Article explores what constitutes and should constitute a climate law "education" in Canada by situating the curricular development in the changing climate and legal context. Climate law has made progress and been challenged as an identifiable corpus of climate legislation

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and lawsuits, a coherent normative system, and a specialized professional community. This distinctiveness, with an emerging status, may explain the varied enthusiasm across schools for teaching climate law. Besides keeping up with the field, Canadian law schools should amplify the curricular significance of climate law in support of its improvement, maturation, and transformation. Having a climate law course is a manageable and beneficial arrangement. It avoids teaching the subject in passing and becomes a focal point for pursuing interdisciplinarity and more ambitious curricular experiments, including responding to the potential "climatization" of legal education. This is informed by climate law's content, progress, and relationships with other legal fields and disciplines. Interests and decisions of different stakeholders in legal education further influence climate law's place as a curricular subject.

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I. INTRODUCTION

Climate change has complex and wide-ranging impacts on ecosystems, and social and economic orders. It has a polycentric nature because it is caused by human activities across various jurisdictions and sectors and has multi-scalar and differentiated consequences. There are limitations to our understanding of its future impacts. Alongside its sociopolitical controversies is its legally disruptive force, causing problems that existing legal institutions cannot easily address. A multitude of legal disputes can arise and need adjudication. Case law, regulatory strategy, and legislation require changes and innovations.¹ Given this complexity,

¹ Jacqueline Peel, Climate Change Law: The Emergence of a New Legal Discipline, 32 MELB. U. L. REV. 922, 923–27 (2008); J.B. Ruhl, What Is Climate Change Law?, OXFORD UNIV. PRESS BLOG (Aug. 22, 2015), https://perma.cc/3KMM-74FS; Elizabeth Fisher et al., The Legally Disruptive Nature of Climate Change, 80 MOD. L. REV. 173, 175, 178 (2017).

a wide variety of interests and endeavors have emerged to explain climate law's diverse legalities and practices.

Take "transnational" climate law as an example. It is a broader concept than "international" climate law and captures all climate-related legal norms that have horizontal effects across borders, such as government regulations and private standards.² This transnational approach may cope with the additional scientific complexity of regulating greenhouse gas (GHG) sources that have transboundary and long-term effects.³ Research shows that pluralist transnational or polycentric perspectives,⁴ which depart from state-driven legal processes,⁵ can significantly engage non-state actors and increase flexibility and opportunities for policy and legal experimentation.⁶ On the other hand, discerning and recognizing the legal relevance and contribution of the multiplicity of soft law and private sector initiatives, while "avoiding becoming overtly descriptive and losing the normative focus," has brought unprecedented theoretical and methodological challenges to climate law studies.⁷

² See, e.g., Gregory Shaffer & Daniel Bodansky, *Transnationalism, Unilateralism and International Law*, 1 TRANSNAT'L ENV'T L. 31, 31–32 (2012) (making the argument about the relationship between transnational and international environmental law); Natasha Affolder, *Transnational Climate Law, in* THE OXFORD HANDBOOK OF TRANSNATIONAL LAW 248–49 (Peer Zumbansen ed., 2021) ("Transnational law represents one attempt to find a vocabulary, and a space, for acknowledging the misalignment between the singularity of the nation-state/interstate framework that underlies much legal theory and the messy realty of the people, places, and forms of law that climate lawmaking brings into view."). *But see* DANIEL BODANSKY ET AL., INTERNATIONAL CLIMATE CHANGE LAW 10–11 (2017) (considering how a broader concept of international climate law includes "regulations, policies, and institutions at the regional, national, and sub-national levels").

³ Michael Faure & Jing Liu, *Urgently Needed: Climate Lawyers*, 8 CLIMATE L. 161, 164–65 (2018).

⁴ See, e.g., Elizabeth Fisher, *The Rise of Transnational Environmental Law and the Expertise of Environmental Lawyers*, 1 TRANSNAT'L ENV'T L. 43, 49 (2012) (suggesting that the rise of transnational environmental law requires environmental lawyers to engage in "extended legal pluralism" which means a "range of different legal and quasi-legal norms that can operate in transnational environmental law").

 $^{^5}$ *Id.* at 47 (implying transnational environmental law is inherently "non-statist" while acknowledging that some state action will always be present because the state "looms large in environmental law").

⁶ For more about flexibility and experimentation in transnational environmental and climate law, see Sébastien Jodoin et al., *Vice or Virtue? Flexibility in Transnational Environmental Law, in* RESEARCH HANDBOOK OF TRANSNATIONAL ENVIRONMENTAL LAW 284 (Veerle Heyvaert & Leslie-Anne Duvic-Paoli eds., 2020), and Harro van Asselt, *Between the Devil and the Deep Blue Sea: Enhancing Flexibility in International Climate Change Law, in* NETHERLANDS YEARBOOK OF INTERNATIONAL LAW 2014 255, 258 (Mónika Ambrus & Ramses A. Wessel eds., 2015).

⁷ Kati Kulovesi, *Exploring the Landscape of Climate Law and Scholarship: Two Emerging Trends, in* CLIMATE CHANGE AND THE LAW 31, 61 (Erkki J. Hollo et al. eds., 2013); *see also* Faure & Liu, *supra* note 3, at 164–65 (arguing that climate change brings greater scientific and regulatory challenges than traditional environmental problems do).

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Law schools occupy a central role in producing knowledge and fostering expertise.⁸ Academics make sense of, communicate, and sustain climate law. Besides influencing this field with their scholarship, law schools and academics teach and mentor students who will shape the future development of climate law.⁹ A growing body of literature reflects on climate law teaching, including its status worldwide and in individual schools.¹⁰ This Article aims to enrich these reflections by focusing on Canada, providing a case study of where climate law can belong in a specific jurisdiction's legal education. The reasons for choosing Canada are threefold. First, Canada's experience has been overlooked,¹¹ even though some Canadian law schools were among the earliest to teach climate law.¹² Second, recent years have seen a significant increase in climate law course offerings (whose central theme is climate change). Among Canada's twenty-four law schools, only Dalhousie University (Dalhousie), Université Laval (Laval), and the University of Toronto provided semester-long courses in the 2018-19 academic year.¹³ In the following year, a first-year thematic course, Climate Change and Legal

⁹ See ANTHEA ROBERTS, IS INTERNATIONAL LAW INTERNATIONAL? 28 (2017) (discussing the role and influence of international law academics).

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⁸ YVES DEZALAY & BRYANT G. GARTH, THE INTERNATIONALIZATION OF PALACE WARS: LAWYERS, ECONOMISTS, AND THE CONTEST TO TRANSFORM LATIN AMERICAN STATES 4–6 (2002) (discussing the role that law faculties have in shaping the knowledge of students and reforming legal education).

¹⁰ See, e.g., Michael Mehling et al., *Teaching Climate Law: Trends, Methods and Outlook*, 32 J. ENV'T L. 417, 419 (2020) (reviewing the teaching of climate law worldwide); Tracy Bach, *Minding the Gap: Teaching International Climate Change Law Through Service Learning*, 18 VT. J. ENV'T L. 173, 175 (2016) (analyzing an international climate law course at Vermont Law School that has an experiential component).

 $^{^{11}}$ My research fills a knowledge gap in the study by Mehling et al., supra note 10, 420–27 (reviewing climate law education worldwide but with little experience from, or reference to, Canada).

¹² See, e.g., OFF. OF STUDENT SERVS., OSGOODE SYLLABUS OF COURSES AND SEMINARS: 2008–2009 48 (2008), https://perma.cc/Z3HF-LPUG (listing Benjamin J. Richardson and Stepan Wood's Climate Change Law seminar among the courses offered at Osgoode Hall Law School of York University in Fall 2008) and Meinhard Doelle, Course Syllabus for Environmental Law II at Dalhousie University Schulich School of Law 2–3 (2009), https://perma.cc/7MF6-DWKW (showing Climate Change as the focus of the course); see also DEBATING CLIMATE LAW 2 (Benoit Mayer & Alexander Zahar eds., 2021) (locating the world's first climate law courses that were offered around 2008 but only explicitly referencing the courses offered in Australian universities); *Climate Law Teaching Resources*, IUCN ACAD. OF ENV'T L. (2022), https://perma.cc/32RU-VXN6 (including one course dating back to 2003 from Vermont Law School).

¹³ Jutta Brunnée, Course Syllabus for Climate Change Law at University of Toronto Faculty of Law (2019) (on file with author); *Environmental Law II - Interdisciplinary Perspectives on Climate Change*, DALHOUSIE UNIV. SCHULICH SCH. OF L., https://perma.cc/XZL3-UH6F (last visited Dec. 15, 2022) [hereinafter DALHOUSIE-*Environmental Law II*]; *Droit et Changements Climatiques*, UNIVERSITÉ LAVAL, https://perma.cc/MPB2-4M9D (last visited Dec. 15, 2022) [hereinafter LAVAL-Changements *Climatique*].

Change, was on the curriculum of the University of Ottawa (uOttawa).¹⁴ In 2020–21, the University of Windsor (Windsor) launched a clinical program focused on climate litigation, the University of British Columbia (UBC) introduced an Indigenous Law and Climate Change seminar, and Queen's University (Queen's) added an International Climate Law course.¹⁵ The newest developments came from another five schools in 2021–23.¹⁶ Scholars connect the rise in climate law education to prominent historical events.¹⁷ 2019 marked the start of global movements led by youth and students to demand climate action.¹⁸ As part of those movements, law students expect no less of their schools than to create and improve relevant curricula. Third, my learning experiences at two Canadian schools, which approached climate law very differently, help to connect the patchwork of phenomena and stories from fragmented

¹⁴ It is worth noting that this course has appeared on the curriculum since 2010 except for a few years including the 2018–19 academic year. Email from Heather McLeod-Kilmurray, Professor, Univ. Ottawa, to author (Feb. 10, 2023) (on file with author). For more about this course, see *First-Year Thematic Course: Climate Change and Legal Change*, UNIV. OF OTTAWA, https://perma.cc/QN2C-3U5A (under Title, select "First-Year Thematic Course - Climate Change and Legal Change;" then select "submit;" then under Class Code, select "CML1105G") (last visited Dec. 15, 2022) [hereinafter UOTTAWA-*Climate Change and Legal Change*]. uOttawa also has a bilingual course, see *Droit et changements climatiques* /Law and Climate Change, UNIV. OF OTTAWA, [hereinafter UOTTAWA-*Droit et changements climatiques/Law and Climate Change*], https://perma.cc/XJ89-5G29 (under Title, select "Droit et changements climatiques/Law and Climate Change;" then follow similar steps) (last visited Jan. 14, 2023).

¹⁵ Transnational Environmental Law and Policy Clinic, UNIV. OF WINDSOR, https://perma.cc/9YAM-MAK9 (last visited Dec. 15, 2022); Robert Clifford, Course Description of Topics in First Nations Law: Indigenous Law and Climate Change, in UNIV. OF BRITISH COLUMBIA PETER A. ALLARD SCH. OF L. 2020–2021 COURSE DESCRIPTIONS 23 (2020) (on file with author); International Climate Law, QUEEN'S UNIV. [hereinafter QUEEN'S International Climate Law], https://perma.cc/U9ZK-BDE5 (last visited Dec. 15, 2022).

¹⁶ Adebayo Majekolagbe, Climate Change Law. UNIV. OF ALBERTA. https://perma.cc/D8WQ-SGLG (last visited Jan. 20, 2023); Jason MacLean, Course Description of Global Climate Change Law & Governance, in UNIV. OF NEW BRUNSWICK SUPPLEMENTAL COURSE INFO. 2022/2023 1 (2022) (on file with author); Sharon Mascher, Course Description of Climate Change Law, in UNIV. OF CALGARY FACULTY OF L. INSTRUCTOR COURSE DESCRIPTIONS 2022-2023 48-49 (2022) (on file with author); Charis Kamphuis, Course Description of Climate Change and the Law, in THOMPSON RIVERS UNIV. FACULTY OF L. ELECTIVES AND ELECTED MANDATORY COURSES WINTER 2022 2 (2021) (on file with author); Chris Tollefson et al., Course Description of Climate Litigation Workshop, in UNIV. OF VICTORIA FACULTY OF L. 2022-2023 COURSE REGISTRATION - PRELIMINARY COURSE INFO (2022) (on file with author); Marie-Claire Cordonier Segger & Markus Gehring, Course Description of International Law, Governance and Climate Change, in UNIV. OF VICTORIA FACULTY OF L. SUMMER 2021 COURSE REGISTRATION - PRELIMINARY COURSE INFO. (2021) (on file with author).

 $^{^{17}}$ See Mehling et al., supra note 10, at 428–29 (arguing that there has been a correlation between the emergence of climate law education resources and the events "elevat[ing] the issue of climate change in broader public consciousness").

¹⁸ Somini Sengupta, Protesting Climate Change, Young People Take to Streets in a Global Strike, N.Y. TIMES (Sept. 21, 2019), https://perma.cc/5AUR-89PS.

teaching resources.¹⁹ This contribution emphasizes students' perspectives on learning climate law and differs from the existing literature that predominantly concentrates on teachers' experiences.²⁰

This Article provides an analysis of climate law's place in Canadian legal education by connecting climate law's curricular development to its emergence as a legal field. Part II first presents the current range of ways Canadian law schools introduce climate law to classrooms. There is increased diversity and experimentation in course structures, substances, and approaches. For most law schools, however, climate law teaching is sporadic and insignificant. This synopsis enables a realistic understanding of how climate law is studied and practiced in Canada and informs manageable curricular changes.

Part III adopts a descriptive account of climate law, highlighting its accomplishments and examining the challenges it faces as a corpus of climate laws, a normative system, and a professional community. Climate law's distinctiveness, which is an emerging status, may explain both the enthusiasm and the reluctance to secure its space in legal education. I argue that Canadian law schools should make climate law more visible and significant. Although keeping up with the field is important, they can also support its improvement, maturation, and transformation.

Part IV further examines climate law's disciplinary and curricular relationships with other fields of legal study and practice. I describe the potential "climatization" phenomenon in legal education. Using climate law's distance from and connection with environmental law as an example, I demonstrate the challenges of managing this relationship in class. Having a climate law course is straightforward and beneficial. This arrangement can be a focal point for fostering expertise and attentiveness in tackling the legal disruption of climate change, while not preventing more ambitious curricular experiments.

Since climate law interacts with other systems of knowledge, Part V addresses the need and pathway for a climate law course to facilitate interdisciplinary teaching and learning. It additionally explores how this kind of course contributes to knowledge production in the field of climate change. A conclusion follows to reflect on key takeaways and outstanding questions for future research.

The recent state of Canada's climate law education is assessed based on course offerings during the 2018–23 academic years found on the web pages of twenty-four Canadian law schools (as of January 2023).²¹ Their

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 $^{^{19}}$ At the University of Toronto, I was enrolled in the Climate Change Law, Environmental Law, and International Environmental Law courses. By contrast, McGill University did not offer a climate law course regularly but included climate issues in environment- and sustainability-related courses. For some of the course syllabi, see *infra* note 23.

²⁰ See, e.g., Mehling et al., *supra* note 10, at 419, 428 and Bach, *supra* note 10, at 175–76 (both focusing on a teaching perspective instead of the student experience).

²¹ The climate law courses I refer to are the courses with a central theme on climate change. My online search included the courses with the appearance of the words "climate,"

course lists and descriptions merit studying because they are publicly available and provide information on general curricular development and on a specific course (e.g., its content, teaching and learning format, evaluation methods).²² Most schools do not make their syllabi accessible to the public; I obtained some syllabi through an online search, and some through my personal network.²³ My analysis reviews select climate law and scholarship, including climate law-related textbooks and teaching materials in and beyond Canada.²⁴ The data accounts for the development

 $^{22}\,$ I reviewed the course descriptions of all the climate law courses shown in supra note 21.

²⁴ For the textbooks, see DENNIS MAHONY, THE LAW OF CLIMATE CHANGE IN CANADA (2010); MEINHARD DOELLE & CHRIS TOLLEFSON, ENVIRONMENTAL LAW: CASES AND MATERIALS chs. 1, 10 (3d ed. 2019); WILLIAM A. TILLEMAN ET AL., ENVIRONMENTAL LAW AND POLICY ch. 6 (4th ed. 2020); JAMIE BENIDICKSON, ENVIRONMENTAL LAW ch. 18 (5th ed. 2019). For the teaching materials, see *Climate Law Teaching Resources*, *supra* note 12 (listing some sixty syllabi whose central theme is climate law).

[&]quot;climate change," "climate law," or "climate change law" in the course titles or the courses with a substantial presentation of climate change and related concepts in the course descriptions. To my best knowledge based on the online search results, the schools offering semester-long climate law courses in their degree programs during 2018–23 included: Dalhousie (2019, 2020, 2021, 2022), Laval (2019, 2020, 2021, 2023), uOttawa (2020, 2021, 2022, 2023), the University of Toronto (2019, 2022), the University of Calgary (2021, 2022), the University of Victoria (2021, 2023), the University of Alberta (2023), the University of New Brunswick (2023), Thompson Rivers University (2022), and UBC (2020). Windsor's course spanned two semesters in 2020–21 and 2021–22. Queen's had a six-class-long course in 2021, 2022, and 2023. McGill had a five-class-long course in 2018. For more about these courses, see footnotes 13–16. Future researchers would benefit from conducting interviews with climate law teachers in Canada to fill the gaps in online research.

²³ Reviewing detailed course syllabi complemented that of general course descriptions and provided a more complete picture of how a course was taught. The climate law syllabi reviewed in this Article included Dennis Mahony & John Terry, Course Syllabus for Climate Change Law at University of Toronto Faculty of Law (2016) (on file with author); Brunnée, supra note 13; Lisa Benjamin, Course Syllabus for Environmental Law II - Interdisciplinary Perspectives on Climate Change at Dalhousie University Schulich School of Law (2019) (on file with author); Doelle, supra note 12; Joanna Dafoe, Course Syllabus for International Climate Law at Queen's University Faculty of Law (2021) (on file with author); Benjamin J. Richardson, Course Syllabus for International Climate Law at Queen's University Faculty of Law (2022) (on file with author); John Haffner & Richard Janda, Course Syllabus for The Climate Crisis and Energy Pathways in Canada at McGill University (2018) (on file with author); OFF. OF STUDENT SERVS., OSGOODE SYLLABUS OF COURSES AND SEMINARS: 2017-2018 96 (2017), https://perma.cc/manage/create (listing Sarah Mason-Case's Climate Change Law seminar among the courses offered at Osgoode Hall Law School of York University in Winter 2018). I also reviewed some environmental law and international environmental law syllabi to study their relationships to climate law: Andrew Green, Course Syllabus for Environmental Law at University of Toronto Faculty of Law (2014) (on file with author); Jocelyn Stacey, Course Syllabus for Environmental Law at University of British Columbia Peter A. Allard School of Law (2017) [hereinafter Stacey, Syllabus 2017] (on file with author); Jocelyn Stacey, Course Syllabus for Environmental Law at University of British Columbia Peter A. Allard School of Law (2021) [hereinafter Stacey, Syllabus 2021] (on file with author); Sara Seck, Course Syllabus for Environmental Law I at Dalhousie University Schulich School of Law (2018) (on file with author); Jason MacLean, Course Syllabus for Environmental Law at University of Saskatchewan College of Law (2019) (on file with author); Sébastien Jodoin, Course Syllabus for International Environmental Law & Politics at McGill University Faculty of Law (2019) (on file with author).

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of climate law education in Canada prior to 2018. That said, the schools and data reviewed might not tell the whole story. I use them as illustrative examples to offer a preliminary reflection on what constitutes, and should constitute, a climate law "education" in Canada. This Article can be a backgrounder for those who study climate law, and for those who do not. It can also be a catalyst for sustained reflections on why and how to teach climate law; support for future endeavors in gathering more concrete data on the connection between learning and practicing climate law; and an inspiration for improving and reforming curricular design in this area.

II. THE DIVERSITY OF CLIMATE LAW EDUCATION

This Part provides a cursory review of the diverse ways Canadian law schools engage and experiment with climate law. Reviewing the knowledge, skillset, and attentiveness fostered in classrooms as well as the character and place of climate law education in Canada supports further inquiry into ways for legal curricula to evolve in rapidly changing climate and legal context, and why this evolution is necessary.

A. The Content of Teaching and Learning

Teachings in courses with a comprehensive account of climate law closely relate to the rapid development and scale of climate law, scholarship, and practice.²⁵ The classes often first introduce the scientific aspect of climate change, occasionally followed by an examination of associated political, economic, and ethical debates.²⁶ The introductory session is followed by an overview of the international climate regime, featuring key treaties and negotiations.²⁷ Climate law is also explained from a comparative perspective or the perspectives of national and local contexts where a course is offered.²⁸ Once general legal frameworks are provided, options for what to teach next are flexible and diverse. Topics could vary from regulatory instruments and sectoral policies to an indepth study of climate mitigation, adaptation, litigation, and climate justice.²⁹

Some curricular arrangements focus on a specific aspect of climate law or on certain geographic contexts. Windsor experimented with a

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 $^{^{25}}$ For such courses, see the courses with the title "Climate Change Law," "Droit et Changements Climatiques/Law and Climate Change," or "Climate Change and the Law" referenced in supra notes 13–14, 16.

²⁶ Brunnée, supra note 13, at 3; UOTTAWA-Droit et changements climatiques/Law and Climate Change, supra note 14; Mascher, supra note 16, at 48.

²⁷ Brunnée, supra note 13, at 4; UOTTAWA-Droit et changements climatiques/Law and Climate Change, supra note 14; Mascher, supra note 16, at 48.

²⁸ Brunnée, supra note 13, at 6; UOTTAWA-Droit et changements climatiques/Law and Climate Change, supra note 14; Mascher, supra note 16, at 48.

 $^{^{29}}$ The topics chosen by these Canadian schools are similar to those taught elsewhere. See, e.g., Mehling et al., supra note 10, at 430.

Climate Litigation and Policy Clinical Project through its Transnational Environmental Law and Policy Clinic;30 in the clinic, students investigated climate litigation across jurisdictions.³¹ Since the unique causes and effects of climate change intensify the procedural and evidentiary barriers to litigation, students examined both successful and unsuccessful claims and explored new arguments and policy approaches.³² Through the clinic, students learned the basics of climate litigation from the pleadings and decisions of select climate lawsuits in an immersive and closely-supervised space.³³ The basics included the science-policy interface; the various causes of action; the key substance of arguments in recent cases; the obstacles to successful pro-climate litigation; the potential policy and legal reforms; and the pathways to realizing those reforms.³⁴ McGill University's (McGill) Climate Crisis and Energy Pathways class used a Canadian legal context to examine the climate and energy economy, encouraging students to formulate constructive solutions to deep decarbonization.³⁵ Queen's dedicated a course to international climate law, including contours and features of the law, and looked at how the United Nations Framework Convention on Climate Change (UNFCCC) manages climate change, and the opportunities for its reform.³⁶

All the course offerings give prominence to the role of law or lawyers, but with different emphases. One emphasis is oriented to doctrine, and centers around governance and regulatory frameworks. Students learn about multi-level and multi-dimensional legal responses to climate change. Topics can either be based on customary and treaty law, or based on the sub-fields of international law that implicate climate change. They can also feature Canada's constitutional framework, policy instrument choices, and regional climate law and governance.³⁷ Another approach emphasizes climate law's relationships with other knowledge systems. Dalhousie directly described its course as "Interdisciplinary Perspectives on Climate Change."³⁸ There, climate change served as a case study to help students identify the role of law in tackling the global environmental challenge along with other disciplines like the sciences and economics.³⁹

³⁰ Transnational Environmental Law and Policy Clinic, supra note 15. Recently, the University of Victoria also started a climate litigation course. See Tollefson et al., supra note 16.

³¹ Transnational Environmental Law and Policy Clinic, supra note 15.

 $^{^{32}}$ Id.

³³ Id.

 $^{^{34}}$ Id.

³⁵ Haffner & Janda, *supra* note 23.

³⁶ QUEEN'S International Climate Law, supra note 15. Another course focusing on climate change and international law was that of Segger & Gehring, supra note 16.

³⁷ See, e.g., Brunnée, supra note 13, at 1; LAVAL-Changements Climatique, supra note 13; QUEEN'S International Climate Law, supra note 15.

³⁸ DALHOUSIE-Environmental Law II, supra note 13.

 $^{^{39}}$ Id.

course invited students to ponder the legal system's place among multiple disciplines responding to a changing climate.⁴⁰ This course prioritized understanding the strengths and weaknesses of law in general to solve complex social problems. By assessing the law's interaction and reconciliation with other disciplines and tools, students can explore and create novel approaches to tackling new kinds of problems.⁴¹

B. Pedagogical Approaches and Experiments

Lecture and structured discussion are the most common climate law teaching methods.⁴² A workshop or seminar format explores as many topics as possible. Each class begins with presentations from the instructor (and guest speakers in some cases), followed by discussions and classroom exercises.43 Courses have also seen an increase in the use of pedagogies involving collaborative interactive problem-solving activities.44 In McGill's classroom, students formed different country delegations to simulate international climate negotiations, accompanied by an after-class essay reflecting on their participation experience, the negotiating dynamics, and the prospects and challenges for effective and equitable solutions to climate change.⁴⁵ Windsor certainly made a curricular innovation via its clinical project. It was distinguishable from other climate law courses for its unique doctrinal and theoretical content and its emphasis on clinical experience.⁴⁶ Students participated in litigation projects, such as briefing ongoing and potential cases worldwide, consulting vulnerable communities, organizing educational activities for young people, and connecting with counsel for prominent cases and experts on human rights and the environment.⁴⁷ They also disseminated knowledge relating to legal, regulatory, and institutional

⁴⁰ UOTTAWA-Climate Change and Legal Change, supra note 14.

 $^{^{41}}$ Id.

⁴² See generally Brunnée, supra note 13, at 2 (adopting a workshop format with lecture and class discussion); UOTTAWA-Climate Change and Legal Change, supra note 14 (encouraging discussion and debate in this seminar course); QUEEN'S International Climate Law, supra note 15 (showing lecture as a key component of this course).

⁴³ Brunnée, *supra* note 13, at 2; UOTTAWA-Climate Change and Legal Change, *supra* note 14; Dafoe, *supra* note 23, at 2–6. Each of these courses featured guest speakers and classroom discussion as main components of the course format.

⁴⁴ See Ling Chen et al., *Teaching and Learning International Climate Change Law, in* TEACHING INTERNATIONAL LAW (Jean-Pierre Gauci & Barrie Sander eds., forthcoming 2023) (manuscript at 5) (on file with author); Jodoin, *supra* note 23, at 2 (showing "problem-based" learning was a main component of this course).

 $^{^{45}}$ Jodoin, supra note 23, at 1–2, 4; see also Dafoe, supra note 23, at 3 (holding a Paris Agreement simulation exercise at Queen's). For more analysis of the simulation exercise, see Chen et al., supra note 44, at 5–6.

⁴⁶ 2021-2022 Course Descriptions & Evaluation Methodology, WINDSOR L. 37–39 (Sept. 7, 2021) [hereinafter WINDSOR Environmental Law Clinic], https://perma.cc/BB5A-4GFD.

⁴⁷ *Id.*; see also Bernise Carolino, *Windsor Law Receives \$125,000 to Help Rally Youth in the Fight Against Climate Change*, L. TIMES (Mar. 9, 2020), https://perma.cc/J65W-RGMF (discussing the funds that the clinic received from Climate Action Fund to help advance youth led climate action in Ontario).

reforms identified by the International Bar Association's Climate Change Model Statute.⁴⁸

Assessment of students' learning usually involves evaluating a research paper, the level of active and critical contributions to classroom discussion, and performance in other exercises.⁴⁹ More innovative evaluation methods have appeared; for instance, students at Dalhousie and McGill had the chance to participate in an international Carbon Majors Inquiry student competition in 2019.⁵⁰ Students submitted proposals to the Philippines Human Rights Commission in support of drafting its recommendations on the human rights responsibilities of the world's largest fossil fuel producers.⁵¹ A four-student team from Dalhousie ended up winning the competition.⁵²

To what extent has an interdisciplinary approach to climate law manifested in Canadian legal curricula? The short answer is that it is embryonic and exploratory. The strategies applied include inviting speakers of different backgrounds and diversifying reading materials.⁵³ The University of Toronto invited speakers to nine out of the twelve class sessions.⁵⁴ A physicist led the session on climate science, while a political scientist addressed political and governance issues.⁵⁵ The other speakers were legal scholars and practitioners experienced with various aspects of climate law.⁵⁶ This guest-speaker approach can bring in the expertise of different disciplines and legal fields. Despite this teaching method's ambition for interdisciplinarity, most courses present only a few disciplines (e.g., physics, politics) or a few conventional legal fields (e.g.,

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⁴⁸ WINDSOR Environmental Law Clinic, *supra* note 46, at 39.

⁴⁹ See, e.g., Brunnée, supra note 13, at 2 (showing that 80% of students' grade is based on a research paper, while participation, including contributions to class discussion, counts toward the remaining 20%); DALHOUSIE-Environmental Law II, supra note 13 (grading is split between a "major" paper (70%) and class participation (30%)); UOTTAWA-Climate Change and Legal Change, supra note 14 (showing that course evaluation includes a paper (10% for proposal, 10% for in-class presentation, and 65% for final paper), class participation (5%), and in-class quizzes (10%)).

⁵⁰ Jodoin, *supra* note 23, at 4–5; Benjamin, *supra* note 23, at 1–2.

⁵¹ Jodoin, *supra* note 23, at 4; Benjamin, *supra* note 23, at 1. For more information about the Carbon Majors Inquiry and the student competition, see Roberto Eugenio T. Cadiz, *National Inquiry on Climate Change: What is the NICC*?, ENV'T SCI. FOR SOC. CHANGE, https://perma.cc/TMR8-U2XF (last visited Dec. 17, 2022); *The Carbon Majors Inquiry: Student Competition*, ENV'T SCI. FOR SOC. CHANGE 1, https://perma.cc/Z924-MEYT (last visited Dec. 17, 2022).

⁵² Jane Doucet, Students' Climate Change Law Paper Wins International Writing Contest, DALHOUSIE UNIV. (May 9, 2019), https://perma.cc/S5GK-RSLY.

 $^{^{53}}$ See, e.g., Brunnée, supra note 13, at 2–10 (listing various guest speakers and sources for assigned reading).

 $^{^{54}}$ Id. at 2–9.

⁵⁵ Id. at 3, 10.

⁵⁶ Id. at 10; Ling Chen, Canadian Law Schools Must Do Their Part to Help Combat Climate Change, POL'Y OPTIONS (Feb. 18, 2020), https://perma.cc/FL75-SFRS.

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international law, constitutional law).⁵⁷ Some courses assigned students reading materials across disciplines.⁵⁸ However, most classes and readings were only law-related,⁵⁹ which did not guarantee training on the knowledge and methodology of other disciplines. Climate law courses need planning, designing, and experimenting to realize interdisciplinary teaching, learning, and knowledge production.

The mainstream climate law pedagogy tends to underrepresent the role, voices, and approaches of marginalized peoples, communities, and states, including Indigenous approaches to human-Earth relationships.⁶⁰ Indigenous peoples and local communities constitute a key part of the solutions to climate change, yet only recently have more courses paid attention to Indigenous knowledge and worldviews, and the intersection between climate law and Indigenous laws.⁶¹ Clifford's course at UBC was a unique experiment, delving into the interwoven and reflexive relationship between the theory and methodology of Indigenous law, and the approaches towards tackling climate change.⁶² Drawing on Indigenous law, Indigenous studies, and political ecology, the course critically examined the Anthropocene, colonialism, and the revitalization of Indigenous law, both in Canada and other regions. Throughout the course, discussions revolved around key themes, such as Indigenous and perspectives, capitalism and sovereignty, knowledge the

⁶¹ For the few examples of courses over the years that cover the important role of Indigenous communities and laws in addressing climate change, see OFF. OF STUDENT SERVS., *supra* note 23, at 48, Benjamin, *supra* note 23, at 6, MacLean, *supra* note 60, at 26, 32, and UOTTAWA-*Droit et changements climatiques/Law and Climate Change, supra* note 14. See also Sarah Riley Case, Course Syllabus for Public International Law at McGill University Faculty of Law 1, 10–11 (2022), https://perma.cc/8DXM-CDUE (In this course, the instructor touched on climate reparations and ecological change, "bring[ing] in critical race theory, [TWAIL], Black legal traditions, and Indigenous legal traditions.").

⁶² Clifford, *supra* note 15, at 23.

 $^{^{57}}$ See, e.g., Brunnée, supra note 13, at 10 (listing guest speakers that are mostly lawyers; among the non-lawyers are a physics professor and a political science professor); Dafoe, supra note 23, at 2 (inviting guest speakers that are all lawyers with expertise in international law).

 $^{^{58}}$ See, e.g., Brunnée, supra note 13, at 2–5, 9–10 (displaying economic and scientific reading assignments).

⁵⁹ See, e.g., *id.* at 4–6, 8–10; Benjamin, *supra* note 23, at 6.

⁶⁰ See, e.g., Jason MacLean, Curriculum Design for the Anthropocene: Review of Meinhard Doelle & Chris Tollefson, Environmental Law: Cases and Materials, Third Edition, 16 MCGILL J. SUSTAINABLE DEV. L. 1, 19–20, 23–24 (2020) (noting that the book intended to be used in environmental and climate law courses "ignores the revitalization of unextinguished Indigenous laws, including the intersection of Indigenous laws with environmental and natural resource laws."); see also Sarah Mason-Case & Julia Dehm, Redressing Historical Responsibility for the Unjust Precarities of Climate Change in the Present, in DEBATING CLIMATE L. 170–71 (Benoit Mayer & Alexander Zahar eds., 2021) (showing that industrialized states and corporations of the Global North are responsible for the harm inflicted upon states and peoples in the Global South as a result of their excessive historical emissions. Drawing on critical traditions, including Third World Approaches to International Law (TWAIL) and critical race theories, the authors analyze the inherent contradictions within international legal doctrines that hinder the achievement of full reparations for historical injustices).

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nature/society dichotomy, and the more-than-human world. Adopting a seminar format, the course also incorporated Indigenous pedagogy and experiential learning, providing students with an enriching and holistic learning experience.⁶³

C. Reflection and Imagination

Tracing out the structures, substances, and approaches of climate law courses demonstrates the knowledge and skills students can acquire in classrooms. Given the speed and scale of legal changes and the dynamic nature of climate change, it is uncommon to adopt an encyclopedic approach to the subject and feed students with information that would otherwise be obsolete after their graduation.⁶⁴ Even in a comprehensiveaccount course, teachers usually select climate-specific legal concepts and debates that prepare students to delve into doctrinal, epistemological, and practical issues and develop an acute awareness of the law's unique role in tackling climate change. Teachers also guide students to approach climate law with "a valuable toolkit of research, analysis, writing, communication, and group-work abilities."65 Building on lawyering skills they develop in other courses, students practice communication and collaboration skills (e.g., through interactive and clinical projects), fostering a new skillset that particularly requires synthesizing perspectives and applying methods from other legal fields and disciplines.⁶⁶ The training enables students to accumulate core climate law expertise and foster a sensibility and "determined attentiveness" toward climate change access-to-justice issues.⁶⁷ Taking initiative in the learning process leads students to recognize their individual and professional responsibilities.

The diverse course contents and pedagogies reveal the experimental and inconsistent character of climate law education in Canada. While they cover similar topics and use similar teaching methods, most Canadian law schools do not have curricula that match the level of specialization and innovation seen in foreign schools with specialized or

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 $^{^{63}}$ Id.

⁶⁴ See Elizabeth Fisher et al., Maturity and Methodology: Starting a Debate about Environmental Law Scholarship, 21 J. ENV'T L. 213, 230–31 (2009) (discussing how environmental law academics face challenges with keeping their research and teaching up to date on legal and regulatory changes due to how fast things develop and how much there is to cover); Claude Thomasset & René Laperrière, Faculties under Influence: The Infeudation of Law Schools to the Legal Professions, in THE LAW SCHOOL - GLOBAL ISSUES, LOCAL QUESTIONS 190, 196 (Fiona Cownie ed., 1999).

⁶⁵ Chen, *supra* note 56.

⁶⁶ Mehling et al., *supra* note 10, at 434–36.

⁶⁷ I borrowed the term "determined attentiveness" from Affolder, *supra* note 2, at 248.

postgraduate degree programs,⁶⁸ research centers,⁶⁹ or cutting-edge curricular design.⁷⁰ What I mean by "inconsistent" is that courses are temporary, and do not appear on the curriculum every year.⁷¹ For instance, McGill held a one-week, one-credit workshop on Canada's climate and energy pathways in 2018.⁷² UBC offered the Indigenous Law and Climate Change seminar in 2020 but not in the following years.73 Nearly all courses are "elective" by design and only accessible to a small body of upper-year or graduate students.⁷⁴ One exception is uOttawa, which incorporates climate law in its first-year courses. This design may support climate law's development into a mandatory course.75 What constitutes a good climate law education remains inconclusive; each school has flexibility in curricular design (e.g., influenced by how teachers define and approach climate law, and their understanding of the role of law and lawyers in addressing climate change) and decides whether to offer a cluster of courses, a stand-alone course, or to only add a climate law component in existing courses. As the following will show, mapping out climate law's normative, institutional, and professional developments helps stocktake its content and progress, and posit its relative autonomy from other legal fields and disciplines. This exercise connects the growth of climate law in scholarship, practice, and education, which offers one possible explanation to the varied curricular choices across schools and justifies potential advancements in educational programs.

III. THE EMERGING DISTINCTIVE CLIMATE LAW

A distinctive legal field results when external forces approach law with "profoundly novel subject matter, socioeconomic conditions, and

⁷⁰ See, e.g., Bach, supra note 10, at 175 (describing Vermont Law School's experiential international climate law course).

⁷¹ See supra note 21 (describing when universities offer different courses).

⁷² Haffner & Janda, *supra* note 23; *Current Courses 2018–2019*, MCGILL UNIV. 56, https://perma.cc/W4UK-LH4Y (last visited Dec. 17, 2022).

⁷³ See Clifford, supra note 15 and the course offering information, supra note 21.

 $^{^{68}}$ See Mehling et al., supra note 10, at 421–27, tbls. 1 and 2 (showing no Canadian schools, among the nineteen listed, offer postgraduate climate law programs or specialization).

⁶⁹ For example, the *Climate Change Laws of the World* database is led by the Grantham Research Institute on Climate Change and the Environment at the London School of Economics and Political Science, and the Sabin Center for Climate Change Law at Columbia University. *See About*, CLIMATE CHANGE L. OF THE WORLD, https://perma.cc/GL4K-A3AY (last visited Dec. 17, 2022).

⁷⁴ See, e.g., LAVAL-Changements Climatique, supra note 13 (offering a climate law course only to graduate law students or students in master's or PhD programs); Courses & Requirements, DALHOUSIE UNIV., https://perma.cc/ZQF2-LTS9 (last visited Dec. 17, 2022) (listing Dalhousie's "Interdisciplinary Perspectives on Climate Change" course as an "Upper-Year" course in the law curriculum and not as a "required course"); see also Student Affs. Off., Required and Complementary Courses, MCGILL UNIV., https://perma.cc/UJ8M-NQP2 (last visited Dec. 17, 2022) (describing the elective courses that students can take in addition to required courses).

⁷⁵ UOTTAWA-Climate Change and Legal Change, supra note 14.

governance challenges."76 The field should exhibit some degree of commonalities in its problems, the usefulness of law jointly treating those problems, and the approaches to such problem-solving.77 The commonalities establish patterns that make the field coherent. Only when the commonalities are legally relevant does the field emerge as a distinguishable corpus.⁷⁸ Climate change affects all aspects of life broadly and deeply. Individuals and society must adapt in radical ways that significantly implicate legal adaptations.⁷⁹ As this Part highlights, climate law is an emerging distinctive field. On the one hand, the identifiable corpus of climate laws is undeniable as international climate treaties drive climate law developments across jurisdictions.⁸⁰ On the other hand, climate law is still on its way to maturity as a distinct system of coherent legal norms and principles.⁸¹ Making this distinction clear is important to thinking critically about what climate law is and should be. In other words, what has climate law accomplished? What are the possibilities and challenges for its improvement? How does its emergence as a "distinctive" field impact it as a curricular subject? These questions facilitate a deeper understanding of climate law's professional implication and the role of legal education.

A. Climate Law's Content and Progress

The intensifying physical, social, and economic effects of climate change have changed international treaties, domestic legislation and regulation, and case law.⁸² Climate law's proliferation makes a difference.⁸³ Over 1,200 climate-related lawsuits have been filed worldwide since 2015.⁸⁴ An empirical study of 1,092 mitigation laws in

⁸⁰ Shaikh M.S.U. Eskander & Sam Fankhauser, *Reduction in Greenhouse Gas Emissions by National Climate Legislation*, 10 NATURE CLIMATE CHANGE 750, 751 (2020) (noting the rapid rise of climate laws around the world); Affolder, *supra* note 2, at 248–49 (considering how transnational law can assist climate legislation and lawsuits since issues such as mitigation extend beyond national borders).

⁸¹ See DEBATING CLIMATE LAW, *supra* note 12, at 4 (making the distinction between the existence of climate laws and a normative system of climate law).

⁸³ See, e.g., INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2022: MITIGATION OF CLIMATE CHANGE 125 (Priyadarshi R. Shukla et al. eds, 2022) https://perma.cc/K7FE-UMTE (noting the contribution of climate laws to mitigation action).

⁸⁴ By comparison, only about 800 climate-related lawsuits were filed during 1986–2014. JOANA SETZER & CATHERINE HIGHAM, GLOBAL TRENDS IN CLIMATE CHANGE LITIGATION: 2022 SNAPSHOT 1 (2022); see also Quirin Schiermeier, *The Science that Supports Climate*

⁷⁶ J.B. Ruhl & James Salzman, *Climate Change Meets the Law of the Horse*, 62 DUKE L.J. 975, 987 (2013).

⁷⁷ Ruhl, *supra* note 1; Douglas W. Vick, *Interdisciplinary and the Discipline of Law*, 31 J.L. & SOCY 163, 177, 180 (2004).

⁷⁸ Todd S Aagaard, Environmental Law as a Legal Field: An Inquiry in Legal Taxonomy, 95 CORNELL L. REV. 221, 242 (2010).

⁷⁹ JUTTA BRUNNÉE & STEPHEN J. TOOPE, LEGITIMACY AND LEGALITY IN INTERNATIONAL LAW: AN INTERACTIONAL ACCOUNT 129 (2010); Ruhl & Salzman, *supra* note 76, at 981.

⁸² Peel, *supra* note 1, at 923; Ruhl, *supra* note 1.

133 countries between the years 1999 and 2016 demonstrated the connection between reduced emissions intensity and the adoption of climate legislation (and the extent to which that legislation is followed).⁸⁵ Climate law contributes to emissions reductions and adds a significant layer of structural support for action through policy implementation, institution creation, and internalizing shifts in cognitive and incentive frameworks.⁸⁶ A treaty or legislation creates stability; to discontinue an action promised by an agreement, a government must first challenge that agreement.⁸⁷ In 2018, for example, the political leadership shifted in Ontario. The new provincial government wanted to terminate the capand-trade program, which required repealing the Climate Change Mitigation and Low-Carbon Economy Act of 2016, introduced by the previous government.⁸⁸ It did take time and other resources to pass the Cap-and-Trade Cancellation Act.⁸⁹

In line with the aspiration to fill climate law's "legal void,"⁹⁰ describing and prescribing high-paced legal developments—including diligent studies of applying and devising legal norms to achieve climate goals—aids progress.⁹¹ There have also been a variety of innovative and flexible regulatory instruments (e.g., emissions trading, carbon taxes, crediting mechanisms) and inquiries into substantive climate-unique topics (e.g., loss and damage, carbon capture and storage) that have developed.⁹² Although creating and illuminating diverse legal responses is crucial, climate law requires critical reflection, rigorous methodological

⁸⁹ Cap and Trade Cancellation Act, 2018 S.O., ch. 13, https://perma.cc/WR3S-BK3S.

⁹⁰ DANIEL BODANSKY, THE ART AND CRAFT OF INTERNATIONAL ENVIRONMENTAL LAW 35 (2010) (discussing this issue in the early years of development of any new legal field).

⁹¹ See, e.g., Affolder, supra note 2, at 250 (indicating the enormous time and resources that scholars have devoted to explaining new developments in climate law); SANJA BOGOJEVIĆ, EMISSIONS TRADING SCHEMES: MARKETS, STATES AND LAW 155–56 (2013) (discussing the fast-moving legal developments relating to emissions trading).

⁹² See, e.g., Ronald B. Mitchell, Climate Law: Accomplishments and Areas for Growth, 8 CLIMATE L. 135, 137–40 (2018) (reviewing the dramatic development of climate law over the last decade); Ling Chen, Are Emissions Trading Schemes a Pathway to Enhancing Transparency under the Paris Agreement?, 19 VT. J. ENV'T L. 306, 309 (2018) (investigating the transparency benefit that emissions trading can bring to GHG tracking and other climate actions within the framework of the Paris Agreement); RESEARCH HANDBOOK ON CLIMATE CHANGE LAW AND LOSS & DAMAGE 1, 4 (Meinhard Doelle & Sara L. Seck eds., 2021) (analyzing loss and damage due to climate change through a variety of lenses).

Lawsuits, 597 NATURE 169, 169 (2021) (discussing the sharp rise in the number of climate-related lawsuits since 2015).

⁸⁵ Eskander & Fankhauser, *supra* note 80, at 750–51, 755.

⁸⁶ Navroz K. Dubash, *Climate Laws Help Reduce Emissions*, 10 NATURE CLIMATE CHANGE 709, 709–710 (2020); Aaron Wherry, *Why Canada Might Need a Climate Law—and How It Might Work*, CBC NEWS (Jun. 16, 2020), https://perma.cc/C2ZV-VGPH.

⁸⁷ Wherry, *supra* note 86; *see also* BRUNNÉE & TOOPE, *supra* note 79, at 175–76 (discussing how climate related goals and practices have become interwoven into European Union's policies and practices, unlike in the United States where climate related regulations and policies have not been as effective or accepted).

⁸⁸ Climate Change Mitigation and Low-carbon Economy Act, 2016 S.O., ch. 7, https://perma.cc/4XHB-YMF9.

guidance, and effective communication.⁹³ Advances in this regard continue to grow. Bogojević created "economic efficiency," "private property rights," and "command-and-control" models to enrich the understanding of emissions trading—an intellectual terrain previously dominated by topical and functional issues.⁹⁴ Approaching transnational climate law as a "visual field," Affolder developed methodological tools that illuminate climate lawmaking from not merely the *where*, but also the *why*, *when*, *who*, and *how* lenses.⁹⁵ The most recent contributions included collaborative debates and reflections on climate law's disciplinary concerns,⁹⁶ and proposing an epistemological shift and equitable ways to remake the relationship between nature and law.⁹⁷

Climate law as a coherent, discrete system is a work in progress. But that does not prevent the production of specialist climate law journals, monographs, edited collections, and research handbooks.⁹⁸ Indeed, climate law draws significant attention from academics and students as one of the fastest-progressing subjects for study.⁹⁹ Climate law textbooks and courses have grown globally since 2007.¹⁰⁰ Textbooks and courses draw on the significant number of climate laws to create fertile ground for theoretical, methodological, and epistemological explorations, and to strengthen climate law's coherence. For climate law to mature, and to secure climate law's place in legal curricula, we must stocktake its

⁹⁹ See Chris Hilson, It's All About Climate Change, Stupid! Exploring the Relationship Between Environmental Law and Climate Law, 25 J. ENV'T L. 359, 360 (2013) (noting that climate law as "a distinct area of study" has taken off); BOGOJEVIĆ, supra note 91, at 155 (referring to climate law as the "fastest . . . moving legal area"); Chen, supra note 56.

¹⁰⁰ See, e.g., GLOBAL CLIMATE CHANGE AND U.S. LAW (Michael B. Gerrard ed., 2007) (providing a comprehensive examination of U.S. law as it relates to climate change); *Climate Law Teaching Resources, supra* note 12 (showing a significant rise of course syllabi around 2007).

⁹³ David Feldman, *The Nature of Legal Scholarship*, 52 MOD. L. REV. 498, 503–05 (1989); *see also* Fisher et al., *supra* note 64, at 227 (discussing the production of good environmental law scholarship).

⁹⁴ BOGOJEVIĆ, supra note 91.

⁹⁵ Affolder, *supra* note 2, at 248.

⁹⁶ DEBATING CLIMATE LAW, *supra* note 12.

⁹⁷ LOCATING NATURE: MAKING AND UNMAKING INTERNATIONAL LAW (Usha Natarajan & Julia Dehm eds., 2022).

⁹⁸ For some journals and recent publications, see generally CARBON & CLIMATE L. REV. (delivering timely articles on the legal dimensions of climate change for both academics and practitioners); CLIMATE L. (focusing on the evolution of climate law at the international and state levels); BODANSKY ET AL., *supra* note 2 (examining the core "elements of international climate change law"); BENOIT MAYER, THE INTERNATIONAL LAW ON CLIMATE CHANGE (2018) (providing a "comprehensive account of international law on climate change" from the lens of a full-fledged discipline); THE PARIS AGREEMENT ON CLIMATE CHANGE: ANALYSIS AND COMMENTARY (Daniel Klein et al. eds., 2017) (providing comprehensive overview, assessment, and analysis of the Paris Agreement); THE OXFORD HANDBOOK OF INTERNATIONAL CLIMATE CHANGE LAW (Cinnamon P. Carlarne et al. eds., 2016) (analyzing the foundations of international climate change law through principles and norms, institutional frameworks, mitigation and adaptation measures, litigation, and regional and country-specific perspectives).

achievements and challenges, especially when mapping new topics and methodologies. $^{101}\,$

The distinctiveness of climate law explains the increase in Canadian law schools creating space for climate law teaching and experiments. Meanwhile, because of climate law's emerging status, most schools do not yet take climate law seriously. Their curricula leave either limited or no room for climate law.¹⁰² Law schools and academics should examine this curriculum gap and acknowledge their role in addressing climate change.¹⁰³ First, they are well-positioned to produce climate-related legal knowledge. Practitioners and students often rely upon academic writings to clarify the legal mechanisms for tackling climate issues where legislatures or governments rarely articulate legal rules.¹⁰⁴ For example, the vibrant climate litigation research could offer insights to overcome legal hurdles for climate lawsuits to be successful.¹⁰⁵ Second, legal education should not only keep up with climate law's development but also play a role in its improvement and maturation. Law schools can prepare students to be climate conscious and competent legal professionals through courses and programs.¹⁰⁶ The breadth and depth of climate law relies on a stronger community of legal scholars and practitioners accumulating expertise for addressing the legally disruptive effects of climate change,¹⁰⁷ as well as establishing ways of thinking and doing things (whom I refer to as "climate lawyers" overall).

B. A Community of Climate Lawyers

Recent years have seen more individuals entering climate careers.¹⁰⁸ Input and support from lawyers are urgently needed. First, lawyers have expertise to assess the strengths, weaknesses, applicability, and compatibility of various policy and legal instruments. More precisely, they are experts in designing smart compliance and enforcement

¹⁰¹ See BOGOJEVIĆ, supra note 91, at 145 (writing on the maturing process that environmental law scholarship is undergoing).

 $^{^{102}\,}$ Chen, supra note 56.

 $^{^{103}}$ Id.

¹⁰⁴ See generally Mehling et al., *supra* note 10 (discussing in part how to share skills and knowledge with students when traditional methods of teaching cannot ensure that concepts are property communicated).

¹⁰⁵ For some recent work, see LITIGATING THE CLIMATE EMERGENCY: HOW HUMAN RIGHTS, COURTS, AND LEGAL MOBILIZATION CAN BOLSTER CLIMATE ACTION (César Rodríguez-Garavito ed., 2022); CLIMATE CHANGE LITIGATION IN THE ASIA PACIFIC (Jolene Lin & Douglas A. Kysar eds., 2020).

¹⁰⁶ For more about the climate-conscious approach to law, see Kim Bouwer, *Climate Consciousness in Daily Legal Practice*, OUPBLOG (May 22, 2015), https://perma.cc/R5MC-PXN3, and see generally Brian J. Preston, *Climate Conscious Lawyering*, 95 Australian L.J. 51 (2021).

¹⁰⁷ Fisher et al., *supra* note 1, at 200–01.

¹⁰⁸ Angela Lashbrook, 'No Point in Anything Else': Gen Z Members Flock to Climate Careers, THE GUARDIAN (Sept. 6, 2021), https://perma.cc/W63S-TNXL.

mechanisms to ensure a regulatory regime's effectiveness.¹⁰⁹ It is crucial to recognize and highlight their contributions to constructing and implementing responses to climate change. A case in point is the newly introduced Canadian Net-Zero Emissions Accountability Act.¹¹⁰ As Canada has frequently failed to achieve its emissions targets,¹¹¹ turning these targets into legal obligations with mechanisms to provide legislative oversight forces governments to do their share. Lawyers were closely involved in developing the Act and advocating for significant improvements to the final product.¹¹²

Second, lawyers are architects of the climate litigation gaining traction in Canada.¹¹³ They assist citizen-initiated lawsuits against governments that raise human rights, constitutional, and administrative law arguments. For instance, young people brought cases against the Federal Government and the Ontario Government, respectively, when the government failed to meet the GHG emissions target or set adequate targets, thus violating the Canadian Charter of Rights and Freedoms and provincial Charters.¹¹⁴ Lawyers also represent governments in legal battles over appropriate climate policies. The governments of Ontario, Saskatchewan, and Alberta challenged the constitutionality of the Greenhouse Gas Pollution Pricing Act to the Supreme Court of Canada.¹¹⁵ In addition, private law actions have been proposed against fossil fuel producers based on tort, planning, and corporate law.¹¹⁶

¹⁰⁹ Faure & Liu, *supra* note 3, at 168–70.

¹¹⁰ An Act Respecting Transparency and Accountability in Canada's Efforts to Achieve Net-Zero Greenhouse Gas Emissions by the Year 2050, 2021 S.C., ch. 22, https://perma.cc/JXK8-EF3Y.

¹¹¹ See, e.g., Silvia Maciunas & Géraud de Lassus Saint-Geniès, *The Evolution of Canada's International and Domestic Climate Policy: From Divergence to Consistency?*, CTR. FOR INT'L GOVERNANCE INNOVATION 6 (2018), https://perma.cc/R7U3-YD4F (documenting the divergence between Canada's positions in international climate talks and its domestic actions).

¹¹² See, e.g., Alan Andrews, Bill C-12 Passes and Becomes Law, ECOJUSTICE (Jun. 16, 2022), https://perma.cc/6V9H-ST6P (showing notes by the author outlining suggestions submitted to the lawmaking review committees for the Bill); Canada's Climate Bill (Bill C-12) Needs Work - and Now's the Time to Fix It, W. COAST ENV'T L. (May 18, 2021), https://perma.cc/X7F7-SKU6.

¹¹³ For an overview of these cases, see *Litigation Cases*, CLIMATE CHANGE LAWS OF THE WORLD, https://perma.cc/95ES-9YNE (last visited Dec. 17, 2022).

¹¹⁴ See, e.g., Camille Cameron & Riley Weyman, Recent Youth-Led and Rights-Based Climate Change Litigation in Canada: Reconciling Justiciability, Charter Claims and Procedural Choices, 34 J. ENV'T L. 195 (2022) (analyzing three climate litigation cases regarding violation of the Charters); Maureen Killoran et al., Climate Change Litigation Arrives in Canada, OSLER (Feb. 5, 2019), https://perma.cc/PV42-8QLB; Ian Burns, Ontario Greenhouse Gas Emissions Targets Violate Charter, Lawsuit Argues, THE LAW.'S DAILY (June 25, 2020), https://perma.cc/QRE9-Z5S2.

¹¹⁵ See, e.g., Jocelyn Stacey, Climate Disruption in Canadian Constitutional Law: References re Greenhouse Gas Pollution Pricing Act, 33 J. ENV'T L. 711, 716–17 (2021) (analyzing the Supreme Court of Canada's upholding of the Act as constitutional national carbon pricing legislation).

¹¹⁶ Killoran et al., *supra* note 114.

Professional climate law work involves not only high-profile lawmaking and litigation but also everyday legal research and practice.¹¹⁷ More and more law firms have climate change divisions that provide consultations on transactions and compliance issues.¹¹⁸ For example, they advise corporations on the financial and regulatory risks that climate change presents to pension, insurance, and broader institutional investment; and how to manage those risks and fulfill climate-related responsibilities.¹¹⁹ Aside from conventional law firms, civil society organizations (CSOs) and environmental groups oversee climate negotiations, lobby governments, and support public interest litigation.¹²⁰ Multidisciplinary consulting companies offer tailored services to assist business decisions.¹²¹ Think tanks facilitate dialogue between the public and private sectors.¹²²

However, compared to other more established legal communities, the pool of climate law specialists is small.¹²³ Law schools can train students keen to research and practice climate law. While learning climate law in class is not a prerequisite to successful and innovative practice in the field, it guarantees meaningful preparation for students. They may later

¹¹⁹ KING'S COLL. LONDON & ADVOCS. FOR INT'L DEV., *supra* note 117, at 2; *see also Who We Are*, CAN. CLIMATE L. INITIATIVE, https://perma.cc/F69E-SVQE (last visited Dec. 17, 2022) (describing the initiative led by law schools at UBC and York University, with a cross-disciplinary, concentrated focus on climate-related financial risks and fiduciary obligations).

¹²⁰ For more information about these actors in Canada, see *About us*, ECOJUSTICE, https://perma.cc/6389-G3H3 (last visited Dec. 17, 2022), *Our Story*, W. COAST ENV'T L., https://perma.cc/J9H3-KLUT (last visited Dec. 17, 2022), and *Our Story*, E. COAST ENV'T L., https://perma.cc/98L9-J2EH (last visited Dec. 17, 2022).

¹²¹ We are Manifest Climate, MANIFEST CLIMATE, https://perma.cc/R946-UU8H (last visited Jan. 16, 2023).

¹²² About CIGI, CTR. FOR INT'L GOVERNANCE INNOVATION, https://perma.cc/N748-FP3X (last visited Dec. 17, 2022).

¹¹⁷ See Sarah Mason-Case, On Being Companions and Strangers: Lawyers and the Production of International Climate Law, 32 LEIDEN J. INT'L L. 625, 627 (2019) (analyzing the ways lawyers' practices create international climate law); KING'S COLL. LONDON & ADVOCS. FOR INT'L DEV., WHAT LAWYERS CAN DO ABOUT CLIMATE CHANGE 1 (2016), https://perma.cc/QAT8-B7ME (describing a workshop that was held for lawyers on how to better use their daily legal practices to advance climate action).

¹¹⁸ For examples of Canadian law firms working in this area, see *Climate Change*, TORYS LLP, https://perma.cc/CGM7-9NRA (last visited Dec. 17, 2022); *Climate Change and Emissions Trading*, OSLER, HOSKIN & HARCOURT LLP, https://perma.cc/6KUK-F6YZ (last visited Dec. 17, 2022); *Climate Change*, WILLMS & SHIER ENV'T LAW. LLP, https://perma.cc/58Q7-KJEU (last visited Dec. 17, 2022).

¹²³ Some individuals may have to constantly switch roles between legal practice, policy consultation, and teaching. For example, from 2012 through 2017, the Climate Change Law course at the University of Toronto was instructed by practicing lawyers, who took turns leading different sessions based on each week's theme and their respective expertise. See Mahony & Terry, supra note 23 (detailing the various topics of the course), and Email from Dennis Mahony, Att'y Torys LLP, to author (Apr. 1, 2019) (on file with author); see also Kati Kulovesi, Review Essay: The EU Emissions Trading Scheme in Context—Conquering the World or "Honeymooning" in Environmental Law Scholarship?, 33 Y.B. EUR. L. 521, 528 (2014) (discussing how climate experts in the legal field have to "frequently 'change hats" between teaching, writing policy papers, and participating in policymaking and international negotiations).

become instrumental in addressing climate change while engaging in roles including counsel and judges/arbitrators in disputes; consultants and advisers to governments and intergovernmental organizations; expert body members; and academics.¹²⁴ Meanwhile, students drive the inclusion of climate law in legal education. Some students who read The Law of Climate Change in Canada asked its authors, Mahony and Terry, to do a weekly seminar at the University of Toronto.¹²⁵ The seminar turned into a stand-alone course, Climate Change Law, scheduled once a year since 2012.¹²⁶ More recently, law students joined the global march for climate justice,¹²⁷ and organized a nationwide research-a-thon on municipal climate action.¹²⁸ In response to law firms that exacerbate climate change by conducting litigation, transactional, and lobbying work for the fossil fuel industry, law student groups have scored those firms' performance and their contribution to the climate crisis, to inform law students, the legal industry, and the public.¹²⁹ Canadian law schools can guide their students to think critically about the multiple roles of law in promoting legal equality and social justice as well as perpetuating structural inequalities by enriching and continuing experimentation with approaches to climate law education. Only through a more collective process of education and consciousness elevation can climate law's curricular place become more impressive and ambitious. In this process, students can find where to learn climate law more easily. One school can inspire another.

IV. CLIMATE LAW, CLIMATIZATION, AND LEGAL EDUCATION

The contrast between those who champion climate law as a distinctive field and those who oppose it¹³⁰ provides an opportunity to examine how climate law interacts with other legal fields, and implications for curricular design. Considering that climate law is meant

¹²⁴ ROBERTS, *supra* note 9, at 29 (discussing the roles of international lawyers).

¹²⁵ Email from Dennis Mahony, *supra* note 123. A student edition of the book was created specifically for the course. *See* THE LAW OF CLIMATE CHANGE IN CANADA (Dennis Mahony ed., 2014).

¹²⁶ Email from Dennis Mahony, *supra* note 123.

 $^{^{127}}$ See, e.g., Kyle Dewsnap & Nina Russell, McGill Faculty of Law Votes to Strike for Climate Change March, THE McGILL TRIB. (Sept. 25, 2019), https://perma.cc/E3TF-48TN (reporting the decision by the law student body of McGill to go on strike in support of the global march for climate justice).

¹²⁸ Mary Caton, UWindsor Law Students Participate in Research-a-Thon on Climate Change, WINDSOR STAR (Nov. 18, 2019), https://perma.cc/RDK3-PTZZ.

¹²⁹ See The 2022 Law Firm Climate Change Scorecard, L. STUDENTS FOR CLIMATE ACCOUNTABILITY, https://perma.cc/55ZW-YLTN (last visited Dec. 13, 2022). For the potentially regressive role of legal education in reproducing social inequality, see e.g., Duncan Kennedy, Legal Education and the Reproduction of Hierarchy, 32 J. LEGAL EDUC. 591 (1982).

¹³⁰ See Ruhl & Salzman, *supra* note 76, at 981 (expressing skepticism about climate law adapting into its own distinct field); DEBATING CLIMATE LAW, *supra* note 12, at 2 (describing questions regarding how climate law will evolve as a legal field).

to change how people do things, Ruhl suggests its tendency toward a "nonfield of law"-a field intersecting with the law in various disconnected contexts¹³¹—that affects not only energy and infrastructure programs but also constitutional, tort, property, and human rights law.¹³² The changing practices across sectors impact how lawyers think and prepare for those changes. Disaggregating different types of lawyers and the sectors they advise enables a better understanding of problems and solutions in climate law practice.¹³³ What climate change means for environmental lawyers may differ from its meaning to corporate, tax, intellectual property, labor, and criminal lawyers-for every other kind of lawyer. All legal expertise could evolve, adapt, and integrate novel ways of doing things.¹³⁴ This line of argument finds its expression in the process of "climatization" that law and legal fields are experiencing.¹³⁵ For example, legal scholars use the term, "climatization of international law," to describe the phenomena of adapting, adjusting, and transforming international law to deal with climate change.¹³⁶ This process begins with the core international climate regime and extends to numerous other fields of international law.¹³⁷ A similar phenomenon is likely underway in legal education, which I call the climatization of legal education, given the rise in the proposal of mainstreaming climate change in a "cluster" of

¹³¹ Ruhl, *supra* note 1; *see also* Ruhl & Salzman, *supra* note 76, at 985 (noting how some legal scholars have advocated for keeping different legal fields distinct from one another and separately defined).

¹³² Ruhl & Salzman, *supra* note 76, at 980 (discussing the "flood of recent scholarship" on climate change and the effect on various legal fields, including torts, energy, and property).

¹³³ KING'S COLL. LONDON & ADVOCS. FOR INT'L DEV., *supra* note 117, at 1–2.

¹³⁴ See Ruhl, *supra* note 1 ("The point of climate change law is to change the way we do things, broadly and deeply... all fields of law will have to adjust and incorporate the new way of doing things internally."); *see also John Kerry to ABA: "You are all climate lawyers now*", AM. BAR ASS'N (Aug. 11, 2021), https://perma.cc/NF6C-X2VF (summarizing a speech given by John Kerry, where he emphasized that climate change is no longer a discrete issue, and will need the help of all types of lawyers).

¹³⁵ See generally Stefan C. Aykut & Lucile Maertens, *The Climatization of Global Politics: Introduction to the Special Issue*, 58 INT'L POL. 501 (2021) (explaining a "climatization" process experienced by global politics as climate change is emerging as a reference point by which other policy matters and global governance strategies are evaluated and ranked in importance).

¹³⁶ Jacqueline Peel & Sandrine Maljean-Dubois, *The Progressive "Climatization" of International Law, in* CLIMATE CHANGE AND THE TESTING OF INTERNATIONAL LAW (Sandrine Maljean-Dubois & Jacqueline Peel eds.) (forthcoming 2023) (on file with author) (providing an overarching framework for explaining the climatization of international law and leading the collective book to address the tests climate change has for international law).

¹³⁷ Id. at 6–7 (noting this process extends from the international climate regime to other areas of international law "relating" and "relevant" to climate change, and to other governance levels); Ling Chen, *Market Mechanisms, Corporations, and Article 6 of the Paris Agreement, in* CLIMATE CHANGE AND THE TESTING OF INTERNATIONAL LAW (Sandrine Maljean-Dubois & Jacqueline Peel eds.) (forthcoming 2023) (manuscript at 2) (on file with author) (demonstrating the "vertical manifestations and effects" of the climatization of international law, which "involve multiple governance levels and a diversity of public and private actors, legal institutions, practices, and challenges.").

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high-enrollment courses, 138 or in the ambition to integrate climate change into legal curricula as a cross-cutting theme. 139

A. Climate Law and Legal Fields

I am aware of the appeal and potential of climatizing legal education, and the imperative for climate law to effectively interact with other legal fields and study their tools, approaches, and rules to achieve the objectives of climate law as well as promote both its internally cohesive operation and its coordination and reconciliation with different governance and regulatory systems.¹⁴⁰ However, to become a "legal interdisciplinarian" who can navigate climate-relevant concepts and debates across legal fields, one must foster a good understanding of core climate law, and ways to approach it,¹⁴¹ in order to engage with the interlinks, gaps, unity, and fragmentation between climate law and the rest of law.¹⁴² As shown in Part III, climate law's distinctiveness is shaped by an increasingly specialized professional community.¹⁴³ Appreciating and emphasizing its distinctiveness creates a focal point for not only efficient legal development and expertise communication,¹⁴⁴ but also critical reflection on the core and periphery of climate law for its reimagining. This distinctiveness deserves recognition by legal education, which can support the maturation and even transformation of climate law. The most straightforward arrangement, currently adopted by a decent number of schools,¹⁴⁵ is a climate law course. Creating this separate space does not conflict with teaching climate law across disparate legal fields. Instead, it is a firm basis and a special locus for more ambitious and advanced curricular development when climate change begins to exert influence on legal fields previously seen as distant and requires legal education to adjust and transform ways of teaching and learning.

Take climate law and environmental law to illustrate how their distance and intimacy influence their relationship management in legal curricula. Climate law differs from environmental law in at least three respects. First, the governance and regulatory challenges posed to climate

¹³⁸ Warren G. Lavey, *Toolkit for Integrating Climate Change into Ten High-Enrollment Law School Courses*, 49 ENV'T L. 513, 523 (2019).

¹³⁹ I am grateful to Patrícia Galvão Ferreira for reminding me of this point. *See Transnational Environmental Law and Policy Clinic, supra* note 15 (indicating Windsor's recent efforts in this regard).

¹⁴⁰ Peel, *supra* note 1, at 924, 978; Mehling et al., *supra* note 10, at 432.

¹⁴¹ For discussion on core climate law expertise, see *supra* Part II.

 $^{^{142}}$ See Fisher et al., supra note 64, at 230, 240–41 (analyzing these phenomena in environmental law in general).

¹⁴³ See especially discussion supra Part III.B.

¹⁴⁴ Ruhl & Salzman, *supra* note 76, at 989.

¹⁴⁵ See supra note 21 (listing several climate law courses).

law surpass those of environmental problems.¹⁴⁶ "[N]o obvious answers or solutions [are] to be found by simply applying legal doctrine when discussing questions of hierarchy and the conflict or simple co-existence of norms."147 Adjudication is disrupted in many ways; a court must decide whether to hear a case in the absence of a typical climate matter or a natural jurisdiction for climate claims. Issues presented to the court do not fit comfortably into existing legal reasoning. Lawyers need to reconcile any legal disruption with the fundamental role of adjudication in sustaining stable legal orders. This process raises tough questions about adjudication's "legitimacy and limits" and what counts as "robust legal reasoning."148 Second, climate change is framed not only as an environmental problem but also as an economic and an ethical problem.¹⁴⁹ Whereas established legal principles have preceded environmental law, climate law is evolving "outside of legal normativity as a transdisciplinary intermediary between science and politics"-discrete disciplines incapable of separately effecting widespread solutions to climate change.¹⁵⁰ There is even conflict between climate law and environmental law when requirements to reduce GHGs and increase the use of renewable energy lead to decisions for implementation that contradict environmental legislation.¹⁵¹ Third, climate law relates more to "globalism," as combating climate change requires concerted efforts and international cooperation to achieve an overall, or aggregate, target. Many areas of environmental law, however, only concern sub-global or local impacts and ambient targets.¹⁵²

All that said, distinguishing climate law from environmental law is elusive at a more micro level as these fields of law resemble each other in their relationship to regulatory instruments and multi-level governance issues.¹⁵³ Thus, it makes sense to frame climate issues in environmental law terms, or vice versa. Concerns nevertheless arise as to whether climate law dominates, or is dominated by, environmental law.¹⁵⁴ The concern when managing climate law's relationship with environmental law in a course is whether climate law crowds out issues of environmental law or whether environmental law provides too little room for climate law. For example, the environmental law course at UBC focused only on

¹⁴⁶ See Peel, supra note 1, at 978 (comparing the unique challenges posed by climate change to other environmental problems); see generally Richard J. Lazarus, Super Wicked Problems and Climate Change: Restraining the Present to Liberate the Future, 94 CORNELL L. REV. 1153 (2009) (characterizing climate change as a "super wicked" problem).

 $^{^{147}}$ Affolder, supra note 2, at 257.

¹⁴⁸ Fisher et al., *supra* note 1, at 174–75; KING'S COLL. LONDON & ADVOC. FOR INT'L DEV., *supra* note 117, at 3.

 $^{^{149}}$ See generally BODANSKY ET AL., supra note 2, at 4–10 (presenting the three perspectives of the problems that arise from climate change).

 $^{^{150}\,}$ Chen et al., supra note 44, at 3.

¹⁵¹ Olivia Woolley, *Climate Law and Environmental Law: Is Conflict Between Them Inevitable?*, in DEBATING CLIMATE LAW 402 (Benoit Mayer & Alexander Zahar eds., 2021).

¹⁵² Id. at 398; Hilson, supra note 99, at 362, 364–65.

¹⁵³ Hilson, *supra* note 99, at 365–68.

 $^{^{154}}$ Id. at 360–62.

regulatory and constitutional approaches to mitigating climate change and certain aspects of climate litigation in Canada.¹⁵⁵ Likewise, environmental law textbooks include some climate law topics.¹⁵⁶ Doelle and Tollefson use climate change as a case study in the concluding chapter of *Environmental Law: Cases and Materials*.¹⁵⁷ However, their analysis of this subject is sometimes criticized as inadequate.¹⁵⁸ MacLean argues that climate law should have been integrated in the book's other chapters.¹⁵⁹ He applied this idea when designing the Environmental Law course at the University of Saskatchewan,¹⁶⁰ which leans towards the other extreme—environmental law becoming too much about climate law. This is a potential problem that comes with climatizing environmental law.

Managing climate law's curricular relationship with environmental law is less of a problem for schools that offer both courses. As climate change is usually among the many issues given modest attention in an environmental law course,¹⁶¹ a climate law course can zoom in on topics (e.g., loss and damage, carbon finance),¹⁶² which environmental law does not adequately cover. This separate course can study a wider variety of (legal) normativity than an environmental law course with a domestic law preference. Students can negotiate emissions credit transactions involving laws across various jurisdictional levels, or debate whether an agreement to link cap-and-trade programs is an international treaty, a commercial contract, or something in between. As climate litigation encounters more procedural and evidentiary challenges than environmental litigation,¹⁶³ a climate law course—sometimes in a clinic format—can facilitate teachers and students delving into this largely uncharted terrain. Interdisciplinarity is often referenced by

 $^{^{155}}$ Stacey, Syllabus 2017, supra note 23, at 1, 10–11 (addressing regulation on climate mitigation and a tort aspect of climate litigation in Canada); Stacey, Syllabus 2021, supra note 23, at 1, 9–10 (touching on climate mitigation, climate justice, and constitutional law in Canada).

¹⁵⁶ DOELLE & TOLLEFSON, *supra* note 24, at chs. 1, 10; TILLEMAN ET AL., *supra* note 24, at ch. 6; BENIDICKSON, *supra* note 24, at ch. 18.

 $^{^{157}}$ DOELLE & TOLLEFSON, supra note 24, at 863–997 (covering such topics as climate litigation, international agreements, and climate change's effects on biodiversity and species protection).

¹⁵⁸ See, e.g., MacLean, *supra* note 60, at 18–21 (expressing that one shortcoming of the book is its "dissonant decision not to thread climate change law and politics throughout the book's other chapters").

 $^{^{159}}$ Id.

 $^{^{160}\,}$ See id. at 30–33 (supplying the course syllabus).

¹⁶¹ See, e.g., Green, *supra* note 23; Seck, *supra* note 23 (providing two examples of only a few class sessions on the topic of climate change).

¹⁶² See, e.g., Mahony & Terry, *supra* note 23; Benjamin, *supra* note 23 (dedicating their courses to a broad discussion of topics related to climate change).

¹⁶³ See, e.g., Rupert F. Stuart-Smith et al., *Filling the Evidentiary Gap in Climate Litigation*, 11 NATURE CLIMATE CHANGE 651, 654 (2021) (explaining the evidence gap in scientific development that impacts climate litigation).

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environmental law and scholarship.¹⁶⁴ However, it is not commonly employed by environmental law courses that are oriented to the doctrine. In a climate law classroom, law students can meet and work with students of "foreign" disciplines to deal with climate change—a point I will discuss in greater detail in Part V.

B. Practical Considerations for Curricular Arrangements

Besides climate law's maturation as a distinctive field and its disciplinary relationship with other laws, practical circumstances challenge climate law's place in legal curricula. Law programs usually have enough core subjects that meet the competency requirements of the legal profession. The Federation of Law Societies of Canada, for example, sets out the National Requirement for bar admission, including demonstration of substantive legal knowledge in the areas of constitutional, criminal, administrative, contract, tort, and property law.¹⁶⁵ This leaves little prospect of, or desire for, additional compulsory courses. Although elective or non-accreditation-oriented courses—the category within which climate law currently falls—can be significant in the trajectory of law students, such courses more likely risk being scheduled inconsistently or not at all, given their perceived weaker professional prospects and economic incentives. Until there is a universal recognition of climate change by Canadian legal education (e.g., a mandate for teaching climate law),¹⁶⁶ each school has discretion in whether and how to teach this subject. It may be bypassed by schools severely constrained as to their curricular choices. Even for more resourceful schools, course arrangements vary from one to another depending on teachers-fundamental to course design-and their expertise and availability (e.g., research focus, teaching assignments, administrative commitments, leaves of absence).¹⁶⁷ In this case, introducing a climate law course for continued experimentation is more manageable than integrating the subject as a cross-cutting theme (which needs all teachers on board and prepared). Having this stand-alone space also minimizes the risk of teaching climate law in passing or fragments.

Law schools are not the only stakeholder in legal education. Government actors, CSOs, and professional bodies also influence curricular subjects, desired skillsets, and the balance of academic and practice-based training. Law students at Windsor received government

 $^{^{164}}$ See, e.g., Fisher et al., supra note 64, at 231 (noting that interdisciplinarity is an "often-cited methodological challenge in environmental law scholarship").

¹⁶⁵ National Requirement, FED'N L. SOC'YS CAN. (Jan. 1, 2018), https://perma.cc/BU6Z-Z6NN.

¹⁶⁶ For an example of similar action, see TRUTH & RECONCILIATION COMM'N OF CAN., CALLS TO ACTION 3 (2015) (calling upon Canadian law schools to "require all law students to take a course in Aboriginal people and the law").

 $^{^{167}}$ I am grateful to Jutta Brunnée for reminding me of this point.

funding to lead the institutional climate action at the municipal level.¹⁶⁸ CSOs, such as the Environmental Law Centre in Alberta, have created open-access educational modules on climate change and the law.¹⁶⁹ Some legal associations advocate for the rule of law in addressing the climate crisis and implore lawyer engagement in the concomitant judicial, legislative, policymaking, and educational processes.¹⁷⁰ The American Bar Association (ABA) adopted a resolution urging lawyers to undertake pro bono work on climate issues and advise their clients on climate-related risks and opportunities.¹⁷¹ In stark contrast, the Canadian Bar Association defeated a resolution that mirrored the ABA's practice.¹⁷² These interests, decisions, and opportunities pull law schools in different directions, defining and redefining the content and format of legal education.¹⁷³

V. CLIMATE LAW AS A SITE FOR INTERDISCIPLINARY TEACHING AND LEARNING

The complexity of climate change makes it impossible for lawyers to stay only within the law and not cross disciplinary boundaries looking for the wisdom.¹⁷⁴ A global temperature goal or a national carbon-neutral pledge, for example, needs climate scientists, economists, and many other experts to weigh in. Lawyers must cooperate with experts from other disciplines in order to understand the scientific and socioeconomic implications of those targets, facilitate policymaking processes, and develop legal safeguards. Climate lawyers make considerable efforts to adopt and adapt the theories and methods of other disciplines. Emissions

¹⁷¹ Resolution 111, AM. BAR ASS'N 1 (Aug. 12-13, 2019), https://perma.cc/M5B5-QY5S.

¹⁶⁸ News Release, Gov't of Can., New Climate Action Funding Announced for Windsor Law Students (Mar. 4, 2020), https://perma.cc/DHR7-XTHL; *Cities & Climate Action Forum*, WINDSOR L. CTR. FOR CITIES, https://perma.cc/QUD7-TAQA (last visited Dec. 17, 2022).

¹⁶⁹ For more details, see An Introduction to Climate Change and the Law, ALTA. ENV'T L. 101, https://perma.cc/D7UX-SEC8 (last visited Dec. 17, 2022).

¹⁷⁰ See, e.g., INT'L L. ASS'N, WASHINGTON CONFERENCE REPORT (2014): LEGAL PRINCIPLES RELATING TO CLIMATE CHANGE 2–4 (2014) (highlighting the International Law Association's efforts to employ legal principles related to climate change); INT'L BAR ASS'N, CLIMATE CRISIS STATEMENT (May 5, 2020), https://perma.cc/3NP4-FFAG.

¹⁷² This resolution further requested developing climate-related educational programming. *See Climate Leadership Resolution*, LAWS. FOR CLIMATE JUST., https://perma.cc/36C4-S2UW (last visited Dec. 17, 2022) (providing the resolution that was presented at the Canadian Bar Association annual general meeting in 2021. The proposed resolution urged lawyers to undertake pro bono activities, advocate for climate justice, and advise their clients of risks associated with climate change).

¹⁷³ See, e.g., Thomasset & Laperrière, *supra* note 64, at 191 (examining the relationship between law schools and professional bodies in Québec, including the influence of the Bar and the Chamber of Notaries on law schools in terms of their programs, faculty members, and students); Vick, *supra* note 77, at 175 (arguing that the disciplinary identity of law is bound to the legal profession in that the latter "has strongly influenced the content and structure of legal education both through the involvement of practitioners in teaching and through the accreditation process").

 $^{^{174}}$ Faure & Liu, supra note 3, at 165.

trading that emphasizes cost-effectiveness and efficiency explores the interface of climate law and economics. Theories of international relations often explain the effectiveness and influence of international climate law and how international cooperation occurs and is maintained. Global governance theories illuminate the role of non-state actors and new forms of climate law. A good sense of the interactions between economic incentives, political power, and social norms may help lawyers understand what drives agreement on climate action and whether an institution employed is appropriate and adequate.¹⁷⁵

Learning from others does not undermine the disciplinary core of climate law, particularly backed by a doctrinal approach using interpretive, analytical, and synthesis techniques that have promoted its growth to date.¹⁷⁶ Climate law ensures that collective action is authoritative, legitimate, and legal.¹⁷⁷ It also adds a significant layer of durability. When a government refuses to implement policies promised by its predecessor, law makes the reversal of such commitments more difficult.¹⁷⁸ As discussed in Part II, many courses emphasize exploration of the law's role.¹⁷⁹ However, they rarely consider how other disciplines approach climate change. It is thus difficult to observe how the law is a unique tool in tackling climate change, or where climate change is putting pressure on the legal system. A productive interdisciplinary strategy will build on the strengths of climate law and cross-fertilize the core expertise of each discipline to (re)produce new knowledge.¹⁸⁰ It suggests the need for an in-depth inquiry into how the law interacts with political, societal, and institutional processes to shape environmental outcomes.¹⁸¹ This way, lawyers will better identify and assess climate problems, causes, barriers to action, and possible solutions while sustaining "a legally informed intellectual integrity and coherence."182

Interdisciplinarity is not a stranger to Canadian legal education. The Shakespeare Moot Project at McGill brought together students and teachers from the Law Faculty and the English Department.¹⁸³ A law student teamed up with a graduate student in English literature and

¹⁷⁵ *Id.* at 166, 168; Mitchell, *supra* note 94, at 141–47; Chen, *supra* note 56; *see also* Brian H. Bix, *Law as an Autonomous Discipline, in* THE OXFORD HANDBOOK OF LEGAL STUDIES 975 (Mark Tushnet & Peter Cane eds., 2005) (discussing that law in general has much to learn from other forms of knowledge).

 $^{^{176}}$ Faure & Liu, *supra* note 3, at 168; Mitchell, *supra* note 92, at 136, 143, 150; *see* Vick, *supra* note 77, at 165 (discussing legal discipline in general).

¹⁷⁷ ELIZABETH FISHER, ENVIRONMENTAL LAW: A VERY SHORT INTRODUCTION 2 (2017) (discussing how environmental law "ensures that collective action in relation to environmental problems is authoritative and consistent with the rule of law").

¹⁷⁸ Dubash, *supra* note 86, at 709.

¹⁷⁹ See supra Part II.

¹⁸⁰ Faure & Liu, *supra* note 3, at 168; Mitchell, *supra* note 92, at 136.

¹⁸¹ Eskander & Fankhauser, *supra* note 80, at 755.

¹⁸² Mitchell, *supra* note 92, at 136.

¹⁸³ The Plays of William Shakespeare as Law, SHAKESPEARE MOOT CT. PROJECT, https://perma.cc/M5L5-S9HM (last visited Dec. 16, 2022).

shared their knowledge (e.g., law, literature, legal/literary thinking).¹⁸⁴ Viewing William Shakespeare's plays as law, they prepared a factum for a fictional problem and then argued orally with another team in front of the moot court comprised of teachers.¹⁸⁵ According to the project cofounder, Manderson, "everyone engaged in this project came away with a strong sense of the interdisciplinary connection between bodies of knowledge that ... will be of continuing significance to them."¹⁸⁶ The Treble Cliff was another interdisciplinary course jointly offered by the Faculties of Music, Management, Arts, and Law at McGill.¹⁸⁷ Students studied the technological, economic, social, and regulatory issues in music creation and distribution.¹⁸⁸ They developed a non-traditional skillset, the core of which was learning what they did not know, where to find that knowledge, and how to communicate that knowledge to "disciplinary foreigners."¹⁸⁹ The course integrated methods from each discipline and immersed students in diverse academic cultures.¹⁹⁰ Developing theoretically rigorous but accessible new knowledge, students engaged in constructive peer-reviewed and group projects as well as individual reflection and synthesis assignments.¹⁹¹ These courses assured the possibility and feasibility of applying interdisciplinarity in legal education while showing the intellectual, pedagogical, and practical challenges in designing and sustaining such courses.

Canadian law schools should use climate law as a vehicle for interdisciplinary teaching and learning. A few schools made exploratory attempts at interdisciplinarity.¹⁹² However, they should design more ambitious modules and programs, which can build on the good practices I have discussed above, to apply knowledge and methodology from other disciplines. For example, the climate negotiation simulation has also appeared in political science and international relations classrooms. This exercise is a good starting point for connecting law students with their

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 $^{^{184}}$ Id.

¹⁸⁵ Desmond Manderson, *In the* Tout Court of Shakespeare: Interdisciplinary Pedagogy in Law, 54 J. LEGAL EDUC. 283, 285 (2004); *The Plays of William Shakespeare as Law, supra* note 183.

¹⁸⁶ Manderson, *supra* note 185, at 287 (emphasis in original).

¹⁸⁷ Chris Chipello, *Treble Cliff: at the Vanguard of Interdisciplinary Learning*, MCGILL REP. (Dec. 16, 2010), https://perma.cc/24NJ-DM6Q.

 $^{^{188}}$ Course Description of The Treble Cliff at McGill University 1 (2010) (on file with author).

¹⁸⁹ Id.

¹⁹⁰ Id.

 $^{^{191}\,}$ Id. at 3.

¹⁹² See, e.g., DALHOUSIE-Environmental Law II, supra note 13. For programs outside of climate law and climate change, see Environmental Law Centre, U. OF VICTORIA, https://perma.cc/2ZN3-5K9W (last visited Dec. 17, 2022); Juris Doctor/Master in Environmental Studies, OSGOODE HALL L. SCH., https://perma.cc/4DJ7-5Z7F (last visited Dec. 17, 2022) (addressing that "the program provides insight into the ways in which humans define, manage and transform their environments, and equips students with the knowledge and tools to participate in that process.").

peers in those disciplines.¹⁹³ In the exercise, teachers from each faculty define a problem for negotiation and divide students into groups of interdisciplinary delegations. Students map out strategies to analyze the problem and search for solutions. During this collaborative process, law students learn what they do not know through contact and collaboration with other disciplines, thus enriching their understanding of law's uniqueness, strengths, and weaknesses in tackling climate change.

Compared to interdisciplinarity, which combines more than one disciplinary framework without redrawing their boundaries. transdisciplinarity transforms those boundaries and "creates new objects of study by examining the themes or aspects which different disciplines have in common."194 Studying climate change well-captures this idea because climate change has manifested itself in "a range of disciplinary moments."195 Increased proposals for decarbonization that consider climate change's intersection with economic, racial, gender equality, and other progressive reform projects demonstrate the need for transdisciplinary teaching and learning.¹⁹⁶ Some universities already go in this direction by creating a climate school, a master of climate change

¹⁹⁴ Desmond Manderson, Some Considerations about Transdisciplinarity: A New Metaphysics?, in TRANSDISCIPLINARITY: RECREATING INTEGRATED KNOWLEDGE 86, 87 (Margaret A. Somerville & David J. Rapport eds., 2000).

¹⁹³ See, e.g., Vincent Pouliot, Course Syllabus from Diplomacy in Practice at McGill University 1–2 (2019) (on file with author); Hamish van der Ven, Course Syllabus from Global Environmental Politics at McGill University 1–2, 4 (2020) (on file with author); see also Course Description of Environmental Studies: International Climate Negotiation Seminar, WASH. UNIV. IN ST. LOUIS, https://perma.cc/WF5G-KSYB (last visited Jan. 18, 2023) (describing how the students in the class take an interdisciplinary approach to their negotiation stimulation by considering the interaction of "climate policy, science and technology").

¹⁹⁵ See *id.* (taking gender studies as an example of an issue that requires a transdisciplinary approach); *cf.* Marco Grasso & Ezra M. Markowitz, *The Moral Complexity of Climate Change and the Need for a Multidisciplinary Perspective on Climate Ethics*, 130 CLIMATIC CHANGE 327, 330 (2015) (showing the similarity of gender studies issues to climate change, in that the issue manifests itself across a range of disciplines).

¹⁹⁶ See, e.g., E. TENDAYI ACHIUME, REPORT OF THE SPECIAL RAPPORTEUR ON CONTEMPORARY FORMS OF RACISM, RACIAL DISCRIMINATION, XENOPHOBIA AND RELATED INTOLERANCE - ECOLOGICAL CRISIS, CLIMATE JUSTICE AND RACIAL JUSTICE 2 (2022), https://perma.cc/9RYA-Z5RM (highlighting the "racially discriminatory and unjust roots and consequences" of climate change); Amy E. Turner & Michael Burger, *Cities Climate Law: A Legal Framework for Local Action in the U.S.*, COLUM. L. SCHOOL SABIN CTR. FOR CLIMATE CHANGE L. 1–2 (Nov. 2021), https://perma.cc/3T7F-PE3H

^{00&}amp;context=sabin_climate_change (exploring city carbon reduction factors and the legal issues that might arise, from energy and waste management to equity, economic inequality, and climate justice); see generally Gender-Inclusive Legislative Framework and Laws to Strengthen Women's Resilience to Climate Change and Disasters, ASIAN DEV. BANK (Dec. 2021), https://perma.cc/D9F8-P38Q (looking at the impact of climate change on women in Asia and the Pacific, and developing a legal framework to support women's resilience to disaster and climate change). See also SÉBASTIEN JODOIN ET AL., DISABILITY RIGHTS IN NATIONAL CLIMATE POLICIES: STATUS REPORT (June 2022), https://perma.cc/FAG6-KGHV (reporting the status of including the rights of persons with disabilities in the climate plans of country Parties to the Paris Agreement).

program, or educational initiatives.¹⁹⁷ Transdisciplinarity is certainly not something that individual law schools can achieve alone. Instead, it concerns and requires collective wisdom and efforts from the broader university community.

VI. CONCLUSION

Climate law's multijurisdictional and dynamic nature brings theoretical, methodological, and pedagogical challenges. Teachers and curricula are crucial to addressing these challenges by explaining, communicating, constructing, and improving climate law. Law schools have the responsibility to teach and mentor students keen to shape the future development of climate law as scholars and practitioners. In Canada, teachers and students approach climate law through diverse legal curricula. Climate law is taught in a comprehensive account or with a topical or geographical focus. Aside from lectures, discussions, and other conventional pedagogies, some schools experiment with interactive and clinical learning. This diversity of course structures, contents, and approaches reveals the experimental and inconsistent climate law teaching across schools. Although more schools have created space for climate law courses in recent years, the majority do not. Climate law is still insignificant in the Canadian legal curricula.

Curricular development must evolve in the changing climate and legal context. Alongside the emerging corpus of climate legislation and lawsuits is a growing community of climate lawyers. However, climate law as a coherent, distinct normative system is a work in progress. This distinctiveness, with an emerging character, may explain why some schools have made serious teaching arrangements, but others do not. Sustained and advanced climate law development (e.g., normative strength and coherence, theoretical depth, methodological rigorousness, critical thinking and reimagining) is necessary for the field to mature. Legal education can support climate law's improvement and maturation by producing knowledge and fostering talents. This should inspire more Canadian law schools to amplify climate law's visibility and significance.

A close look at climate law's content, progress, and relative autonomy enables reflection on its place as a curricular subject. Despite the imperative for climate law to effectively interact with relevant legal fields, lawyers must grapple with its complexity and core expertise to better navigate concepts and debates across fields addressing climate change. The distance and connection between climate law and environmental law further illustrate the challenges and opportunities of managing their curricular relationship. Especially when placed in one

¹⁹⁷ For examples of these types of master's programs, see MA in Climate and Society, Columbia Climate Sch., https://perma.cc/JCP5-Y9G9 (last visited Dec. 17, 2022); Master of Climate Change, U. of Waterloo, https://perma.cc/SX5H-TED4 (last visited Dec. 12, 2022). For educational initiatives, see The Oxford School of Climate Change, Oxford Climate Soc'y, https://perma.cc/Y7YL-P9K5 (last visited Dec. 17, 2022).

course, they crowd out and leave limited space for each other. Climate law needs a separate space to explore broader topics and methods and experiment with interdisciplinarity. Until climate change is universally recognized by Canadian legal education, creating a climate law course is more manageable than (but does not exhaust the possibility of) integrating climate change into every relevant subject. This arrangement can also avoid teaching climate law in passing or fragments. In addition, what to teach at law schools is informed by a sum of interests and decisions. The capacity of each school and the expectations of students can impact the inclusion and improvement of climate law education. Governments and law societies may also have a say in (re)defining the content and format of legal education.

The enormous complexity of climate change makes it impossible for lawyers to ignore the wisdom of other disciplines. A good sense of law's role in an interdisciplinary context, such as its interactions with economic incentives, political power, and social norms, may help lawyers understand what drives agreement on climate action and whether an institution to be employed is sufficient. However, learning from other disciplines should not undermine the disciplinary core of climate law and its contribution to authoritative and legitimate collective action. A productive strategy that emphasizes climate law's intellectual integrity and strengths, and cross-fertilizes the core expertise of each discipline, would help the assessment of problems, causes, barriers, and solutions. All these require Canadian law schools to train students as both *legal* and *general* interdisciplinarians to navigate the gaps, interlinkages, and conflicts between climate law and other areas of law and knowledge.

This Article supports sustained reflections on Canada's climate law education by providing a preliminary analysis of its status quo and connecting the developments of climate law in legal education, scholarship, and practice. Future research needs empirical data (e.g., through interviews of students and practitioners) on what aspects of climate law curricula they found useful and the impact of their study on practice. There are other questions worth further attention: Should climate law education be mandatory for law students? Under what circumstances can legal curricula integrate climate change as a crosscutting theme? In what conditions can the potential of climatizing legal education be harnessed? How can law students address climate issues in a transdisciplinary environment? Is online teaching feasible and effective for climate law? How can law schools support each other? These questions can inform experimentation with approaches to bringing climate law to Canadian legal education. As this study is focused on Canada, whether the experience generated will apply to other jurisdictions requires case studies elsewhere. The study nevertheless presents some entry points for thinking, and even for action, to jurisdictions where climate law is not offered by every law school.