



# CLIMATE CHANGE LAW & POLICY

EPC 390, Sec. 21

Spring 2022 ■ MW: 9:30-10:20am

Parkes Hall 212

Dr. Wil Burns

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Office hours: by appointment (Zoom or phone), see links below

## Course Overview

Climate change is the keystone environmental issue of this generation, and most likely for many generations to come. It now appears inevitable that temperatures will increase this century by more than 2°C, and perhaps by substantially more than 3°C, with the inertia of the system ensuring that temperatures will continue to increase for centuries thereafter even under scenarios of total decarbonization. Climate change is already posing serious risks for both human institutions and natural ecosystems. These risks will seriously escalate throughout this century, especially if the world community fails to substantially increase its commitment to addressing greenhouse emissions, inadequately allocates resources to adaptation, or, perhaps, fails to commit itself to technological approaches to remove carbon from the atmosphere.

This course examines the potential role of the law in confronting climate change from an institutional and policy perspective, examining the role of treaties, national legislation (in the United States), sub-national responses and judicial and quasi-judicial fora. Among the topics that will be addressed include the science associated with climate change, the role of key international climate treaty regimes, including the United Nations Framework Convention on Climate Change and the Paris Agreement, national and state and local responses to climate change in the United States, the role of litigation in confronting major emitters, and the potential role of climate geoengineering approaches. It will also seek to help students develop critical skills of analysis of treaty provisions, legislative language, and court decisions, public speaking and cogent writing.

# Learning Objectives

**After taking this course you should be able to:**

- Identify the primary causes of anthropogenically-driven climate change and likely impacts;
- Identify and assess the operation and effectiveness of key elements of international climate treaty regimes;
- Understand the role of national and sub-national legislation and regulations in addressing climate change in the United States;
- Develop the ability to brief judicial decisions, with an emphasis on identifying the courts' key holdings and rationale, as well as learning to assess the merits of the courts' reasoning;
- Assess the potential risks and benefits of climate geoengineering approaches, and potential avenues for governance of research and/or potential deployment of such options.

# Class Contract

I am pretty “old-school” when it comes to how I view higher education. I do not consider students to be atomistic “customers” purchasing a “product,” and I am not simply here to be a vendor of a “product.” Rather, by enrolling in this course, you and I are entering into a social contract with each other, and with all the other students in the class, to foster an environment of learning and collaboration. Under the “terms” of this contract, it is my responsibility to always be well-prepared for class, responsive to communications outside of class, and to treat every student with fairness and respect. Consistent with this, I will always try to be accessible and try my best to return graded materials after no more than a week. In turn, by enrolling in the class students agree to: (1) attend classes regularly and punctually; (2) participate by asking questions and joining in class discussions; (3) read the assigned material and complete assignments on time; (4) Regularly consult the course Canvas site for updates and materials intended to facilitate class discussion, including current events pertinent to the topics we will discuss in class; (5) comply with class policies established in this syllabus, and (6) uphold Northwestern University’s commitment to academic integrity:

<https://www.northwestern.edu/provost/policies/academic-integrity/>

# Individual Meetings

My office hours this quarter will be by appointment, just click on one of the links below and it will facilitate reserving a place on my calendar:

- 15-minute phone call: [https://calendly.com/wil\\_burns/15min](https://calendly.com/wil_burns/15min)
- 30-minute phone call: [https://calendly.com/wil\\_burns/30min](https://calendly.com/wil_burns/30min)

- 15-30-minute Zoom call: [https://calendly.com/wil\\_burns/30-minute-zoom-call](https://calendly.com/wil_burns/30-minute-zoom-call)
- 30-60-minute Zoom call: [https://calendly.com/wil\\_burns/60min](https://calendly.com/wil_burns/60min)

## Course Readings

The readings for the course will be derived from the following sources, designated in the class schedule with the icons listed below:

- **E** **Electronic readings**, which are available on the course Canvas site for this course. Click on the “Files” link and look for the “Readings” folder.
- **O** **Online Hyperlinks**, which must be accessed via the online version of the Syllabus on the course Canvas site.

## Assessment/Assignment Schedule

Assignment	Deadline	% Grade
Mid-Term Examination	April 27-29	30
Final Examination	June 1-10	50
Class Participation	Ongoing	20

## Brief Description of Assignments

### Class Participation [20% of grade]

Class participation assessment will be comprised of your participation during lectures, including responses to treaty-interpretation questions.

### Mid-Term Examination [30% of grade]

The mid-term examination will be a 48-hour take-home, comprised of essay questions, with a page limit for each question. More details about the structure of the exam will be provided in class.

## Final Examination [50% of grade]

The mid-term examination will be a 48-hour take-home, comprised of essay questions, with a page limit for each question. More details about the structure of the exam will be provided in class.

## Policies

### GRADING:

All grades will ultimately be scaled to a 100-point system: A (94-100); A- (90-93); B+ (87-89); B (83-86); B- (80-82); C+ (77-79); C (73-76); C- (70-72); D (60-69); F (<60).

### PLAGIARISM:

Please refer to Northwestern's resources on academic integrity for guidance on how to properly use and credit research in your work: <http://www.northwestern.edu/provost/policies/academic-integrity/>.

Suspected violations of academic integrity will be reported to the Dean's Office. For more information on Northwestern's academic integrity policies, see:

<http://www.weinberg.northwestern.edu/handbook/integrity/index.html>.






### ZOOM ETIQUETTE:









- All students should have their cameras on during all online sessions, including, in fact, especially, in classes where we have guest speakers;
- Mute your microphones at all times when not speaking, and please try to minimize potentially distracting background noise;
- Dress like you are coming to class, i.e., no pajamas







### ACCOMODATION:






Any student requesting accommodations related to a disability or other condition is required to register with AccessibleNU ([accessiblenu@northwestern.edu](mailto:accessiblenu@northwestern.edu); 847-467-5530) and provide professors with an accommodation notification from AccessibleNU, preferably within the first two weeks of class (**by January 25**). All information will remain confidential.

## COURSE SCHEDULE



<b>3.28</b>	<b>Introduction to Course</b>
<b>Asynchronous Class Session</b>	<ul style="list-style-type: none"> <li>▪ Instructor introduction;</li> <li>▪ Review of syllabus</li> </ul>
<b>SECTION 1</b>	<b>The Science of Climate Change</b>
<b>3.30</b>	<b>Overview of Climate Change Science</b>
	<p><b>READINGS</b></p> <ul style="list-style-type: none"> <li>▪  IPCC, <a href="#">AR6 Climate Change 2021: The Physical Science Basis</a> 7-35 (2021)</li> <li>▪  Purohit, et al., <i>Achieving Paris climate goals calls for increasing ambition of the Kigali Amendment</i>, 12 NATURE CLIMATE CHANGE 339-42 (2022)</li> </ul>
<b>SECTION 2</b>	<b>International/Regional Legal Responses to Climate Change</b>
<b>4.4</b>	<p><b>The United Nations Framework Convention on Climate Change (UNFCCC), Part 1</b></p> <p><b>READINGS</b></p> <ul style="list-style-type: none"> <li>▪  <a href="#">Text of the United Nations Framework Convention on Climate Change</a> (1992)</li> <li>▪  WOLD, HUNTER &amp; POWERS, CLIMATE CHANGE AND THE LAW, Ch. 4, <i>The UNFCCC</i> (2009), at pp. 149-184</li> <li>▪  McGrath, <a href="#">Climate change: 'Monumental' deal to cut HFCs, fastest growing greenhouse gases</a>, BBC, Oct. 15, 2016</li> </ul> <p><b>STUDENT LEARNING EXERCISE</b></p> <p>Please have access during class to the <b>United Nations Framework Convention on Climate Change Treaty Interpretation Exercise</b>, which can be found in the “Treaty Interpretation Exercises” folder on the course Canvas site, and the text of the UNFCCC. These materials are also available in the Module for this class session. We will use these materials for our in-class group exercise.</p>
<b>4.6</b>	<b>The United Nations Framework Convention on Climate Change (UNFCCC), Part 2</b>





	<p><b>READINGS</b></p> <ul style="list-style-type: none"> <li>▪ <b>No additional readings</b></li> </ul> <p><b>STUDENT LEARNING EXERCISE</b></p> <p>Please have access during class to the <b>United Nations Framework Convention on Climate Change Treaty Interpretation Exercise</b>, which can be found in the “Treaty Interpretation Exercises” folder on the course Canvas site, and the text of the UNFCCC. These materials are also available in the Module for this class session. We will use these materials for our in-class group exercise.</p>
<p><b>4.11</b></p>	<p><b>The Kyoto Protocol</b></p>
<p><b>Asynchronous Online Class Session</b></p>	<p><b>READINGS</b></p> <ul style="list-style-type: none"> <li>▪  <a href="#">Text of the Kyoto Protocol</a> (1995)</li> <li>▪  WOLD, HUNTER &amp; POWERS, CLIMATE CHANGE AND THE LAW, Ch. 5, <i>Introduction to the Kyoto Protocol</i> (2009), at pp. 205-221 [from Section III]</li> <li>▪  Betsill, <i>International Climate Change Policy</i>, Ch. 10, THE GLOBAL ENVIRONMENT (2015), pp. 243-246 (up to “Negotiating the Cancun Agreement”)</li> <li>▪  de Cendra de Larragán, <i>The Kyoto Protocol, with a special focus on flexible mechanisms</i>, CLIMATE CHANGE LAW 227-36 (2016)</li> </ul>
<p><b>4.13</b></p>	<p><b>The Paris Agreement, Part 1</b></p>
	<p><b>READINGS</b></p> <ul style="list-style-type: none"> <li>▪  Text of the Paris Agreement (2015)</li> <li>▪  Rajamani &amp; Werksman, <i>The legal character and operational relevance of the Paris Agreement’s temperature target</i>, 376 PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY A 1-4 (2018)</li> <li>▪  Obergassel, et al., <i>Turning Point Glasgow? An Assessment of the Climate Conference COP26</i>, 15(4) CARBON &amp; CLIMATE LAW REVIEW 271-281 (2021)</li> <li>▪  Nathaniel Eisen, et al., <a href="#">Rights, Carbon, Caution: Upholding Human Rights under Article 6 of the Paris Agreement</a>, CIEL (2021), at 1, 7-20.</li> </ul> <p><b>STUDENT LEARNING EXERCISE</b></p> <p>Please have access during class to the <b>Paris Agreement Treaty Interpretation Exercise</b>, which can be found in the “Treaty Interpretation Exercises” folder on the course Canvas site, and the text of the Agreement. These materials are also available in the Module for this class session. We will use these materials for our in-class group treaty interpretation exercise.</p>
<p><b>4.18</b></p>	<p><b>The Paris Agreement, Part 2</b></p>

	<p><b>READINGS</b></p> <ul style="list-style-type: none"> <li>▪ <b>No additional readings</b></li> </ul> <p><b>STUDENT LEARNING EXERCISE, continued</b></p> <p>Please have access during class to the <b>Paris Agreement Treaty Interpretation Exercise</b>, which can be found in the “Treaty Interpretation Exercises” folder on the course Canvas site, and the text of the Agreement. We will use these materials for our in-class group exercise.</p>
<b>4.20</b>	<b>Climate Adaptation and International Law</b>
<b>Asynchronous Online Class Session</b>	<p><b>READINGS</b></p> <ul style="list-style-type: none"> <li>▪  Berrang-Ford, et al., <i>Tracking global climate change adaptation among governments</i>, 9 NATURE CLIMATE CHANGE 440-49 (2019)</li> <li>▪  Bhatasara &amp; Nyamwanza, <i>Sustainability: a missing dimension in climate change adaptation discourse in Africa?</i> 15(1) JOURNAL OF INTEGRATIVE ENVIRONMENTAL SCIENCE 83-97 (2018)</li> <li>▪  Magnan &amp; Ribera, <i>Global adaptation after Paris</i>, 352 SCIENCE 1280-82 (2016)</li> </ul>
<b>4.25</b>	<b>Loss &amp; Damage under the Paris Agreement</b>
	<p><b>READINGS</b></p> <ul style="list-style-type: none"> <li>▪  Burns, <i>Loss and Damage and the 21<sup>st</sup> Conference of the Parties to the United Nations Framework Convention on Climate Change</i>, 22 ILSA JOURNAL OF COMPARATIVE &amp; INTERNATIONAL LAW 415-433 (2016)</li> <li>▪  Broberg, <i>Interpreting the UNFCCC’s provisions on ‘mitigation’ and ‘adaptation’ in light of the Paris Agreement’s provision on ‘loss and damage,’</i> 20(5) CLIMATE POLICY 527-32 (2020)</li> <li>▪  Byravan &amp; Rajan, <i>Cross-border migration on a warming planet: A policy framework</i>, 13 WIRES CLIMATE CHANGE 1-9 (2022)</li> </ul>
<b>4.27-4.29</b>	<p><b>Mid-Term Examination</b></p> <ul style="list-style-type: none"> <li>▪ 48-hour take-home mid-term examination, posted on the site at 11:00am on Wednesday, April 27, due by 11am, Friday, April 29.</li> </ul>
<b>5.2</b>	<b>Reductions of Emissions from Deforestation and Degradation (REDD+)</b>

	<p><b>READINGS</b></p> <ul style="list-style-type: none"> <li>▪  Arts, et al., <i>The Performance of REDD+: From Global Governance to Local Practices</i>, 10 FORESTS 1-9 (2019)</li> <li>▪  Tegegne, et al., <i>REDD+ and equity outcomes: Two cases from Cameroon</i>, 124 ENVIRONMENTAL SCIENCE &amp; POLICY 324-335 (2021)</li> <li>▪  Hein, <i>Deforestation and the Paris climate agreement: An assessment of REDD+ in the national climate action plans</i>, 90 FOREST POLICY &amp; ECONOMICS 7-11 (2018)</li> </ul> <p><b>GUEST SPEAKER: Kim Marion Suiseeya, Assistant Professor, Environmental Policy &amp; Culture Program, Northwestern University,</b>  <a href="https://polisci.northwestern.edu/people/core-faculty/kimberly-marion-suiseeya.html">https://polisci.northwestern.edu/people/core-faculty/kimberly-marion-suiseeya.html</a></p>
<p><b>5.4</b> Synchronous Online Class Session</p>	<p><b>Formal and Informal Enforcement of Multilateral Environmental Agreements</b></p> <p><b>READINGS</b></p> <ul style="list-style-type: none"> <li>▪  Aakre, et al., <i>When Does Informal Enforcement Work?</i>, 60(7) JOURNAL OF CONFLICT RESOLUTION 1312-40 (2016)</li> </ul> <p><b>GUEST SPEAKER: Inger Weibust, Assistant Professor, Norman Paterson School of International Affairs, Carleton University,</b>  <a href="https://carleton.ca/npsia/people/inger-weibust/">https://carleton.ca/npsia/people/inger-weibust/</a></p>
<p><b>SECTION 3</b></p>	<p><b>Domestic Responses to Climate Change (United States)</b></p>
<p><b>5.9</b></p>	<p><b>Federal Responses to Climate Change (United States), Part 1: Executive Authority to Regulate Greenhouse Gases</b></p> <p><b>READINGS</b></p> <ul style="list-style-type: none"> <li>▪  <u>Massachusetts v. EPA</u> (U.S. Supreme Court, 2007)</li> </ul> <p><b>STUDENT LEARNING EXERCISE</b></p> <p>Please brief the U.S. Supreme decision of <u>Massachusetts v. EPA</u>. Use the “How to Brief a Case” template found in the “Case Briefing Exercises Folder” to brief the case. This materials are also available in the Module</p>







	for this class session. You will NOT be submitting the briefing; we will just use your briefs as grist for an in-class exercise, so please do the brief in advance and have a copy in front of you to help facilitate discussion.
<b>5.11</b>	<b>Federal Responses to Climate Change (United States), Part 2: Executive Branch Responses from Obama to Biden</b>
	<p><b>READINGS</b></p> <ul style="list-style-type: none"> <li>▪  <a href="#">Fact Sheet: Overview of the Clean Power Plan (2015)</a></li> <li>▪  <a href="#">Presidential Executive Order on Promoting Energy Independence and Economic Growth (2017)</a></li> <li>▪  Union of Concerned Scientists, <a href="#">The Clean Power Plan (2018)</a></li> <li>▪  Bade, <a href="#">Report: EPA planning 'inside the fence' Clean Power Plan replacement</a>, Utility Dive, Aug. 1, 2017</li> <li>▪  <a href="#">The Biden Plan for a Clean Energy Resolution and Environmental Justice (2020)</a></li> <li>▪  Woellert &amp; Colman, <a href="#">SEC proposes landmark climate rule</a>, Politico, March 21, 2022</li> </ul>
<b>SECTION 4</b>	<b>The Potential Role of Climate Litigation to Drive Emissions Reductions</b>
<b>5.16</b>	<b>The Potential Role of Climate Litigation in the United States and other Countries</b>
<b>Synchronous Online Class Session</b>	<p><b>READINGS</b></p> <ul style="list-style-type: none"> <li>▪  Butterfield, <i>The potential role of climate change litigation in furthering the mitigation objectives of the Paris Agreement</i>, 21 ASIA-PACIFIC LAW JOURNAL 29-49 (2018)</li> <li>▪  <a href="#">American Electric Power Company, Inc., et al. v. Connecticut (US Supreme Court. 2011)</a></li> <li>▪  Kaminski, <a href="#">Historic Urgenda Climate Ruling Upheld by Dutch Supreme Court</a>, Climate Liability News, Dec. 20, 2019</li> </ul> <p><b>Guest Speaker, Pat Parenteau, Professor, Vermont Law School,</b>  <a href="https://www.vermontlaw.edu/directory/person/parenteau-pat">https://www.vermontlaw.edu/directory/person/parenteau-pat</a></p> <ul style="list-style-type: none"> <li>▪ <i>Using the Courts to Save the Planet</i></li> </ul>

<b>SECTION 5</b>	<b>Sub-National Climate Policymaking</b>
<b>5.18</b>	<b>The Cities and Climate Change</b>
<b>Synchronous Online Class Session</b>	<p><b>READINGS</b></p> <ul style="list-style-type: none"> <li>▪  NYC Mayor's Office of Recovery and Resiliency, <i>Preliminary Climate Resiliency Design Guidelines</i> (2017)</li> </ul> <p><b>Guest Speaker, Valerie Amor, Founder and AOV of Drawing Conclusions LLC, <a href="https://www.linkedin.com/in/valerie-j-amor-lead-ap-cphd-cc-p-ecodistricts-ap-lfa-3a234b15/">https://www.linkedin.com/in/valerie-j-amor-lead-ap-cphd-cc-p-ecodistricts-ap-lfa-3a234b15/</a></b></p> <p><i>Art to Policy to Law: The Inception of the NYC Climate Resiliency Design Guidelines</i></p>
<b>SECTION 6</b>	<b>"Plan B?": Climate Geoengineering Approaches</b>
<b>5.23</b>	<b>Overview of Solar Radiation Management Geoengineering</b>
<b>Asynchronous Online Class Session</b>	<p><b>READINGS</b></p> <ul style="list-style-type: none"> <li>▪  Irvine, et al., <i>An Overview of the Earth system science of solar geoengineering</i>, 7 WIREs CLIMATE CHANGE 815-33 (2016)</li> <li>▪  McLaren, <i>Mitigation deterrence and the "moral hazard" of solar radiation management</i>, 4 EARTH'S FUTURE 596-602 (2016)</li> </ul>
<b>5.25</b>	<b>Overview of Carbon Dioxide Removal Geoengineering</b>
	<p><b>READINGS</b></p> <ul style="list-style-type: none"> <li>▪  Haszeldine, et al., <i>Negative Emissions Technologies and Carbon Capture and Storage to Achieve the Paris Agreement commitments</i>, 376 PHIL. TRANSACTIONS OF THE ROYAL SOCIETY, A 1-23 (2018)</li> </ul>
<b>5.25</b>	<b>MEMORIAL DAY: NO CLASS</b>

## 6.1

# Governance of Carbon Dioxide Removal Geoengineering

### READINGS

-  Scott, *Regulating Ocean Fertilization under International Law: The Risks*, 2 CCLR 108-15 (2013)
-  Burns, *Human Rights Dimensions of Bioenergy with Carbon Capture and Storage: A Framework for Climate Justice in the Realm of Climate Geoengineering*, CLIMATE JUSTICE: CASE STUDIES IN GLOBAL AND REGIONAL GOVERNANCE CHALLENGES 150-70 (2016)
-  Hester, *The paradox of regulating negative emissions technologies under US environmental laws*, 1 GLOBAL SUSTAINABILITY 1-7 (2018)
-  London Convention, [Annex 4, Resolution LP.4\(8\) on the Amendment to the London Protocol to Regulate the Placement of Matter for Ocean Fertilization and Other Marine Geoengineering Activities](#) (2013)

### STUDENT LEARNING EXERCISE

We will look at a series of treaties and resolutions pertinent to regulating climate geoengineering options. Those are available in the module for this class, as well as in the Treaty Interpretation Exercises folder under the Files tab.

## 6.1-6.10

### Final Examination

- Take-home final examination, posted on the site at 11:00am on June 1, due by 11am, June 10.