Course Description

This course focuses on the evolution, development, design, evaluation, and implementation of international climate change law and policy since the inception of the United Nations Framework Convention on Climate Change in 1992. Special focus is provided on current developments, including the Paris agreement and key bilateral activities, such as the US China relationship. In the process the course reviews frameworks, strategies, and mechanisms for climate change mitigation and adaptation, including methods for alignment of climate change goals with national vision and priorities such as economic growth, energy security, resource sustainability, health, finance, trade, and technology. It examines challenges of integrating these issues at the national, subnational, and multilateral levels and the interplay between "top down" and "bottom up" approaches that have characterized different periods of climate policy evolution. Finally, the course includes a review of the drivers of policy cooperation and conflict, strategies for building willpower and ambition through the use of law and policy, and conditions needed for successful design and implementation of programs.
Course Learning Objectives

Students will learn skills and concepts that enable the use of expert practices and leadership of international climate change policy issues, including:

- An informed historical perspective on the evolution and underlying issues driving international climate policy
- How international law and policy is formed and implemented on climate change mitigation and adaptation issues through the multilateral process
- How other law and policy interacts with climate change policy at the international, national, and subnational levels
- How international commitments and goals are developed and implemented by nations, and aligned with national vision and priorities
- Lessons learned in the successful negotiation, design, and implementation of climate change policies and integrative mechanisms
- How climate change policy development and analysis is conducted at the national and sub-national levels at the sector based and multi sector levels
- How future opportunities and challenges can be met through past proven approaches and future innovations
- How to develop cooperative approaches and reduce or resolve conflicts related to climate policy at the multilateral and bilateral levels
- How leaders can learn to understand international climate change policy and respond to it as a national priority

Readings

Weekly readings will be assigned and updated as needed during the course, including required and optional or reference readings. Readings can be retrieved through website listings in the syllabus and will be emailed or posted in library reserves as needed.

JHU Code of Conduct

JHU Ethics Statement: The strength of the university depends on academic and personal integrity. In this course, you must be honest and truthful. Ethical violations include cheating on exams, plagiarism, reuse of assignments, improper use of the Internet and electronic devices, unauthorized collaboration, alteration of graded assignments, forgery and falsification, lying, facilitating academic dishonesty, and unfair competition. Report any violations you witness to the instructor.

All students must abide by the JHU Code of Conduct available at [http://advanced.jhu.edu/wp-content/uploads/2013/01/AAP1101_CodeofConduct.pdf](http://advanced.jhu.edu/wp-content/uploads/2013/01/AAP1101_CodeofConduct.pdf). The JHU policy on plagiarism can be found at: [http://advanced.jhu.edu/students/plagiarism/](http://advanced.jhu.edu/students/plagiarism/). Plagiarism software may be used to check assignments.
Disability Statement

All students requesting accommodation for an on-going condition or an emerging one need to reach out to these services. The Johns Hopkins University is committed to providing reasonable and appropriate accommodations to students with disabilities. Students in Advanced Academic Programs (AAP) who are in need of accommodations should visit http://advanced.jhu.edu/current-students/current-students-resources/disability-accommodations/ or the appropriate steps and documentation needed. Requesting accommodations before the semester is preferable, but not required.

If interested, a student should submit the Request for Accommodation Form prior to the beginning of each semester they are registered to ensure that accommodations continue for that semester. Depending on the accommodation, there may be a time delay before accommodations can be implemented. More about this is available at this web link. For any AAP disability matters please use this email alias: aapdisability@jhu.edu.

Use of Laptops and Mobile Devices in Class

Computer equipment and mobile devices should be used only for class use for readings, notes, and online research. Students should have electronic versions of readings and websites ready on laptops or tablets for class discussion.

Class Schedule and Assigned Readings

Readings are a combination of summary and or survey materials combined with in depth materials for group discussion and exercises. Typically, readings will be short individually, but several may be required for each class. As needed, during the semester we may update or add readings to respond to class interests and incorporate newly acquired material. Class assignments may also be adjusted to meet teaching needs. Readings will be emailed the week in advance if they are not accessible through web links or E-Reserves. Due to inclement weather or travel commitments by the Professor, it may be necessary to conduct some classes remotely through teleconference and or webinar, or by online activities. Students should prepare for, attend, and participate as normal for any remotely conducted classes. Access to a desktop computer and an Internet connection will be necessary.

Grading

Grades will be based upon class participation, two assignments, and the policy memo. Students are expected to follow appropriate ethics and honor codes. Class assignments that are submitted after deadline will automatically be downgraded by one half grade for each day of lateness. JHU-AAP uses the full range of the lettered grading scale for consistency between courses: 98–100% A+, 94–97% A, 90–93% A-, 88–89% B+, 84–87% B, 80–83% B-, 70–79% C, <70% F.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Final Grade</th>
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<tr>
<td>Class Attendance, Participation, and Technical Discussion – All Classes</td>
<td>20 points</td>
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Assignments

1. **Class Participation**
   
   This course is a seminar and class participation is critical. Students should read assignments prior to each class and be prepared to analyze and discuss them in depth, including serving as discussion leaders. Paragraph summaries of readings may be required prior to or after class. Students will be graded on the frequency and quality of interventions and responses. Students who miss classes are responsible for materials reviewed and discussed in class, and should notify the professor in advance of any potential absences for support in covering class requirements. Students who have not read materials in advance and cannot contribute to discussions will be downgraded.

2. **Domestic Implications of Global Climate Change Policy, 4 Page Outline**
   
   Students will prepare a detailed outline that provides a comprehensive framework of domestic implications of international climate policy for the US, taking into consideration the full effects of national compliance for such commitments under a global policy mechanism that is administered through domestic mechanisms.

3. **National Climate Change Goal Setting, 6 Page Review and Recommendation Memo**
   
   Students will describe in detail the steps required to scope and set a national mitigation and adaptation commitment for submission to the UNFCCC and domestic ratification, including the impacts of climate change targets on economic and national security and other critical national priorities, as well as timetables in key sectors. (Assignment updated as a communication to the Trump Transition Team.)

4. **A Strategy for Building Willpower and Ambition for Global Climate Action, 8 Page Recommendation Memo**
   
   Students will prepare a memo to a high level official outlining the methods and strategies needed to ensure that change policies and programs proposed to reach 1.5-degree Celsius climate stabilization level goals by 2050 will be formulated in a manner that will build willpower and ambition at the na-
tional and international levels rather than resistance and conflict. (Assignment updated as a commu-
nication to the Trump Transition Team.)

Written Assignments
Assignments should be single-spaced with 1-inch margins on all sides, and in 12-pt Times Roman or Cali-
bri font in Microsoft Word or Pages.

I will provide comments on each assignment in addition to a grade. Comments will be in electronic for-
mat or hand written on hard copies.

Be sure to proofread and label your email file by date, subject, and name (e.g. 01-29-15 John Smith EES
Assignment 1).

Citations can be in any standard format you prefer (e.g., Chicago Manual of Style) but be consistent. Fill
out all citations (If footnotes include only hyperlinks, you will lose points).

Email each assignment to me before class time on the due date assigned and bring a hard copy to class.

Write your own papers. Conduct your own original research and analysis based on class readings and
discussion. Do not plagiarize and assume that your paper will be checked using plagiarism software.
Your grade is based on your effort and ability to think independently and insightfully.

Ensure that your writing shows that you have read and comprehend the literature and basic concepts
and techniques covered in class readings and lectures. The assignments tie back to class discussion and
are designed to rely on sources provided in class, so don't feel obligated to use secondary references. If
for some reason you do, use credible sources and cite them appropriately using AP guidelines.

Contact me any time if you have questions or would like to schedule time to discuss your work.

Class Schedule, Topics, Learning Objectives, Readings, and Assignments

I. September 7

A. Topics:
   1. Class orientation
   2. Overview of international climate science, impacts, and actions
   3. Overview of UNFCCC agreements and actions

B. Learning Objectives
   1. Climate change science, law, and policy concepts, history, status, and trends

C. Readings:
   1. Overview of Climate Change Science and Policy
      a) Greenhouse Effect [https://www3.epa.gov/climatechange/kids/basics/today/greenhouse-effect.html]

c) Climate Change Impacts https://www3.epa.gov/climatechange/kids/impacts/index.html

d) Climate Change Mitigation and Adaptation https://www3.epa.gov/climatechange/kids/solutions/index.html


2. Overview of UNFCCC agreements


3. Discussion: How do we translate science to policy?

D. Review of Next Week Readings and Assignments

II. September 14

A. Topics:

1. Introduction to the UNFCCC multilateral process, history, and evolution of agreements

B. Learning Objectives:

1. Understand the sequence, scope, and function of UNFCC instruments

C. Readings:


2. Key Decisions of the UNFCCC Conference of the Parties (COP):


b) Berlin Mandate: http://unfccc.int/resource/docs/cop1/07a01.pdf, pages 4-12


3. Discussion: What do each of the UNFCCC agreements seek to accomplish? What were the key drivers for these decisions?

D. Review of Next Week Readings and Assignments

III. September 21

A. Topics:
1. Global legal mechanisms related to climate change

B. Learning Objectives:
1. Understand the range and function of indirect as well as direct uses of international law for mitigation and adaptation of climate change

2. Readings:
   a) Treaties and Conventions (overviews)
      (2) https://en.wikipedia.org/wiki/International_law


3. Homework (Survey) Exercise and Discussion: Identify examples of international policy instruments and their role in climate change mitigation and adaptation in the areas of:
   a) Economic development and competitiveness
   b) Trade
   c) Technology
   d) Financing and Investment
   e) Energy
   f) Transportation
   g) Land and Water
   h) Waste
   i) Wildlife Conservation
   j) Health
   k) Natural Disasters
   l) Security

4. Discussion: Review results of homework assignment. How do nations form agreements between each other? How effective are they?

5. Review of Next Week Readings and Assignment

IV. September 28

A. Topics:
   1. Multi sector global mechanisms for climate change mitigation and adaptation

B. Learning Objectives:
   1. Understand the range and function of multi sector cooperative mechanisms for international climate change policy

C. Readings:
2. Clean Development Mechanism (CDM), http://unfccc.int/kyoto_protocol/mechanisms/clean_development_mechanism/items/2718.php

D. Exercise and Discussion: How does the economy need to be involved in climate change solutions? What is the best way to do this?
E. Review of Assignment #1: Domestic Implications of Global Climate Change Policy, 4 Page Outline
F. Review of Next Week Readings and Assignments

V. October 5
A. Topics:
   1. Climate change goal setting, planning, and capacity building mechanisms
   2. Stepwise, comprehensive, multi objective climate change action planning processes
B. Learning Objectives:
   1. Understand how goal setting for mitigation and adaptation supports multilateral commitments and implementation mechanisms
2. Understand how comprehensive policy development is conducted at the national and sub-national levels

C. Readings:
   2. Ukraine Municipal Energy Reform Project, Advisory Memo on EC LEDS, via email
   5. Intentionally Determined National Contribution (INDC), Macedonia, http://www4.unfccc.int/submissions/INDC/Published%20Documents/The%20former%20Yugoslav%20Republic%20of%20Macedonia/Submission_Republic_of_Macedonia_20150805144001_135181.pdf
   10. Survey: Survey to be conducted in class

D. Exercise and Discussion: What are they key elements of and options for goal setting? What are the key steps and capacities needed for planning? What are the most effective approaches for training and capacity building and how are they best configured?

E. Review of Next Week Readings and Assignments

VI. October 12

A. Topics:
   1. Global climate change financing and investment mechanisms

B. Learning Objectives:
   1. Understand the need for financing of climate change actions and key official mechanisms that exist as well as emerging mechanisms

C. Readings:
   1. Mechanisms


h) Global Environment Facility (GEF), [https://www.thegef.org/our-work](https://www.thegef.org/our-work)

i) Financial readiness for technology transfer programs, [http:// unfccc.int/ttclear/misc_/StaticFiles/gnwoerk_static/IMS_TRM/d1378249309403eae83523069550ee4/9d04d9cb74244040b076f4fa35b1274.pdf](http://unfccc.int/ttclear/misc_/StaticFiles/gnwoerk_static/IMS_TRM/d1378249309403eae83523069550ee4/9d04d9cb74244040b076f4fa35b1274.pdf) (reference use)


2. Practices


3. Status and Trends


D. Discussion: How much funding is needed to implement global climate change mitigation? Adaptation? Where do we find those funds? How do we mobilize them?
E. Assignment #1 Due: Domestic Implications of Global Climate Change Policy, 4 Page Outline

F. Review of Next Week Readings and Assignments

VII. October 19

A. Topics:
   1. Global climate change technology mechanisms

B. Learning Objectives:
   1. Understand the range and function of multilateral technology exchange instruments that implement climate change policy directly or indirectly

C. Readings:
   1. UNFCCC Technology Work, http://unfccc.int/focus/technology/items/7000.php (explore links)
   2. Compilation and synthesis of technology transfer activities reported in the fifth National Communications, http://unfccc.int/tticalar/misc_/Stat-
icFiles/gnwoerk_static/IMS_BLS/a70e62d7861e4f1c9a6fb250af63d1c2/56314f26379d4df4a
   a8dd1285d438036.pdf (read summary and a few country examples)
   4. What Would It Really Take to Reverse Climate Change? Today's renewable energy technologies won't save us, so what will? Ross Koningstein and David Fork, http://spec-
trum.ieee.org/energy/renewables/what-it-would-really-take-to-reverse-climate-change
   5. Big Think Interview with Nate Lewis, Cal Tech (where will our future energy come from), https://youtu.be/55KoDmTxaU (27 minute video)
   admiral-hyman-rickover-delivered-1957
zine/archive/2015/11/we-need-an-energy-miracle/407881/)
   8. No Bill Gates, We Don’t Need ‘Energy Miracles’ To Solve Climate Change, Joe Romm,
   https://thinkprogress.org/no-bill-gates-we-dont-need-energy-miracles-to-solve-climate-
   change-60ac8bb9e2e
   brary/download/1100, review technology based options in all sectors for discussion
      a) Heat and Power (production and consumption)
      b) Transportation and Land Use
      c) Waste Management
      d) Agriculture and Forestry

D. Exercises and Discussion:

1. Technology: What level and kind of technology is needed? When and where? What are the key areas of technology needed for climate change response? How can these technologies be shared and adopted?

E. Review of Next Week Readings and Assignments

VIII. October 26 (no class)

A. Topics: Begin work on Assignment #2

IX. November 2

A. Topics:

1. Global climate change technology and trade mechanisms

B. Learning Objectives:

1. Understand the range and function of multilateral trade and technology exchange instruments that implement climate change policy directly or indirectly

C. Readings:

1. International Trade and Climate Change: Economic, Legal, and Institutional Perspectives, World Bank Group, [https://openknowledge.worldbank.org/bitstream/handle/10986/6831/41453optmzd0PA101OFFICIAL0USE0ONLY1.pdf?sequence=1&isAllowed=y](https://openknowledge.worldbank.org/bitstream/handle/10986/6831/41453optmzd0PA101OFFICIAL0USE0ONLY1.pdf?sequence=1&isAllowed=y), Chapters 2, 3, and 5, Appendices 5 and 6


3. Trade and Climate Change: WTO-UNEP Report, [https://www.wto.org/english/res_e/booksp_e/trade_climate_change_e.pdf](https://www.wto.org/english/res_e/booksp_e/trade_climate_change_e.pdf), Chapters 2 a-c, 3 b, 4 a

4. Trade and Climate Change:


D. Exercises and Discussion:
1. Trade: How does trade affect climate change and climate policy? How does this affect specific sectors of the economy?

E. Review of Next Week Readings and Assignments

X. November 9

A. Topics:
   1. Sector based approaches to climate change

B. Learning Objectives:
   1. Understand programs and strategies in natural resource and energy sectors

C. Readings:
      a) Chapter 11, Agriculture and Forestry
      b) Chapter 7, Energy
   2. CCS Catalog of Actions, http://www.climatestrategies.us/library/library/view/1100, Forestry; Agriculture; Energy Supply; Residential, Commercial, Industrial, Institutional sections
   3. General Strategies for Sectors, CCS, via email
   4. Global energy and resource programs
      b) Clean Energy programs, Strengthening Clean Energy Technology Cooperation Under the UNFCCC, Steps Toward Implementation, NREL, August 2010, http://www.nrel.gov/docs/fy10osti/48596.pdf, pages 1-38,

D. Discussion:
   1. Review strategies and programs in each sector

E. Review of Next Week Readings and Assignments

F. Review of Assignment #2: National Climate Change Goal Setting and Integration, 6 Page Review and Recommendation Memo

XI. November 16 (travel date; online class)

A. Topics:
   1. Sector based approaches to climate change, continued

B. Learning Objectives:
   1. Understand programs and strategies in transportation, land use, and waste sectors

C. Readings:
   a) Chapter 8
   b) Chapter 12
3. UN Climate Summit, Transportation Results: [http://newsroom.unfccc.int/green-urban/un-climate-summit-transportation/](http://newsroom.unfccc.int/green-urban/un-climate-summit-transportation/)
4. General Strategies for Sectors, CCS, via email
5. Global transportation and waste management programs
   a) Transportation and Urban Land Use, TBD
   b) Waste Management, TBD

D. Discussion:
   1. Review strategies and programs in each sector
E. Review of Next Week Readings and Assignments
F. Homework Assignment Due: Developing a policy option for each sector

XII. November 23 (virtual class, normal time)

A. Topics:
   1. Climate change policy development for adaptation
   2. Intersection of climate change mitigation and adaptation

B. Learning Objectives:
   1. Understand the purpose, role, and function of inventories and forecasts of vulnerabilities (adaptation) for the development of goals as well as policies and measures
   2. Understand options and techniques for integrating climate change mitigation and adaptation

C. Readings:
   4. Databases and catalogs of potential policies and measures to respond to climate change adaptation needs, [http://unfccc.int/adaptation/workstreams/nairobi_work_programme/items/6547.php](http://unfccc.int/adaptation/workstreams/nairobi_work_programme/items/6547.php), (examples, reference only)
D. Exercise and Discussion: What kinds of risk and response baselines are needed for climate change adaptation policy? What are their drivers? How are they measured? How are they managed within and across sectors? How are climate change mitigation and adaptation needs related?

E. Assignment #2 Due: National Climate Change Goal Setting and Integration, 6 Page Review and Recommendation Memo

F. Review of Assignment #3: A Comprehensive Strategy for Building Willpower and Ambition for Global Climate Action, 8 Page Recommendation Memo

G. Review of Next Week Readings and Assignments

XIII. November 30

A. Topics:
   1. Paris Agreement Implementation

B. Learning Objectives:
   1. Understand implementation needs and strategies for the Paris agreement

C. Readings:
   2. Paris
      b) Morocco COP22 updates:
         (1) Status of Paris Agreement Ratification: http:// unfccc.int/paris_agreement/items/9444.php
         (3) Statements of Intent, Business: http:// www.lowcarbonusa.org
         (8) NDC Status: http:// www4.unfccc.int/ndcregistry/Pages/All.aspx, reference use only


(12) Long Term Ambition: http://newsroom.unfccc.int/paris-agreement/first-long-term-climate-strategy-submitted-to-un-under-paris-agreement/; review summaries of mid century decarbonization scenarios for the US, Mexico, Canada, Germany


D. Discussion:

1. Paris: What conditions are required for successful implementation of the Paris agreement? What can we expect over the next five years of UNFCCC agreements? Related multilateral actions?

E. Review of Next Week Readings and Assignments

F. Review of Assignment #3: A Comprehensive Strategy for Building Willpower and Ambition for Global Climate Action, 8 Page Recommendation Memo

XIV. December 7

A. Topics:

1. US China Climate Change cooperation
2. Other important bilateral relationships

B. Learning Objectives:

1. Understand the nature and importance of US China climate policy cooperation
2. Understand the importance and role of bilateral relationships and mechanisms

C. Readings:

1. China 12th Year Plan on Climate Change: 1) https://www.chinadialogue.net/UserFiles/File/PDF_ebook001.pdf (pages 1-15), and 2) http://www.c2es.org/international/key-country-policies/china/energy-climate-goals-twelfth-five-year-plan

12. Discussion: China: Where China’s plans? How will the US and China cooperate in the future? How does this affect other nations?

XV. December 14

A. Topics:
   1. Conditions for building willpower and ambition
   2. Course review and synthesis

B. Learning Objectives:
   1. Understand the set of conditions needed to establish climate change as a national priority and how to enable them through law and policy
   2. Review of course and assignments 1-3 to synthesize learning

C. Readings:
   1. ELI Paper, Comment #2, by email
D. Discussion: What are the key conditions needed to build willpower and ambition for strong climate goals? How can these be implemented through law and policy? Why isn't this happening? What have we learned from assignments 1-3?

E. Submission of Assignment #3: A Comprehensive Strategy for Building Willpower and Ambition for Global Climate Action, 8 Page Recommendation Memo