Carleton University
School of Public Policy *& Administration*
PADM5620
The Science, Politics and Economics of Global Climate Change

Professor Glen Toner ***Winter 2015***

Seminar: Wednesday 11:30 – 2:30 RB 3112 Office River Building 5216
Email: glen.toner@carleton.ca Phone: 520-2600 x2559
Office Hours: Wednesday 2:30 – 4:00 or by appointment

Course Objectives

While making much of the Liberal's inability to make substantive progress on the climate change file during its 13 years in power, the Stephen Harper led Conservative Government promised to "Turn the Corner". However, the Conservatives have succumbed to the same challenges in moving forward in a meaningful manner on this issue with its deeply interconnected policy dimensions that routinely fracture along regional and environment vs economy lines. Rather than 'turn the corner' the Conservatives just 'wait and see' and will not act unless and until the U.S. government acts first. Simply put, this is not a policy issue that Harper or many members of the Conservative caucus care much about.

After the drama of 2009, progress on the international level came to a crawl in 2010 and has not fully recovered by 2014. The December 2009 negotiations in Copenhagen under the United Nations Framework Convention on Climate Change (UNFCCC) attracted powerful heads of government and was expected to chart a new, broader and more robust path for coordinated action upon expiry of the Kyoto Protocol in 2012. Instead, Copenhagen ended in discord, raising serious questions about the utility of international negotiations on the climate, and other issues. The goal now is an inclusive agreement at COP 21 in Paris in December 2015.

In the meantime, the global temperatures continue their relentless climb and 2011, 2012, and 2013, 2014 have been filled with one extreme weather event after another in both the Northern and Southern hemispheres. Two factors confounding climate policy during 2009-2013 are:

- The legacy of a serious and continuing fiscal crisis, a crisis that is disproportionately affecting well developed OECD nations – those expected to deliver absolute reductions of greenhouse gas emissions under the Kyoto Protocol, and to finance substantial adaptation funds for the developing countries who will face the major infrastructure and human impact costs of rising sea levels and extreme weather events;
- A re-ordering of the global political and economic balance, which has seen the so called BRIC nations (including Brazil, Russia, India, China) and their rapidly growing emissions profile ascending in influence.

The commencement of a new dialogue between the Americans and the Chinese in the fall of 2014 in the run-up to the Paris COP may portend a geopolitical shift of significant proportions.

In the face of political developments, the scientific evidence continues to accumulate and scientists are fighting back with increasingly frequent and urgent warnings on the need to act swiftly and dramatically. The Fifth IPCC Assessment Report (2014), which is based on a summation of all the peer reviewed science publications of the previous six years, is the most definitive yet on the anthropocentric causes of climate change. While acknowledging the warnings and agreeing, in principle, on the need for massive and truly radical reductions (i.e. 50% to 80% by mid-century) governments, both in Canada and abroad, continue to stumble in putting in place anything other than token and local measures for making progress on this imperative. This is despite the fact that few other policy issues are likely to impact as profoundly on the social and economic fabric of Canada and the rest of the world in the 21st Century. Indeed, both scientific and national security organizations are now drawing the links between climate change, ecological catastrophes, social and economic discord, and political violence in various parts of the developing world.

This course will analyse the Canadian response since the 1992 Rio Earth Summit and explore developments under the Kyoto regime and post-Copenhagen, heading to the 2015 Paris COP, within an international context. The geopolitics of climate change policy has generated much contentious debate both within Canada and amongst nations. The course will assess the core scientific drivers. The economic implications for both the developing and developed countries and for the various regions of Canada will be analyzed. The international community put in place an international protocol process to reduce emissions of climate change gases, and the course will assess the dynamics of this process while contemplating its successor. A range of innovative policy instruments, such as domestic and global emission trading systems have been proposed along with modifications to more traditional regulatory and fiscal instruments. The course will assess the views of industry, environmentalists, scholars and other experts in the debates surrounding the policy response. While the course readings are already extensive, this is very much a 'live' policy issue. Every effort will be made to ensure that students will be exposed to new literature which emerges during the term of the course.

Format

This is a literature-based graduate seminar and students will be expected to analyze the weekly readings and come to class prepared to discuss them. I will set the context for each week's discussion with an introductory presentation and will act as a resource person. This is a highly participatory graduate seminar and students will be responsible, on a regular, rotating basis, for highlighting the salient arguments of the readings and raising questions for discussion. Experts from the policy community will visit the seminar to provide insights into the scientific issues, international convention making, domestic policy co-ordination, and the economic instruments and accompanying debates. While climate change is an inherently international policy challenge, a significant effort will be made to understand the impacts for Canada and the policy response of Canadian public and private sector authorities.

In-Class Literature Presentation

Each course reading will be presented and critiqued by a member of the class. **The ability to analyse, critique, and present a complex document/article is a highly valuable professional skill required in all career paths. Each student will have the opportunity to formally present material several times in the class, providing ample opportunity to strengthen both analytical and presentation skills.**

You should assume that everyone has read the materials, so the presentation should be thematic and analytical. Rather than a linear summary or description of the reading, the presentation should be organized around a set of questions about the theme for that week, and how the reading is connected to that theme. Research the authors of the literature and introduce them to the class at the beginning of your presentation. The précis must be no more than 2 pages in length. In bullet form consider:

What are the implications of the arguments in the reading for the issue for this week?
What are the practical consequences for sustainable production from the reading?
What are the primary pillars of the argument? Are there important weaknesses or contradictions in the reading?

In addition to these questions, you can develop several more that are specifically keyed to the topic being discussed that week. **At least 24 hours before the class, presenters must post their presentations for the class on the course CU Learn website.**

The presentation should be about 10 minutes in length. Presenters should think through how they can make their presentation appealing and comprehensible. After the presentation, the presenter and I will lead the discussion. Be prepared with additional questions and comments to stimulate the discussion. Real-world examples or illustrations of theoretical points in the readings are also welcome where appropriate.

Research Essay

While the first 9 weeks constitute a "deep dive" into the literature, weeks 10-13 focus on your research. Strong research and writing skills are essential for success in a professional career in policy analysis. This is an upper year seminar in one of the SPPA graduate specializations and all the written work in this course focuses on the research essay which will be 6000- 6500 words. This provides adequate space for an in-depth analysis of a climate change issue of your choice. It will be expected that the essay will apply the conceptual tools developed in the class.

Students must submit a hardcopy research essay proposal at the end of class on **February 11th** for review and approval. It should be about 1500 words in total and contain the following:

- A tentative title that helps crystallize the focus.

- A succinct introductory paragraph that briefly outlines the problem/issue that you are examining, why it is important, and how you propose to proceed.
- The research question that will guide the work.
- A longer section that fleshes out the issue/problem, and provides a more developed plan of how you will structure your approach to the essay.
- A brief discussion of the methodology that will be deployed.
- A list of 8-10 sources that you have consulted with a brief annotation of why each piece is important for your work, as well as a short unannotated list of other possible sources.
- A brief bulleted outline of the paper by sections.
- Please provide a word count.

Each student will have the opportunity to present their research to the class in a formal in-class presentation. This will provide the student with a valuable opportunity to "test run" arguments she/he is developing in the essay and to seek both feedback on and additional ideas for their work. While this is of great benefit to the author, it is also a powerful collective learning experience for all class members as they get to see and discuss the research of their peers and to see and practice the skills associated with designing and delivering sophisticated oral presentations. Students will use well designed power point presentations to help guide their presentations. These presentations are often a true highlight of the course.

The final essay must be properly cited using footnotes and a full bibliography, including internet sources. Use the SPPA ISEMA journal as your guide, as two papers from the class will be nominated for submission to the highly competitive ISEMA peer review process. While the internet is a useful resource, please avail yourself of the full range of electronic research tools that exist. In all cases the essays must be a critical and analytical treatment of the subject. In grading the essays I will look for: a) a convincing argument that is substantiated by the literature; b) evidence that the concepts and ideas relevant to the subject matter have been digested and discussed appropriately; c) the ability to think critically and analytically; d) the integration and synthesis of ideas, concepts and empirical data; e) a logical and clear structure, and; f) appropriate references and graduate level writing style**.** **Please print on both sides of the page and provide a word count.**

Your paper must be submitted in hardcopy by **5:00 pm April 15th**. You must also submit an electronic version of your paper. I will grade the hardcopy, and retain the electronic version in the databank of papers submitted. Extensions will be granted only in cases of documented illness or serious domestic affliction.

Grading

35% Course Participation
20% Research Essay Presentation
45% Research Essay

Carleton University uses a 12 point grading scale from A+ (12, or 90-100%) to D- (1, or 50-52%). Normally, students do not get credit for courses with a grade less than B-. The School of Public Administration has adopted the following point equivalencies and interpretation for letter grades definitions of letter grades.

A+	12	Outstanding. For written work, virtually publishable. Demonstrates evaluative judgement and mastery of technical as well as literary aspects of writing.
A	11	Excellent. Demonstrates superior grasp of material and capacity to understand and extend underlying patterns.
A-	10	Very good. Demonstrates clear grasp of material, its component parts, and capacity to analyze their relationships to each other.
B+	9	Good. Demonstrates basic understanding of material and ability to apply concepts. Written work is competent.
B	8	Satisfactory, but below average. Demonstrates comprehension of material with some limited ability to apply concepts.
B-	7	Adequate, but less than average. Demonstrates comprehension and understanding, with limited capacity for application.
C+	6	Less than adequate. A final grade of C+ is not normally sufficient for credit.
C to D-		Grades in this range indicate work that is passable in some respects but that does not meet the standards of graduate work. An example would be an assignment completed to the expectations of a senior undergraduate course.
F		Failure. Did not meet minimal requirements.

Grades of A- or B+ should be considered as good, solid performances that hover around the average for this level. Grades will be awarded as letter grades, but I will calculate your final grades as the weighted mean of the grade point equivalencies. Example: A- on an exam worth 30%; A on participation worth 20%, and B+ on a paper worth 50%;

A- 10 x .30 = 3.00
A 11 x .20 = 2.20
B+ 9 x .50 = 4.50

Final 9.70 or B+

The letter grade will correspond to the interval in which the numerical grade falls (eg., anything between 9.0 and 9.9 = B+)

ACADEMIC ACCOMMODATION

You may need special arrangements to meet your academic obligations during the term. For an accommodation request the processes are as follows:

Pregnancy obligation: Write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website: http://www.carleton.ca/equity/

Religious obligation: Write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website: http://www.carleton.ca/equity/

Academic Accommodations for Students with Disabilities:

1. Identify your needs for disability-related academic accommodations to the Paul Menton Centre (PMC), supported by relevant and recent documentation from a registered health care professional, by booking an intake appointment with a PMC Coordinator. Documentation forms are available for download on the PMC website http://www.carleton.ca/pmc/.
2. With appropriate documentation and your input, your PMC Coordinator will formally evaluate your needs for accommodation by establishing a protocol. Factors taken into consideration when establishing an accommodation protocol are the specific impact of your disability on academic functioning, the degree of the impact, the extent in which your documentation supports your requests, and whether the accommodation will significantly compromise the essential requirements and/or academic integrity of the course or program.
3. You must request accommodations at the beginning of each academic term. New students are required to meet their PMC Coordinator in the Fall and Winter Terms. If you are a returning student, you may have the option of submitting your request for accommodation on line via myPMC.
4. You will be issued a "Letter of Accommodation" for each course, stating your documented accommodation needs. The Letter is sent by email to your course instructor and your Carleton email.
5. You are required to speak to your course instructor soon after receiving the Letter to discuss how best to implement your accommodations. Please note that a 2-week notice is required for instructors to make accommodation arrangements for any in-class scheduled tests/quizzes/midterm exams.
6. The deadline to request accommodations for formally scheduled exams each term is published on the PMC website, on the Deadline Dates page http://www.carleton.ca/pmc/students/dates-and-deadlines/.
7. If your course instructor does not agree to any or all of your accommodations as stated on your Letter of Accommodation, you should contact your PMC Coordinator to request that s/he initiates an informal review of the decision.

You can visit the Equity Services website to view the policies and to obtain more detailed information on academic accommodation at http://www.carleton.ca/equity/

ACADEMIC INTEGRITY

Students are also expected to be thoroughly familiar the University's standards on academic integrity, as set out in sections 18.3, 18.4, and 18.5 of the General Regulations of the Graduate Calendar (see http://calendar.carleton.ca/grad/gradregulations/administrationoftheregulations/#18), and in greater detail in the Carleton University Academic Integrity Policy (see http://www1.carleton.ca/senate/ccms/wp-content/ccms-files/Academic-Integrity-Policy.pdf). Of particular note in both documents are the sections on plagiarism, the most serious academic offence. Instructors are required to report all suspected cases of this violation to the Faculty Dean.

SEMINAR SCHEDULE

Week 1: Introduction (January7)

Download Harold Wanless

Download Pope Francis declares war on climate change, other religions follow - Jan 5, 2015

Week 2: Climate Change 101: The Scientific Basis (January 14)

Intergovernmental Panel on Climate Change (IPCC) Working Group I, *Climate Change 2013: Physical Science Basis - Summary for Policy Makers* and *Front Matter* http://www.ipcc.ch/report/ar5/wg1/

The Global Commission on the Economy and Climate. *The New Climate Economy 2014*, *Overview* and *Global Action Plan* and Sir Nicholas Stern, *Theories and perspectives on growth and change: Guidance from the Economics Advisory Panel for the report of the Commission.*

World Bank, 4 Degrees - *Turn Down the Heat: Confronting the New* Climate *Normal*, November 2014. Executive Summary and Chapter 2.

Week 3: Mitigation: Cutting Our Emissions and (January 21)

Intergovernmental Panel on Climate Change (IPCC) Working Group I11, *Climate Change 2014: Mitigation of Climate Change - Summary for Policy Makers*

The Global Commission on the Economy and Climate. *The New Climate Economy 2014, Chapter 4 on Energy and Chapter7on Innovation* *http://newclimateeconomy.report/*

Hugh Compston and Ian Bailey, "Climate Policies and Anti-Climate Policies," *Scientific Research Open Access*, Vol.3 No.4, October 2013. 146-157.

Pathways to Deep Decarbonization, *2014 Report*, Executive Summary

International Energy Agency, *World Energy Outlook Special Report: Re-Drawing the Energy Climate Map*, June 2013. Executive Summary and Chapter 1.

Week 4: Adaptation: Hedging Our Bets (January 28)

Intergovernmental Panel on Climate Change (IPCC) 2014, Working Group I1, Impacts, Adaptation and Vulnerability: Summary for Policymakers.

The Global Commission on the Economy and Climate. *The New Climate Economy* 2014, Chapter 2 on Cities and Chapter 3 Land Use.

International Institute for Sustainable Development, *Climate Change Adaptation and Canadian Infrastructure*, 2013.

University of Waterloo, *Climate Change Adaptation: A Priorities Plan for Canada: Report of the Climate Change Adaptation Project* (Canada) 2012.

- This report is the result of a University of Waterloo-led, cross-Canada initiative to understand how Canadians will be materially affected by climate change, and operationalize practical and cost-effective solutions to the most challenging of these impacts.

Nancy Cruz, "Bigger is Better: Densification as a Climate Change Mitigation Tool," *ISEMA*, Volume 9, Fall 2014, pp. 40-57.

Week 5: The Role of Economic Instruments (February 4)

Guest: Dave Sawyer, EnviroEconomics

Bridle, Richard and Lucy Kitson, *Impact of Fossil Fuel Subsidies on Renewable Electrical Generation*, International Institute for Sustainable Development, December, 2014.

The Global Commission on the Economy and Climate, "*The New Climate Economy* 2014," Chapter 5 on Economics of Climate Change and Chapter 6 on Finance

World Bank. 2014. State and Trends of Carbon Pricing 2014. Washington, DC: World Bank

Pathways to Deep Decarbonization, *2014 Report*, Canada Chapter
http://unsdsn.org/wp-content/uploads/2014/09/DDPP_2014_report_Canada_chapter.pdf

Week 6: The Evolution of the International Policy Response: Onward to Paris (February 11) Paper Proposals Due

Guest: Doug Russell, Former Canadian CC Negotiator

Historical Agreements

1988 Toronto World Conference on the Changing Atmosphere, Conference Declaration

Rio Framework Convention on Climate Change

Kyoto Protocol to the United Nations Framework Convention on Climate Change

Copenhagen Accord

The Global Commission on the Economy and Climate, "*The New Climate Economy* 2014*,"* Chapter 8 on International Cooperation.

New York and the People's Climate March

350.org, "People's Climate March Report Back," *350.org* Watch the video and peruse the website

350.org, "Largest Global Call for Climate Action in History," *350.org*, September 21, 2014

Foderaro, Lisa., "Taking a Call for Climate Change to the Streets," *New York Times*, September 21, 2014.

Visser, Nick., "Hundreds of Thousands Turn Out for People's Climate March in New York City," *Huffington Post*, September 21, 2014

Lima 2014: On the Road to Paris

UNFCCC, "Lima Call for Climate Action Puts World on Track to Paris 2015," UNFCCC Newsroom, December 14, 2014

UNFCCC, "Lima Call for Climate Action," UNFCCC-COP 20, December 14, 2014 {For Reference Only}

Tomlinson, Shane., "Lima Climate Deal Marks Progress but Challenges Remain," Catham House: Expert Commentary, December 16, 2014

Goldenberg, Suzanne., "Lima Climate Summit Extended as Poor Nations Demand More From Rich," *The Guardian*, December 12, 2014

Howard, Brian C., "5 Key Takeaways From UN Climate Summit in Lima," *National Geographic News*, December 12, 2014

Preparing for Paris 2015

Morgan, J., Dagnet, Y., Tirpak, D. 2014. "Elements and Ideas for a 2015 Paris Agreement" Working Paper. Washington, DC: Agreement for Climate Transformation 2015 (ACT 2015).

Jacoby, Henry D. and Y.-H. Henry Chen, "Expectations for a New Climate Agreement," *MIT Joint Program on the Science and Policy of Global Change*, Report 264, August 2014.

Morgan, J., and Waskow D., "A New Look at Climate Equity in the UNFCCC." *Climate Policy*, 2014, Vol. 14, No. 1, 17–22.

Global Compact or Bi-Lateral Cooperation?

Keohane, R. O., and D. G. Victor. "The Regime Complex for Climate Change." *Perspectives on Politics*, 2011, o. 9 (1): 7-23.

The White House, *U.S.-China Joint Announcement on Climate Change*, November 11, 2014.

Preston, Felix, and Shane Tomlinson, "US and China Launch a New Era of Climate Diplomacy," *Catham House: Expert Comment*, November 14, 2014

Levi, Michael A., "The Obama-China Climate Deal Can't Save the World. So What?," *Washington Post*, November 21, 2014.

Week 7: Reading Week (February 18)

Week 8: (February 25) No Class (Work on Research Essay Presentations)

Week 9: The Feds, The Provinces & the Climate Change Saga (1998 – 2015) (March 4)

Guest: Matt Jones, Director, Air Emissions Priorities Division, Environment Canada

Where are we and How Did we Get Here?

Federal Government

Government of Canada, May 2008. *Turning the Corner: Regulatory Framework for Industrial Greenhouse Gas Emissions*

The Federal Government has taken a sector-by-sector approach to regulating greenhouse gas emissions. In the final months of 2012 and early 2013 the government ratified regulations for two major sectors, coal fired power plants and passenger transportation.

Environment Canada, *Planning for A Sustainable Future: A Federal Sustainable Development Strategy for Canada 2013–2016*, November 2013. Executive Summary and Theme 1: Addressing Climate Change and Air Quality

Environment Canada, *Canada's Emission Trends 2014*. November 2014.

Commissioner of Environment and Sustainable Development, Report to Parliament, Fall 2014, Chapter 1,"Mitigating Climate Change.

Glen Toner and Jennifer Mckee, "Harper's Partisan Wedge Politics: Bad Environmental Policy AND Bad Energy Policy," in G. Bruce Doern and Christopher Stoney, eds., *How Ottawa Spends: 2014-2015: The Harper Government – Good to Go?* (Montreal: McGill-Queen's University Press, 2014), 108-121.

Ontario

Ontario, Climate Progress: Ontario's Plan for a Clean More Sustainable Future

For a critical examination of Ontario's plans and progress see:

Environment Commissioner of Ontario, 2014, *Looking For Leadership: The Costs of Climate Inaction* (June 2014)

Environment Commissioner of Ontario, 2013, *Failing Our Future: Review of the Ontario Government's Climate Change Action Plan Results* (June 2013)

British Columbia

Matt Horne and Joshua MacNab, *LNG and Climate Change: The Global Context*, Pacific Institute for Climate Solutions, 2014. http://pics.uvic.ca/sites/default/files/uploads/publications/LNG%20Paper%202014%5B1%5D.pdf

Leaders Forum on the Pacific Coast Collaborative, Pacific Coast Action Plan on Climate and Energy, October 2013.

Matt Horne, "*Pacific Coast Action Plan Signals Progress on Climate,*" Pembina Institute, October 29, 2013.

Weeks 10–13: (March, 11, 18, 25 & April 1) RESEARCH PAPER PRESENTATIONS

Week 14: (April 8) CAPTSTONE DEBATE

[Research Essays due: 5:00 PM Tuesday April 15]