

SYLLABUS

**CLIMATE CHANGE LAW**

**Columbia Law School**

**L6038**

**Spring 2014**

**Professor Michael B. Gerrard**

Class hours: Monday and Wednesday, 10:40 a.m. - 12:00 p.m.

Instructor's office: JGH 517

Office hours: Monday and Wednesday, 9:00 a.m. - 10:30 a.m. or by appointment

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**Course description:**

This course begins with an overview of the causes and effects of global climate change and the methods available to control and adapt to it. We will then examine the negotiation, implementation and current status of the United Nations Framework Convention on Climate Change, the Kyoto Protocol, and agreements subsequently reached in Bali, Copenhagen, Cancun, Durban and Doha. The focus will then turn to the past and proposed actions of the U.S. Congress, the executive branch and the courts, as well as regional, state and municipal efforts. The Clean Air Act, the National Environmental Policy Act and the Endangered Species Act will receive special attention. We will evaluate the various legal tools that are available to address climate change, including cap-and-trade schemes; carbon taxation; command-and-control regulation; litigation; securities disclosures; and voluntary action. The roles of energy efficiency, renewable energy sources, carbon capture and sequestration, and forestry and agriculture will each receive close attention. Implications for international human rights, international trade, environmental justice, and international and intergenerational equity will be discussed. The course will conclude with examination of proposals for adaptation and geoengineering. The final exam will be open book and will consist of a series of essay questions, most of which will require applying the law covered in the course to specified factual situations. Course grades will be based on the final exam, but they may be adjusted up or down a notch to reflect the quality of class participation.

Columbia University is dedicated to facilitating equal access for students with disabilities and to cultivating a campus culture that is sensitive and responsive to the needs of students. To request

an accommodation for a disability during the course, students are welcome to reach out to the Office of Disability Services, to the Academic Counselors in Student Services, or to the instructor. (In general, students may decide whether or not to inform their professors of any accommodations, as they prefer. But note that individual exam arrangements are generally not discussed with the professor.)

## **Readings:**

The principal reading is Michael B. Gerrard & Jody Freeman, *Global Climate Change and U.S. Law* (American Bar Association, 2<sup>nd</sup> Edition, 2014) (“Gerrard & Freeman”). This book will appear in the spring of 2014 and will be available in the Columbia University Bookstore. Meanwhile, the assigned chapters will be posted on Courseweb.

Additional reading materials will be found in the course packet, which is available for purchase in the Columbia University bookstore. Students should always bring with them to class the volume containing the readings that will be discussed that day.

Additional materials may be assigned during the course of the semester, primarily as a result of recent developments. In that event, they will be posted on Courseweb.

## **Class Topics and Readings**

### **Volume 1**

#### **Class 1: January 22 Scientific background**

Michael B. Gerrard, “Introduction and Overview,” Chapter 1 in Gerrard & Freeman

Intergovernmental Panel on Climate Change, *Climate Change 2013: The Physical Science Basis -- Summary for Policymakers* (2013)

#### **Class 2: January 27 Montreal Protocol and U.N. Framework Convention on Climate Change**

Tseming Yang, “The Relationship Between Domestic and International Environmental Law,” in Martella & Grosko, eds., *International Environmental Law: The Practitioner’s Guide to the Laws of the Planet* (forthcoming)

Kyle Danish, “The International Climate Regime,” Chapter 2 in Gerrard & Freeman, Parts I & II

United Nations Ozone Secretariat, *A Success in the Making: The Montreal Protocol on Substances That Deplete the Ozone Layer* (2007)

Richard Elliot Benedick, *Ozone Diplomacy* (Harvard University Press 1998), pages 306-332

United Nations Framework Convention on Climate Change (1992)

**Class 3: January 29**  
**Kyoto Protocol**

Kyle Danish, "The International Climate Regime," Chapter 2 in Gerrard & Freeman, Parts III - V

Kyoto Protocol to the United Nations Framework Convention on Climate Change (1998)

**Class 4: February 3**  
**Post-2012 international agreement**

Sheila M. Olmstead and Robert N. Stavins, "Three Key Elements of a Post-2012 International Climate Policy Architecture," *Review of Environmental Economics and Policy*, Advance Access published December 14, 2011, doi:10.1093/reep/rer018

United Nations, Bali Action Plan (December 2007)

United Nations, Copenhagen Accord (December 2009)

United Nations, Cancun Agreements (December 2010)

Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol

Ad Hoc Working Group on Long-Term Cooperative Action under the Convention [read first three pages; skim the rest]

United Nations, Durban Platform (December 2011)

Establishment of an Ad Hoc Working Group on the Durban Platform for Enhanced Action

Outcome of the work of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol at its sixteenth session [skim]

Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention [skim]

United Nations, Doha outcomes (December 2012)

Advancing the Durban Platform

Agreed outcome pursuant to the Bali Action Plan [skim]

Decision 3/CP.18, “Approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change to enhance adaptive capacity”

United Nations, Warsaw outcomes (December 2013)

Decision -/CP.19, “Further advancing the Durban Platform” [skim]

Decision -/CP.19, “Warsaw international mechanism for loss and damage associated with climate change impacts”

## **Volume 2**

### **Class 5: February 5 Compliance, Enforcement and Alternative Approaches**

Ruth Greenspan Bell & Barry Blechman, “A Course Adjustment for Climate Talks,” *Issues in Science and Technology* (Winter 2012), pp. 26-30

Commentaries on “A Course Adjustment for Climate Talks,” *Issues in Science and Technology* (on line edition)

Scott Barrett, “Climate treaties and the imperative of enforcement,” 24 *Oxford Review of Economic Policy* 239 (2008)

David G. Victor & Eugene B. Skolnikoff, “Translating Intent Into Action: Implementing Environmental Commitments,” 41 *Environment* No. 2 at 16 (March 1999)

### **Class 6: February 10 U.S. policy**

John C. Dernbach & Robert Altenburg, “Evolution of U.S. Climate Policy,” Chapter 3 in Gerrard & Freeman

Executive Office of the President, “The President’s Climate Action Plan” (June 2013)

Steven R. Brechin, “Shaping US climate opinion,” 2 *Nature Climate Change* 236 (April 2012)

Todd D. Stern, “The Shape of a New International Agreement,” speech at Chatham House conference, October 22, 2013

Cass Sunstein, “U.S. Should Act Unilaterally on Climate Change,” *Bloomberg*, January 23, 2013

**Class 7: February 12**  
**Voluntary actions**

Michael P. Vandenberg & Anne C. Stein, “The Carbon-Neutral Individual,” 82 *New York University Law Review* 1673, pages 1673-1679, 1687-1740 (2007)

Gernot Wagner, “Going Green but Getting Nowhere,” *New York Times*, September 7, 2011

**Class 8: February 17**  
**Clean Air Act I**

Jonathan Martel, Chris Jaros, Zachary Fayne & Shailesh Sahay, “Clean Air Regulation,” Chapter 4 in Gerrard & Freeman

*Massachusetts v. U.S. Environmental Protection Agency*, 549 U.S. 497 (2007)

**Class 9: February 19**  
**Clean Air Act II**

*Coalition for Responsible Regulation v. U.S. Environmental Protection Agency*, 684 F.3d 102 (D.C. Cir. 2012) (excerpts)

Nicholas M. Bianco et al., *Can the U.S. Get There From Here? Using Existing Federal Laws and State Action to Reduce Greenhouse Gas Emissions -- Summary for Policymakers* World Resources Institute (2013)

Note: The above report has color figures and is better viewed online at <http://www.wri.org/publication/can-us-get-there-here>

**Volume 3**

**Class 10: February 24**  
**Disclosure laws: NEPA and SEC**

Paul Weiland, Robert Horton & Erik Beck, “Environmental Impact Review,” Chapter 5 in Gerrard & Freeman

*Center for Biological Diversity v. National Highway Traffic Safety Administration*, 508 F.3d 508 (9<sup>th</sup> Cir. 2007)

U.S. Council on Environmental Quality, “Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions,” February 18, 2010

Matthew Morreale, “Corporate Disclosure Considerations Related to Climate Change,” Chapter 7 in Gerrard & Freeman

Securities and Exchange Commission, “Commission Guidance Regarding Disclosure Related to Climate Change,” 75 *Fed.Reg.* 6290, February 8, 2010

**Class 11: February 26**  
**Endangered Species Act**

Dave Owen, “Endangered Species Act,” Chapter 6 in Gerrard & Freeman

*In re Polar Bear Endangered Species Act listing and Section 4(d) Rule Litigation*, 709 F.3d 1 (D.C. Cir. 2013)

J.B. Ruhl, “Climate Change and the Endangered Species Act: Building Bridges to the No-Analog Future,” 39 *Environmental Law Reporter* 10735 (August 2009)

Anna T. Moritz et al., “Biodiversity Baking and Boiling: Endangered Species Act Turning Down the Heat,” 44 *Tulsa L. Rev.* 205 (2008)

**Class 12: March 3**  
**Public nuisance and public trust litigation**

Emily Hammond & David L. Markell, “Civil Remedies,” Chapter 8 in Gerrard & Freeman

*American Electric Power v. Connecticut*, 564 U.S. \_\_\_\_ (2011)

*Native Village of Kivalina v. ExxonMobil Corp.*, 696 F.3d 839 (9<sup>th</sup> Cir. 2012) (excerpts)

Michael B. Gerrard, “What Litigation of a Climate Nuisance Suit Might Look Like,” 121 *Yale Law Journal Online* 135 (2011)

*Alec L. v. Jackson*, 863 F.Supp.2d 11(D.C. Dist. Ct. 2012)

**Class 13: March 5**  
**Human rights claims; national security issues**

Sheila Watt-Cloutier, Petition to the Inter American Commission on Human Rights Seeking Relief From Violations Resulting From Global Warming Caused by Acts and Omissions of the United States, Summary (December 7, 2005)

United Nations General Assembly, Human Rights Council, “Report of the Independent Expert on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, John H. Knox,” December 2012

Michelle Leighton, “Climate Change and Migration: Key Issues for Legal Protection of Migrants and Displaced Persons,” German Marshall Fund of the United States (June 2010)

National Research Council, Board on Environmental Change and Society, “Climate and Social Stress: Implications for Security Analysis” (November 2012)

Kurt M. Campbell et al, “The Age of Consequences: The Foreign Policy and National Security Implications of Global Climate Change,” Center for Strategic & International Studies, pages 5-10, 104 (2007)

Arpita Bhattacharyya & Michael Werz, *Climate Change, Migration and Conflict in South Asia: Rising Tensions and Policy Options across the Subcontinent*” (December 2012)

**Class 14: March 10**  
**State and regional actions**

Eleanor Stein, “Regional Initiatives to Reduce Greenhouse Gas Emissions,” Chapter 9 in Gerrard & Freeman

David Hodas, “State Initiatives,” Chapter 10 in Gerrard & Freeman

Assembly Bill No. 32, California Global Warming Solutions Act of 2006 (skim)

*Association of Irrigated Residents v. California Air Resources Board*, 206 Cal.App.4<sup>th</sup> 1487 (Cal Ct. App. June 19, 2012)

*Rocky Mountain Farmers Union v. Corey*, \_\_\_ F.3d \_\_\_ (9<sup>th</sup> Cir. September 18, 2013) (excerpts)

Regional Greenhouse Gas Initiative, Memorandum of Understanding (December 2005)

**Class 15: March 12**  
**Municipal actions**

J. Kevin Healy & L. Margaret Barry, “Local Initiatives,” Chapter 12 in Gerrard & Freeman

John R. Nolon, “Transportation and Land Use,” Chapter 15 in Gerrard & Freeman

J. Cullen Howe, "Overview of Green Buildings," in J. Cullen Howe & Michael B. Gerrard, eds., *The Law of Green Buildings: Regulatory and Legal Issues in Design, Construction, Operations, and Financing* (2010)

California A.B. 1103 -- Building energy benchmarking

Marne Sussman & Jason James, "Model Municipal Green Building Ordinance," Columbia Law School Center for Climate Change Law (October 6, 2010) (skim)

## **Volume 4**

### **Class 16: March 24**

#### **Energy efficiency**

Michael B. Gerrard, "Introduction and Overview," in Michael B. Gerrard, ed., *The Law of Clean Energy: Efficiency and Renewables* (2011)

John C. Dernbach & Marianne Tyrrell, "Federal Energy Efficiency and Conservation Laws," in Michael B. Gerrard, ed., *The Law of Clean Energy: Efficiency and Renewables* (2011)

*Building Industry Association of Washington v. Washington State Building Code Council*, 683 F.3d 1144 (9<sup>th</sup> Cir. 2012)

S. Pacala & R. Socolow, "Stabilization Wedges: Solving the Climate Problem for the Next 50 Years with Current Technologies," 305 *Science* 968-972 (2004)

Robert Socolow, "Wedges reaffirmed," *Bulletin of the Atomic Scientists*, September 27, 2011

Alliance Commission on National Energy Efficiency Policy, *Doubling U.S. Energy Productivity by 2030* (February 7, 2013)

### **Class 17: March 26**

#### **Renewable energy**

Jeremy Firestone and Jeffrey P. Kehne, "Wind," in Michael B. Gerrard, ed., *The Law of Clean Energy: Efficiency and Renewables* (2011)

*Animal Welfare Institute v. Beech Ridge Energy LLC*, 675 F. Supp.2d 540 (D. Md. 2009)

Robert F. Kennedy, Jr., "An Ill Wind Off Cape Cod," *The New York Times*, December 16, 2005

Charles Komanoff, "Whither Wind? A journey through the heated debate over wind power," *Orion*, pages 30-37 (September/October 2006)

## **Class 18: March 31**

### **Coal**

Wendy B. Jacobs, "Carbon Capture and Sequestration," chapter 17 in Gerrard & Freeman

Michael B. Gerrard, "Coal-fired Power Plants Dominate Climate Change Litigation," *New York Law Journal*, September 25, 2009

Mark Squillace, "The Tragic Story of the Federal Coal Leasing Program," *Natural Resources & Environment*, Winter 2013, pp. 1-5

David Biello, "The Price of Coal in China: Can China Fuel Growth without Warming the World?" *Scientific American*, December 16, 2010

Elisabeth Rosenthal, "Nations That Debate Coal Use Export It to Feed China's Need," *The New York Times*, November 21, 2010

Pamela Pritt, "Coal's future may not be so bleak after all," *The Register-Herald* (Beckley, West Virginia), December 22, 2013

## **Class 19: April 2**

### **Forestry and agriculture**

Blake Hudson, "Agriculture and Forestry," Chapter 19 in Gerrard & Freeman

Charlotte Streck, "Forests, Carbon Markets, and Avoided Deforestation: Legal Implications," *Carbon & Climate Law Review*, pages 239-247 (March 2008)

Will R. Turner, Michael Oppenheimer & David S. Wilcove, "A force to fight global warming," 462 *Nature* 278 (November 19, 2009)

Evan Branosky, *Agriculture and Climate Change: The Policy Context*, World Resources Institute, pages 1-6 (October 2006)

Robert Goodland & Jeff Anhang, "Livestock and Climate Change," *World Watch*, November/December 2009, pp. 10-19

Food and Agricultural Organization of the United Nations, "Major gains in efficiency of livestock systems needed," December 14, 2011

## **Class 20: April 7**

## **Climate finance**

Heinrich Boll Stiftung North America -- Climate Finance Fundamentals (November 2013)

1. The Principles and Criteria of Public Climate Finance -- A Normative Framework
2. The Global Climate Finance Architecture
3. Climate Finance Thematic Briefing: Adaptation Finance
4. Climate Finance Thematic Briefing: Mitigation Finance
5. Climate Finance Thematic Briefing: REDD+ Finance
10. Gender and Climate Finance
11. The Green Climate Fund

Peter L. Gray & Geraldine Edens, "Carbon Accounting: A Practical Guide for Lawyers," *Natural Resources & Environment*, Winter 2008

Simon D. Donner *et al.*, "Preparing to Manage Climate Change Financing," 334 *Science* 908 (November 18, 2011)

Frank Ackerman, "Climate Economics in Four Easy Pieces," 51 *Development* 325 (2008)

### **Class 21: April 9**

#### **International trade**

Robert Howse & Antonia L. Eliason, "Domestic and international strategies to address climate change: an overview of the WTO legal issues," in *International Trade Regulation and the Mitigation of Climate Change: World Trade Forum* (Thomas Cottier *et al.*, eds.2009)

United Steelworkers, Petition before Office of the U.S. Trade Representative, China's Policies Affecting Trade and Investment in Green Technology (September 9, 2010) (Executive Summary)

Office of the United States Trade Representative, Press Release, "United States Requests WTO Dispute Settlement Consultations on China's Subsidies for Wind Power Equipment Manufacturers" (December 2010)

### **Class 22: April 14**

#### **Cap and trade vs. carbon tax**

Lesley K. Mcallister, "Cap and Trade," Chapter 11 in Gerrard & Freeman

Robert N. Stavins, "Cap-and-Trade or a Carbon Tax?" *The Environmental Forum*, page 16 (January/February 2008)

Sen. Pete V. Domenici & Sen. Jeff Bingaman, "Design Elements of a Mandatory Market-Based Greenhouse Gas Regulatory System," U.S. Senate Committee on Energy and Natural Resources, February 2006

Yoram Bauman & Shi-Ling Hsu, “The Most Sensible Tax of All,” *The New York Times*, July 5, 2012

U.S. Environmental Protection Agency, “Fact Sheet: Social Cost of Carbon,” November 2013

Bob Litterman, “What is the Right Price for Carbon Emissions?” *Regulation*, Summer 2013, pp. 38-43

Gilbert E. Metcalf & David Weisbach, “The Design of a Carbon Tax,” 33 *Harvard Environmental Law Review* 499-524, 551-56 (2009) [read pp. 499-503; skim the rest]

## **Volume 5**

### **Class 23: April 16**

#### **Climate Policy Targets and Methods**

National Research Council, “Limiting the Magnitude of Future Climate Change” (2010), summary

Amy L. Luers et al., *How to Avoid Dangerous Climate Change: A Target for U.S. Emissions Reductions*, Union of Concerned Scientists, September 2007, pp. 3-18

European Commission, *Green Paper: A 2030 framework for climate and energy policies*, March 27, 2013

United Nations Environment Programme, *The Emissions Gap Report 2013: A UNEP Synthesis Report* (November 2013), pp. xi - xvii

David Hunter & Chris Wold, “Addressing Climate Change Through Non-Climate International Instruments,” Chapter 22 in Gerrard & Freeman

### **Class 24: April 21**

#### **Offsets and green marketing**

*Citizens Climate Lobby v. California Air Resources Board*, Case No. CGC-12-519554 (Super. Ct. San Francisco Co., January 25, 2013)

Mark C. Trexler & Laura H. Kosloff, “Selling Carbon Neutrality,” *The Environmental Forum*, pages 34-39 (March/April 2006)

David J. Hayes, *Getting Credit for Going Green: Making Sense of Carbon “Offsets” in a Carbon-Constrained World*, Center for American Progress, pages 1-13 (March 2008)

Kevin Anderson, “The inconvenient truth of carbon offsets,” 484 *Nature* 7 (April 5, 2012)

Federal Trade Commission, “Guides for the Use of Environmental Marketing Claims,” 77 *Fed.Reg.* 62122 (October 11, 2012) (excerpts)

Donald A. Brown, “An Ethical Analysis of the Climate Change Disinformation Campaign: Is This a New Kind of Assault on Humanity?” *climateethics.org*, December 2, 2011

**Class 25: April 23**  
**Environmental justice**

We Act for Environmental Justice, “Statement From Environmental Justice Forum on Climate Change,” June 6, 2008

Robert N. Stavins, “Enviro Justice and Cap-and-Trade,” *The Environmental Forum*, page 20 (May/June 2008)

Alice Kaswan, “Reconciling justice and efficiency: integrating environmental justice into domestic cap-and-trade programs for controlling greenhouse gases,” in *The Ethics of Global Climate Change* (Denis G. Arnold, ed. 2011), 232-254

Benjamin K. Sovacool, “The complexity of climate justice,” 3 *Nature Climate Change* 959 (November 2013)

Bjorn Lomborg, “The Poor Need Cheap Fossil Fuels,” *New York Times*, December 3, 2013

Henry Shue, “Subsistence Emissions and Luxury Emissions,” 15 *Law & Policy* 39 (1993)

Shoibal Chakravarty et al., “Sharing global CO<sub>2</sub> emission reductions among one billion high emitters,” *PNAS Early Edition* (2008)

**Class 26: April 28**  
**Adaptation**

J.B. Ruhl, “Climate Adaptation Law,” Chapter 20 in Gerrard & Freeman

Michael B. Gerrard, “Introduction and Overview,” in *The Law of Adaptation to Climate Change: U.S. and International Aspects* (Michael B. Gerrard & Katrina Fischer Kuh, eds. 2012), pp. 3-15

Robert W. Adler & John C. Ruple, “Water and Climate Change,” Chapter 18 in Gerrard & Freeman

National Research Council, “Adapting to the Impacts of Climate Change” (2010) (summary)

California Natural Resources Agency, *2009 California Climate Adaptation Strategy* (December 2, 2009) (excerpts)

Olive Heffernan, “No Going Back: With nations doing little to slow climate change, many people are ramping up plans to adapt to the inevitable,” 491 *Nature* 659 (November 29, 2012)

**Class 27: April 30**  
**Geoengineering and Alternative Futures**

Albert C. Lin, “Geoengineering,” Chapter 21 in Gerrard & Freeman

Naomi Klein, “Geoengineering: Testing the Waters,” *New York Times*, October 28, 2012

Wally Broecker, “Does air capture constitute a viable backstop against a bad CO<sub>2</sub> trip?” 1 *Elementa: Science of the Anthropocene* 1 (2013)

Jody Freeman & Kate Konschink, “U.S. Climate Change Law and Policy: Possible Paths Forward,” Chapter 23 in Gerrard & Freeman

Naomi Oreskes & Erik M. Conway, “The Collapse of Western Civilization: A View from the Future,” *Daedalus* (Winter 2013), pp. 40-58