

**NEW YORK CITY COLLEGE OF TECHNOLOGY**  
**The City University of New York**  
**School of Arts & Sciences**  
**Department of Social Science**  
**Course Outline**

Prof. S. MacDonald

Econ 2505ID: Environmental Economics sec. D-666; course prerequisite: Either Econ 1101 or Econ 1401; CUNY proficiency in reading and writing and

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**Fall 2016, Room V-326; Wed. 11:30 – 2:00 PM**

**Pathways: U.S. Experience in its Diversity**

**Interdisciplinary; writing intensive**

**Office: Namm 624; Hours: Mon and Wed 2:45 – 4:00 and by appointment**

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**CATALOG DESCRIPTION:** This interdisciplinary course examines current environmental issues from a macroeconomic perspective, focusing on both the long and short-term economic viability of various proposals to address current environmental challenges. Traditional goals of economic efficiency will be examined in the context of the need to expand renewable energy sources, green design, sustainable construction and resource allocation and other efforts to combat climate change on a global scale.

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**RECOMMENDED TEXTBOOK and MATERIALS\***

**Required:** All required readings for the course will be provided. The links to these readings will be posted on Open; You will be required to read the assigned posted articles, and occasionally post responses to questions from the readings on Open Lab and be prepared to discuss in the following week's class.

**Other:** You will also be required to conduct independent field-based research for the semester research project; the cost for the class group tour in week 5 is - \$20.00. This will be the only expense to you for the course.

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**COURSE INTENDED LEARNING OUTCOMES/ASSESSMENT METHODS:** To develop an understanding of the fundamental concepts of environmental economics. Specifically, course objectives include the following:

<b>LEARNING OUTCOMES<sup>1</sup></b>	<b>ASSESSMENT METHODS</b>
1. Students in the course should be able to demonstrate an understanding of many dimensions of sustainability as they relate to the potential for renewed economic growth.	1. The midterm and final exams, which will include essay questions, will test students' understanding of sustainability issues as they relate to economic practices and policy
2. Demonstrate a knowledge of the importance of changing economic behavior – from consumers, to business practices to government – to build upon the move toward sustainable economic practices	2. Class discussions of assigned articles and other supplementary readings in class and on course blog site on Open Lab.
3. Identify a range of tools from environmental	3. Both the exams and class discussions will serve

economics that can be applied to solving real world environmental challenges that impact the U.S. economy.	as tools to encourage students to make the connections between environmental goals and addressing economy-wide and global economic issues.
4. Develop a breadth and depth of knowledge of how to begin to apply the concepts of sustainability to consumer, business and trade practices.	4. Through the written research project and/or case study and final presentations, students will focus on a problem/issue, the challenges posed by that issue and critically examine various solutions.

#### GENERAL EDUCATION LEARNING OUTCOMES/ASSESSMENT METHODS

<i><b>LEARNING OUTCOMES</b></i>	<i><b>ASSESSMENT METHODS</b></i>
<b>1. KNOWLEDGE:</b> To develop a understanding of the key concepts that relate to environmental economics, the central topics and theories of how to address environmental problems through economic policy.	1. Discussion of readings, material presented by guest lecturers and field visits that both test an understanding of basic concepts and that require students to express their understanding in writing (short essay quizzes)
<b>2. SKILLS:</b> Develop and apply the tools of environmental economics to be able to critically question, analyze, and discuss environmental economic problems and issues; Develop and strengthen the ability to discuss concepts and thoughts in writing.	2. Completion of essay questions on exams; class discussions of questions tied to topics covered in class and to supplemental short readings and articles on timely relevant issues; students analyze, evaluate and consider policy options
<b>3. INTEGRATION:</b> Apply the tools acquired in the course to be able to build upon an understanding of environmental issues and sustainability across disciplines, both in the social sciences and other disciplines.	3. Research project which requires students to select and define a topic, problem or issue and examine possible solutions drawing upon and employing the tools of related disciplines; Final in-class summaries of research; participation in Emerging Scholars poster session.
<b>4. VALUES, ETHICS, AND RELATIONSHIPS:</b> Develop an understanding of and ability to apply diverse perspectives to the understanding of sustainability/environmental economics; work creatively with others in group problem solving; develop a respect for diverse viewpoints and apply the skills and concepts covered in the course to the analysis of related issues and concepts across other disciplines	4. Weekly in-class group assignments; assignments encourage student discussion and sharing of ideas and perspectives; focused discussions that encourage students to question and think critically to develop their own perspectives on issues covered in the class .

#### INTERDISCIPLINARY COURSE LEARNING OUTCOMES AND ASSESSMENT METHODS

<i><b>LEARNING OUTCOMES</b></i>	<i><b>ASSESSMENT METHODS</b></i>
Purposefully connect and integrate across-discipline knowledge and skills to solve problems	Readings assigned by guest lecturers will be the focus of discussion of a specific issue that links the economic perspective to other disciplines to address an environmental challenge.
Synthesize and transfer knowledge across disciplinary boundaries	Short essay questions on midterm exam; class discussions
Think critically, communicate effectively, and work collaboratively	Focused group assignment based on prior assigned readings
Recognize varied perspectives	Group assignment/problem solving involving students from varied fields of study
Become flexible thinkers	Focused group assignment based on prior assigned readings; final presentation

### SCOPE OF ASSIGNMENTS and other course requirements\*

Students in this course will be required to complete a written research project resulting in a final paper of approximately 5 pages. This may consist of a topic chosen from topics covered in the course or a case study tied to a particular topic in the student's major course of study. Students will also be expected to participate in the Fall 2014 Poster Presentation, presenting their research project, or preliminary work (either individually or in teams). There will also be a midterm and final exam, both of which will place an emphasis on a written understanding of key concepts covered in the course and readings; class discussions of assigned readings – students will be expected to be prepared to discuss assigned questions based on the readings. The course will be writing intensive.

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### METHOD OF GRADING – elements and weight of factors determining the students' grade\*

Midterm exam	20%
Two in-class group projects Weeks 11 & TBD	20%
First and final drafts of research summary and annotated bibliography	25%
Final presentation on semester research project	20%
Participation/class discussion/attendance/entries on Open Lab	15%

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**GRADING POLICY:** calculated according to the college grade scale:

Letter Grade	Meaning of Letter Grade	Number Grade
A	Exceptional	100-93
A-	Superior	92.9-90
B+	Very good	89.9-87
B	Good	86.9-83
B-	Above Average	82.9-80
C+	Slightly Above Average	79.9-77
C	Average	76.9-70
D	Poor	69.9-60
F	Failure	59.9-0

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\*Scope of Assignments and Method of Grading to be determined at discretion of the instructor.

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### ACADEMIC INTEGRITY POLICY STATEMENT

Students and all others who work with information, ideas, texts, images, music, inventions, and other intellectual property owe their audience and sources accuracy and honesty in using, crediting, and citing sources. As a community of intellectual and professional workers, the College recognizes its responsibility for providing instruction in information literacy and academic integrity, offering models of good practice, and responding vigilantly and appropriately to infractions of academic integrity. Accordingly, academic dishonesty is prohibited in The City University of New York and at New York City College of Technology and is punishable by penalties, including failing grades, suspension, and expulsion. The complete text of the College policy on Academic Integrity may be found in the catalog.

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### COLLEGE POLICY ON ABSENCE/LATENESS

A student may be absent without penalty for 10% of the number of scheduled class meetings during the semester as follows:

<b>Class Meets</b>	<b>Allowable Absence**</b>
<b>1 time/week</b>	<b>2 classes</b>
2 times/week	3 classes
3 times/week	4 classes

\*\*Each department and program may specify in writing a different attendance policy for courses with laboratory, clinical or field work. If the department does not have a written attendance policy concerning courses with laboratory, clinical or field work, the College policy shall govern.

It is the responsibility of the instructor to keep accurate records of every student's attendance and to inform each class orally and in writing of the applicable attendance policy during the first two weeks of class meetings each semester.

### **Excessive Absence**

If a student's class absences exceed the limit established for a given course or component, the instructor will alert the student that a grade of "WU" may be assigned. If a student remains officially registered for a course and never attends that course, a final grade of "\*WN" will be assigned. If the student withdraws officially from the course, he/she will be assigned a grade in accordance with the existing withdrawal policy of the College.

### **Appeals**

A student wishing to appeal the excessive absence status and the impending grade should request a meeting with the chairperson of the department in which the course is offered. The chairperson will consult with the instructor to render a decision. A student wishing to appeal a "WU" grade may do so through the Committee on Course and Standards.

### **Lateness**

It is the responsibility of the instructor to keep a record of lateness and to inform each class orally and in writing of the lateness policy during the first two weeks of class meetings of each semester

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## **WEEKLY SEQUENCE OF TOPICS**

### **Week 1: 8/31 Course Introduction and Overview**

**Syllabus review and course overview:** Interdisciplinary course; Guest lecturers; using Open Lab - joining the course and setting up an account; Document posting; Discussion/blog; Place-based research and the semester research project; Emerging and Honors Scholars projects; First and final drafts of annotated bibliography and final summaries; Final presentations; Topic ideas on course Open Lab site.

**How have economists viewed environmental - ecological crises and how to address them?** A look at an assessment of the projected economic costs of climate; read *The US Economic Impacts of Climate Change and the Costs of Inaction*, Center for Integrative Environmental Research, 2007 (pgs. 4 – 9); discussion

**Free writing exercise:** Given what we have explored here, what topics might be of greatest interest to you about environmental challenges?

Identify two or three questions you might ask of the topic(s) you have thought about in this exercise. Share/discuss

**Week 2: 9/7** Discuss and review key economic terms from Econ 1101/1401; summarize the definitions of these terms; How are these relevant/applicable to the study of Environmental Economics? How can they be applied in the context of real world environmental problems? A look at the policy response to **Superstorm Sandy** in New York and how various economic concepts could inform the policy response

Consider the following:

- Cost-benefit analysis
- Economic efficiency/allocative efficiency
- Marginal change; marginal utility; marginal benefit
- Efficiency
- Opportunity cost
- Economic rationality; individuals as rational decision makers seeking to maximize self-interest
- Externalities and market failure
- Scarcity
- Economic growth

3. In what ways is an understanding of (any of) these concepts important to the scholarly research you will conduct in the course and research project? How is your understanding of these key concepts important to your success in the course?

4. Discuss how an economist might **apply one or more of these concepts** to an understanding of the following issue: The environmental impact of **Superstorm Sandy** on New York's economy

Applying any of these economic concepts, **identify one question** you would ask in working toward a solution to the economic losses or environmental challenges in the wake of the storm. (Article provided); discussion

5. **Discussion of possible topics of interest for research project from last week's free-writing** on topics most interesting to you about the environment. **b) Identify two or three questions** you might ask of the topic(s) you are considering?

6. **For week 3: Think about two top choices that might interest you for the research project;** you may consider how your ideas might fit with one of the three proposed group projects;

Environmental Economics and the current debates about climate change

**Assigned reading for week 3:** 1) Robert D. Atkinson and Darrene Hackler. October 2010. "Economic Doctrines and Approaches to Climate Change Policy," The Information Technology and Innovation Foundation and 2) William R. Emmons, "Don't Expect Consumer Spending to be the Engine of Economic Growth in Once Was," *The Regional Economist*, Jan. 2012, Federal Reserve Bank of St. Louis);

2) Come prepared to discuss the readings and the questions below for next week. Prepare for discussion of these questions in class; how can economic theory influence and inform policy on climate change?

- 1) According to the authors, how have economists traditionally viewed environmental - ecological crises and how to address them?
- 2) How do the different economic theories – the neoclassical, neo-Keynesian, and innovation economics - discussed in the Atkinson article lead to different policy proposals to address environmental problems?
- 3) How do the authors define "innovation economics"?

**Week 3: 9/14 Discussion of Atkinson and Hackler article/alternative theories/research project ideas**

### Discussion of Research Project and possible sites for field-based research

- **Discuss two top two choices for the research project**
- **Group discussion:** How would you incorporate an *interdisciplinary perspective* into your research? (i.e., the perspectives of disciplines other than Economics)? Which disciplinary perspectives do you believe would be most relevant for your topic? Identify two or three questions you might ask of the topic you are considering? (In-class assign: a short topic sample and group discussion of which disciplines could be incorporated and how)

**Reading for week 4:** 1) Craig J. Thompson and Melea Press, "How Community Supported Agriculture Facilitates Reembedding and Reterritorializing Practices of Sustainable Consumption," *Sustainable Lifestyles and the Quest for Plenitude*, Juliet B. Schor and Craig J. Thompson, eds.

2) Nathan McClintock, "Why Farm the City? Theorizing urban agriculture through a lens of metabolic rift," *Cambridge Journal of Regions, Economy and Society* 2010, 3, 191–207

**Week 4: 9/21 Guest lecturer #1: Prof. Diana Mincyte, Department of Social Science; Professor of Sociology; Alternative food systems: building sustainable agro-food economies.**

#### **Assignment for week 5:**

1) Read "Homes with a Harvest" New York Times, posted on Open Lab

2) Prepare specific questions (a questionnaire) you want to discuss/ask on the day of your visit.

3) Meet at Brooklyn Navy Yard Bldg. 92, Carlson Ave. entrance for Urban Ecology tour. Arrive by 12 noon.

**Week 5: 9/28 Brooklyn Grange/Urban Ecology/Brooklyn Grange Tour at Brooklyn Navy Yard**

#### Assignment for week 6:

3) Prepare a typed one page (single spaced 4 – 5 paragraphs) **summary of the Urban Ecology Tour** that addresses the following questions:

- What features of the tour were most interesting or significant for you?
- Discuss the connection you see between one or more of the sustainable environmental features of the tour and sustainable economic practices.
- Post your summaries; photos, etc. of findings from visit to the Brooklyn Grange on Open Lab
- Prepare a one – two paragraph summary of the specific topic you would like to focus on for your semester research project

**Week 6: 10/5: Guest lecturer 2: Prof. Hans Tokke, Sociology, Dept. of Social Science: Food Systems and Sustainability; Urban Ecology Theory; "food deserts" and the urban garden movement.**

Sustainable Agriculture and Natural Resource Use; ecology of local communities; recovering from resource loss; costs of pollution; developing urban green space; storm-water management

1. Review format for preparing an **annotated bibliography**; conducting a literature review of secondary source material
2. and a **research summary** (review sample cases in class)
3. Review **guidelines for summaries** and inclusion of **how your field research should inform your research project**; think about **what other discipline(s) will inform your project.**

4. Begin to decide on the **site for your field- research**, and prepare specific questions you want to discuss on the day of your visit. You will conduct your visit on your own time – any day/time when class is not in session. Field research should be **completed by Week 9**.
5. **Prepare specific questions you want to discuss/ask of the person(s) you will meet with on the day of your visit.** \*Remember to document full names, titles, positions, etc. of anyone you interview or meet with.
6. \*Turn in field visit summaries

Reading for Week 7: 1) Coral Davenport, “Nations Approve Landmark Climate Accord in Paris,” New York Times, Dec. 12, 2015 and 2) Link to “What Does a Climate Deal Mean for the World?” in the same article.

**Week 7: 10/19 The 2014 Global Climate Talks;** Global Economic Impacts of Climate Change; What goals have the nations involved in the recent Intergovernmental Panel on Climate Change talks concluded in November 2015 agreed to? What is the significance of the agreement reached between the U.S. and China in late 2014?

**Week 7: 10/19** Behavioral Influences on Individual and Social Choice

**Guest lecturer #3: Prof. Pa Her, Psychology, Department of Social Science, *Behavioral Influences on Individual and Social Choice* (to be confirmed)**

**Reminder: due 11/2 (week 9):** \*A one to two-paragraph summary of key findings from your field research and the first draft of preliminary annotated bibliography (3 sources) is due week 9.

### Midterm review

### **Week 8: 10/26** Midterm Exam

Assignment for week 9:

**Reading:** Richard Welford & Bjarne Ytterhus (2004) Sustainable development and tourism destination management: A case study of the Lillehammer region, Norway, *International Journal of Sustainable Development & World Ecology*, 11:4, 410-422, DOI: 10.1080/13504500409469843

### **Week 9: 11/2** Sustainable Tourism

**Guest lecturer #4: Prof. Susan Phillip - *Department of Hospitality Management, Promoting sustainable tourism* (to be confirmed)** discussion of Welford and Ytterhus article and pre-lecture discussion questions.

- Discuss research activities; exchange summaries and give/provide feedback
- Turn in first draft of one-page summary & first draft of annotated bibliography
- Read assigned article and be prepared to discuss pre-lecture questions posted on Open Lab prior to next class.

### **Assigned readings for week 10:**

1) OECD Observer, Is GDP a satisfactory measure of growth? (2 pgs)

2) Jonathan Rowe & Judith Silverstein, The GDP Myth: Why "growth" isn't always a good thing, 2009;

**\*\*see posted questions on Open Lab for discussion questions for next week's class.**

### **Week 10: 11/9**

How is economic progress and growth measured? Are considerations of well-being important to the measurement of economic growth/progress? What is a Green GNP?

\*Distribute assigned dates for final presentations

### **Assigned readings for week 11: Read the following: links to readings posted on Open Lab**

1) James Atlas, *Is This the End?* November 25, 2012. New York Times, Opinion; 2) Alan Feuer, *Building for the Next Big Storm: After Hurricane Sandy, New York Rebuilds for the Future*, Oct. 25, 2014, New York Times

### **Week 11: 11/16: Group in-class project: "The Big U"**

**How have communities/urban centers begun to plan/design/incorporate changes to infrastructure in response to the effects of climate change? What preparations to protect their local economies? Population? Can these measures be effective ?**

**Assigned reading for week 12: 11/23:** 1) Stuart L. Hart, *Beyond Greening: Strategies for a Sustainable World*, *Harvard Business Review*, Vestas, Jan – Feb 1997; 2) Bouton, Lindsay and Woutzel, *New Models for Sustainable Growth in Emerging-Market Cities*, McKinsey and Co., 2012; 3) Lyuba Zarsky, *Climate Resilient Industrial Development Paths: Design Principles and Alternative Models*, Global Development and Environment Institute, Working Paper No. 10 -01, Feb. 2010

### **Week 12: 11/23: Guest lecturer #5: Prof Paul King, Department of Architectural Technology (to be confirmed)**

**Week 13 11/30: Economic Costs of Hydraulic Fracturing:** How fracking threatens local economies; ecosystems; human health, animal and plant life; sustainable economic growth. Read: Kai A. Schafft , Leland L. Glenna , Brandn Green & Yetkin Borlu, "Local Impacts of Unconventional Gas Development within Pennsylvania's Marcellus Shale Region: Gauging Boomtown Development through the Perspectives of Educational Administrators," *Society & Natural Resources, An International Journal*, Feb. 14, 2014

The Fracking debate/film/reading/class project/discussion

<https://www.youtube.com/watch?v=6mp4ELXkv-w>

Assigned discussion questions and reading posted on Open Lab; please read and review before class to prepare for in-class discussion/project.

**Week 14: 12/7: Final presentations; presentations focus on significance of findings; what was learned? Class discussion and questions. Final summaries and final annotated bibliographies due**

**Week 15: 12/14: Final presentations; presentations focus on significance of findings; what was learned? Class discussion and questions. Final summaries and final annotated bibliographies due**

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### **Other Policies:**

**\*\*NO TEXTING OR OTHER USE OF CELL PHONES WHILE CLASS IS IN SESSION\*\***

1. **Final presentation:** Must be given on assigned date.
2. **Assigned readings are posted on Open Lab and must be completed prior to the next class.** In-class reviews are important to complete as part of the course.
3. **Class discussion/ participation/attendance/group discussions and posts/discussion on Open Lab constitute 15 % of final grade**
4. **More than two absences will adversely affect your final grade.** If you must miss a class, please provide prior notification by email or in person. My email address and phone number are listed on the front of syllabus.
5. **You must arrive on time for class and stay for the entire class; consistent lateness and leaving class early will negatively affect your final grade.**
6. **Texting, emailing and non-class use of computers, cell phones etc. is prohibited during class time; they must be turned off and put away while class is in session.**
7. **Phones may not be used during exams; calculators are permitted only.**
8. **There will be a 10 minute break halfway through each class.**

### **Bibliography:**

Charles D. Kolstad. *Environmental Economics*, 2<sup>nd</sup> ed. Oxford University Press, 2010

William C. Whitesell . *Climate Policy Foundations: Science and Economics with Lessons from Monetary Regulation*, Cambridge University Press, September 2012

Charles S. Pearson. *Economics and the Challenge of Global Warming*, Cambridge University Press

David C. Victor. *Global Warming Gridlock: Creating More Effective Strategies for Protecting the Planet*, Cambridge University Press, 2011.

Karsten Neuhoff. *Climate Policy after Copenhagen: The Role of Carbon Pricing*, Cambridge University Press

Edward B. Barbier. *Capitalizing on Nature: Ecosystems as Natural Assets*, Cambridge University Press

Christian dePerthuis. *Economic Choices in a Warming World*, Cambridge University Press

Nicholas Stern. *The Economics of Climate Change*, Cambridge University Press

Herman E. Daly, *Beyond Growth: The Economics of Sustainable Development*. Beacon Press, 1997.

David Pearce, and Edward Barbier. *Blueprint for a Sustainable Economy*, Earthscan Publications, 2000

Michael Shellenberger, and Ted Nordhaus. *Break Through: From the Death of Environmentalism to the Politics of Possibility*, Houghton Mifflin, 2007

Jerry Mander, ed. *The Case Against the Global Economy*, Sierra Club Books, 1997

Joshua Karkiner. *The Corporate Planet: Ecology and Politics in the Age of Globalization*, Sierra Club Books, 1997

Brian Milani. *Designing the Green Economy*, Rowman & Littlefield Publishers, 2000

Lester Brown. *Building an Economy for the Earth*, W.W. Norton, 2001

Joshua Farley, and Herman E. Daly. *Ecological Economics: Principles and Applications*, Island Press, 2003

William E. Rees, and Mathis Wackernagel. *Our Ecological Footprint: Reducing Human Impact on the Earth*, New Society Publishers, 1995

Paul Hawken. *The Ecology of Commerce*, Collins, 1994

William K. Jaeger. *Environmental Economics for Tree Huggers and Other Skeptics*, Island Press, 2005

Suzanne Ludicello and Micahel L. Weber and Robert Wieland. *Fish, Markets, and Fishermen: The Economics of Overfishing*, Island Press, 1999

Ed Ayres. *God's Last Offer: Negotiating for a Sustainable Future*, Four Walls Eight Windows, 2000

Paul Hawken, Amory Lovins, and L. Hunter Lovins. *Natural Capitalism: Creating the Next Industrial Revolution*, Back Bay Books, 2000

Daniel Pauly, and Jay Maclean. *In a Perfect Ocean: The State of Fisheries and Ecosystems in the North Atlantic Ocean*, Island Press, 2003

Jim Merkel. *Radical Simplicity: Small Footprints on a Finite Earth*, New Society Publishers, 2003

Nicky Chambers, Craig Simmons, and Mathis Wackernagel. *Sharing Nature's Interest: Ecological Footprints as an Indicator of Sustainability*, Earthscan Publications, 2001

E.F. Schumacher. *Small is Beautiful, 25<sup>th</sup> Anniversary Edition: Economics As If People Mattered: 25 Years Later (With Commentaries)*, Hartley and Marks Publishers, 2000

Jonathan Harris, et. al., eds. *A Survey of Sustainable Development: Social and Economic Dimensions*, Island Press, 2001

Andres Edwards. *The Sustainability Revolution: Portrait of a Paradigm Shift*, New Society Publishers, 2005

Juliet Schor and Betsy Taylor, eds. *Sustainable Planet: Solutions for the Twenty-first Century*, Beacon Press, 2003

Tom Tietenberg, and Lynne Lewis. *Environmental Economics & Policy, 6<sup>th</sup> ed.*, Prentice Hall, 2010

Cédric Afsa, Didier Blanchet, Vincent Marcus, Pierre-Alain Pionnier and Laurence Rioux (INSEE), and Marco Mira d'Ercole, Giulia Ranuzzi and Paul Schreyer (OECD). *SURVEY OF EXISTING APPROACHES TO MEASURING SOCIO-ECONOMIC PROGRESS*; Commission on the Measurement of Economic Performance and Social Progress.

Robert J. Bullard, ed. *The Quest for Environmental Justice: Human Rights and the Politics of Pollution*, Sierra Club Books, 2005.