

Environmental and Resource Economics and Policy (PA 393L/ECO395K)
Spring 2024: Mondays, 9-12, SRH 3.124
Syllabus

Course Description:

This course provides a survey, from the perspective of economics, of issues regarding the use and management of natural resources. It covers both general methodological principles and specific applications. We will begin with an introduction to the principles of environmental and natural resource economics, reviewing the basic concept of economic efficiency and the conditions under which markets can and cannot be expected to result in efficient natural resource management. We will also study the methods economists use to estimate the demand for environmental and natural resource amenities, and the costs of preserving them. Then we will apply these concepts, beginning with models of efficient extraction of non-renewable resources (like oil and minerals), and moving on to the economics of pollution control and the economics of climate change. We will also cover some applications of economics to renewable resource management: fisheries, forests, and endangered species. The course will conclude with discussions of international trade and the environment, and the intersection of economic growth and environmental sustainability. Course requirements will include four written assignments (some problems, and some writing), as well a final exam.

Instructor **Sheila Olmstead** (she/her/hers)
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Office hours: Tuesdays, 12:30-2:00pm (or by appointment).

1. Sign up for an office hours time slot using this [google sheet](#).
2. At your appointed time, Zoom to: <https://utexas.zoom.us/j/93140147786>.

Zoom for weekly class meeting, if you are sick or must miss class for other reasons: <https://utexas.zoom.us/j/95208978826>

Teaching Assistant **Yoojin Cha**
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Office hours: TBA
Review session: TBA

Learning Objectives

Course objectives include comprehension of the microeconomic tools that are useful in evaluating environmental policies. Broadly these include understanding:

1. The market failures most relevant to environmental policy (externalities, public goods, and open access/common property);
2. The role of policies intended to address these market failures;
3. The empirical methods used to estimate the benefits and costs of environmental regulation and other approaches to natural resource management;
4. Efficient management of non-renewable natural resources, fisheries, and forests;

5. How pollution control policies (taxes, subsidies, cap-and-trade, etc.) compare in terms of cost-effectiveness;
6. Debates about the social cost of carbon and other approaches to assessing climate change policies;
7. Economic approaches to species preservation, biodiversity, and sustainability; and
8. How international trade affects pollution and natural resource management.

In addition, by the end of the semester, students should be able to:

1. Interpret economic content from popular press articles on energy and environmental policy;
2. Absorb basic information from peer-reviewed economics journal articles;
3. Effectively communicate basic microeconomic concepts to others; and
4. Model respectful disagreement using reasoned arguments with appropriate support.

Prerequisites, Course Requirements and Grading:

To enroll in this course, students must have successfully completed at least one introductory graduate microeconomics course – the LBJ School's PA393K/G or an equivalent course. An introductory econometrics course is also helpful, but is not required.

The course will be conducted as a mix of lecture and class discussion (including several cases). Class attendance is critical, and class participation -- including active participation in regular class meetings and case discussions, will be an important part of your grade. Course grading will be on the following basis:

Written assignments (5): 50% (10% each)
 Participation in class discussions: 30%
 Final exam: 20%

The five written assignments will be a mix of quantitative problems and qualitative, analytical writing. All five assignments will be posted and turned in on Gradescope - click on "Gradescope" in the Canvas menu at left to find assignments when posted, and follow the online [instructions](#) for student submissions if you are not familiar with this technology. I encourage you to work on the quantitative problems in these assignments in small groups of two to four students – this works best when everyone contributes, which is harder with larger groups. Once your group has jointly developed a strategy for solving the problems, each student must prepare and turn in their own problem set answers, written in their own words. Please write the names of your problem set group members underneath your own name when you turn in your work. Problem sets are due in Gradescope at the beginning (9:00am) of the relevant class meeting.

Some class meetings will include a structured discussion focused on a case or a group of articles. The cases and any related articles will be posted to Canvas in advance, so that everyone can read them to prepare for class. Case discussions will take up 45-90 minutes of class meeting time on the assigned days; article discussions will be shorter. Required preparation will vary and may include a set of study questions. Sometimes I will divide the class into groups to prepare a discussion around one or more of these questions. No written materials will be turned in for the

cases, but you should read and otherwise prepare carefully. I expect everyone to participate in these discussions.

Reading Material:

Completion of the readings **prior to each class meeting** will be necessary in order to participate successfully in class discussions and, in some cases, to follow my lectures. Required and optional readings listed for each class meeting will be available on Canvas (clickable from the syllabus). **The only exception to the rule that readings will be clickable from the Canvas syllabus is the *Cartoon Introduction to Climate Change*, assigned for the March 18 class session. If you do not already have a basic understanding of the science of climate change, please purchase this book online from its publisher, Island Press, or purchase used copies if they are available on Amazon or elsewhere.**

COURSE AND UNIVERSITY POLICIES AND RESOURCES

Electronic Equipment Use During Class

Please direct your attention to class activity during class meetings. Restrict cell phone use to emergencies, and keep phones in silent mode while you are in class. I strongly recommend taking notes longhand, summarizing basic concepts and drawing graphs as I draw them on the slides or board. My own experience teaching this course for 20+ years suggests that students who take longhand notes in an economics course are more effective learners. There is some good [empirical evidence](#) for this, as well! If you use a laptop or tablet either due to preference or learning differences, please restrict its use to note-taking and other functions directly relevant to the class discussion.

Classroom Safety and COVID-19

Please stay home if you are sick, so that you will feel better sooner, and also to protect everyone else in the classroom! If you need to miss class due to illness, send me an e-mail. To help preserve our in-person learning environment, the university also recommends the following.

- Adhere to university mask guidance.
- Vaccinations are widely available, free and not billed to health insurance. The vaccine will help protect against the transmission of the virus to others and reduce serious symptoms in those who are vaccinated.
- Proactive Community Testing remains an important part of the university's efforts to protect our community. Tests are fast and free.

Visit protect.utexas.edu for more information.

What will happen if class needs to move online?

This course is scheduled to meet in person. If classes move online because the public health situation warrants that move, we will still learn a lot of economics! To access Zoom securely if needed, please configure your free University of Texas Zoom account on the [UT Zoom website](#).

Academic Integrity

You are expected to respect the LBJ School's standards regarding academic integrity. Students who violate these standards are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. You owe it to yourself, your fellow

students, and the institution to maintain the highest standards of integrity and ethical behavior. A discussion of academic integrity, including definitions of plagiarism and unauthorized collaboration, as well as helpful information on citations, note taking, and paraphrasing, can be found on UT's website at the Office of the Dean of Students web page (<http://deanofstudents.utexas.edu/conduct/>). The University has also established disciplinary procedures and penalty guidelines for academic dishonesty, especially Sec. 11.504 in Appendix C of the Institutional Rules on Student Services and Activities section in UT's General Information Catalog.

Students with Disabilities

You can start this conversation by forwarding me your accommodation letter. If you have not yet established accommodations through [UT's Services for Students with Disabilities \(SSD\)](#), then please contact them at 512-471-6259 (voice) or 512-410-6644 (video phone) as soon as possible to request an official letter outlining authorized accommodations. SSD is currently experiencing extended wait times for appointments so if you have submitted documentation to SSD but have not been able to get an appointment, please let me know.

Personal Pronoun Use (She / He / They / Ze / Etc)

Professional courtesy and sensitivity are important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. Class rosters are provided to the instructor with each student's legal name, unless they have added a "preferred name" with the [Gender and Sexuality Center](#). I will gladly honor your request to address you by a name that is different from what appears on the official roster, and by the gender pronouns you use (she/he/they/ze, etc). Please advise me of any changes early in the semester so that I may update my records from the start. I expect names and pronouns to be respected at all times in the classroom. I also understand that mistakes in addressing one another happen (including those by me) so I encourage an environment of respect and openness to correction and learning.

Mental Health Resources

I urge students who are struggling for any reason and who believe that it might impact their performance in the course to **reach out to me** if they feel comfortable. This will allow me to provide any resources or accommodations that I can. If you are seeking mental health support, call the Counseling and Mental Health Center (CMHC) at 512-471-3515 (8a.m.-5p.m., Monday-Friday), or you may also contact Bryce Moffett, LCSW-S (LBJ CARE counselor) at 512-232-4449. Bryce's office is located in SRH 3.119 and she holds drop in Office Hours on Monday from 1-2 pm. For urgent mental health needs, please contact the CMHC 24/7 Crisis Line at 512-471-2255.

Harassment Reporting Requirements

Title IX, a segment of the Education Amendments of 1972, makes it clear that violence, harassment, or discrimination based on sex and gender are Civil Rights offenses subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, etc. If you or someone you know has been harassed or assaulted, you can find the appropriate resources at <https://www.utexas.edu/student-affairs/policies/title-ix>.

Senate Bill 212 (SB 212), which took effect January 1, 2020, is a Texas State Law that requires all employees (both faculty and staff) at a public or private post-secondary institution to promptly report any knowledge of any incidents of sexual assault, sexual harassment, dating violence, or stalking “committed by or against a person who was a student enrolled at or an employee of the institution at the time of the incident.” Please note that both the instructor and the TAs for this class are mandatory reporters and MUST share with the Title IX office any information about sexual harassment/assault shared with us by a student whether in-person or as part of a journal or other class assignment. Note that a report to the Title IX office does not obligate a victim to take any action, but this type of information CANNOT be kept strictly confidential except when shared with designated confidential employees. A confidential employee is someone a student can go to and talk about a Title IX matter without triggering that employee to have to report the situation to have it automatically investigated. A list of confidential employees is available on the [Title IX website](#).

Campus Safety and Wellness Resources

The following recommendations regarding emergency evacuation are from the Office of Campus Safety and Security (512-471-5767, <http://operations.utexas.edu/units/csas/terms.php>).

- Occupants of buildings on the UT Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.
- Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building.
- Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class. In the event of an evacuation, follow the instruction of faculty.
- Do not re-enter a building unless given instructions by the following: the Austin Fire Department, the UT Austin Police Department, or Fire Prevention Services office.
- Behavior Concerns Advice Line (BCAL): 512-232-5050.
- Link to information regarding emergency evacuation routes and emergency procedures can be found at: <http://preparedness.utexas.edu/emergency-plans>.

More information on how to sign up for emergency text alerts, contact information for various UT offices, wellness resources, and campus initiatives relating to safety and/or wellness can be found at <https://www.utexas.edu/campus-life/safety-and-security>. Graduate school and life, in general, can be stressful! If you are struggling, know that you are not alone, and please reach out to one of the many mental health resources available to UT graduate students.

Religious Holidays

By UT Austin policy, please notify me of your pending absence at least fourteen days prior to the date of observance of a religious holiday. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holiday, you will be given an opportunity to complete the missed work within a reasonable time after the absence.

Campus Carry

Since August 2016, UT students with License to Carry (LTC) permits may carry concealed handguns in campus buildings, under Texas’ Senate Bill 11 (“Campus Carry”). This law requires

that students with LTC conceal handguns while on campus at all times, with no exceptions. The law and UT policy also allow faculty to give oral notice to students that concealed handguns may not be carried in sole-occupant faculty offices. Concealed handguns are not allowed in my office (SRH #3.242), so on days during which you visit my office, please make arrangements to leave handguns off campus. I will make this announcement on the first day of class; I repeat it here in writing as a reminder.

COURSE SCHEDULE

The schedule below may change over the course of the semester. All course materials (except the climate change textbook for March 18) are clickable from the page (in the "Pages" menu item on Canvas) for that class meeting.

Date	Topic	Assignments
Jan. 22	Intro and review - Markets, market failure and the environment	Assignment 1 on Gradescope
Jan. 29	Estimating the demand for environmental and resource amenities	
Feb. 5	Estimating costs of environmental regulation	Assignment 1 due, Assignment 2 on Gradescope
Feb. 12	Optimal extraction of non-renewable resources	
Feb. 19	Economics of pollution control I	
Feb. 26	Economics of pollution control II	Assignment 2 due, Assignment 3 on Gradescope
Mar. 4	Environmental justice and disparate pollution exposure	
Mar. 11	Spring Break - no class	
Mar. 18	Economics of climate change I	Assignment 3 due
Mar. 25	Economics of climate change II	Assignment 4 on Gradescope
Apr. 1	Efficient fisheries management	
Apr. 8	Forest economics and deforestation	
Apr. 15	Species preservation and biodiversity	Assignment 4 due, Assignment 5 on Gradescope
Apr. 22	Trade and the environment	
Apr. 29	Economic growth and sustainability	Assignment 5 due
Apr. 30-May 7	Final exam on Gradescope - dates and format TBA	

CLASS SESSIONS, ASSIGNED READINGS, AND ASSIGNMENTS

January 22: Markets, Market Failure and the Environment

**Assignment #1 is available on Gradescope, and it is due by 9am on February 5 (before class begins).

Required readings (complete before class):

- Arrow, Kenneth, et al. 1996. [Is there a role for benefit-cost analysis in environmental health and safety regulation?](#) *Science*, 272: 221-222.
- Freakonomics podcast. 2018. [Two \(totally opposite\) ways to save the planet](#), with Charles Mann, Mary Robinson, and Nathan Myhrvold
- Fullerton, Don and Robert Stavins. 1998. [How economists see the environment](#). *Nature* 395(October): 433-434.
- **Optional:** *Resources Radio* podcast. 2019. [Economics in the age of environmental policy](#), with Robert Stavins.

January 29: Estimating the Demand for Environmental and Resource Amenities

Required readings (complete before class):

- National Center for Environmental Economics, U.S. Environmental Protection Agency. 2010. [Guidelines for Preparing Economic Analyses](#), **Read ONLY Chapter 7 “Analyzing Benefits,” pp. 7-1 to 7-20.**
- Also, please read **ONE of the following four papers and be prepared to discuss:**
 - Agarwal, Nikhil, Chanont Banernghansa, and Linda T. M. Bui. 2010. [Toxic exposure in America: Estimating fetal and infant health outcomes from 14 years of TRI reporting](#). *Journal of Health Economics* 29: 557-574.
 - Carson, Richard T., Robert C. Mitchell, Michael Hanemann, Raymond J. Kopp, Stanley Presser and Paul A. Ruud. 2003. [Contingent valuation and lost passive use: damages from the Exxon Valdez oil spill](#). *Environmental and Resource Economics* 25: 257-286.
 - English, Eric, Roger von Haefen, Joseph Herriges, Christopher Leggett, Frank Lupi, Kenneth McConnell, Michael Welsh, Adam Domanski, & Norman Meade. 2018. [Estimating the value of lost recreation days from the Deepwater Horizon oil spill](#). *Journal of Environmental Economics and Management* 91: 26-45.
 - Muehlenbachs, Lucija A., Elisheba Beia Spiller and Christopher Timmins. 2015. [The housing market impacts of shale gas development](#). *American Economic Review* 105(12): 3633-3659.

February 5: Estimating the Costs of Environmental Regulation

**Assignment #1 is due, Assignment #2 is available on Gradescope, due Feb. 26.

Required readings (complete before class):

- Rich, Motoko, and John Broder. 4 September 2011. [A debate arises on job creation and the environment](#). *New York Times*.
- Currie, Janet, and Reed Walker. 2019. [What do economists have to say about the Clean Air Act 50 years after the establishment of the Environmental Protection Agency?](#) *Journal of Economic Perspectives* 33(4): 3-26.
- Case study on benefit-cost analysis for class discussion:
 - [Corporate Average Fuel Economy Standards, 2017-2025](#). Kennedy School Case No. 1973.0
 - [Case instructions](#)

February 12: Optimal Extraction of Non-renewable Natural Resources

[Discounting refresher](#) (use as a resource if you need it)

Readings for Feb. 12 (complete before class):

- Keohane, Nathaniel O., and Sheila M. Olmstead. 2016. [Markets and the Environment. Chapter 6](#). Washington, DC: Island Press, 99-113.
- Planet Money podcast. 2018. [A bet on the future of humanity](#).
- Wang, Zhongmin, and Alan J. Krupnick. 2015. [A retrospective review of shale gas development in the United States: what led to the boom?](#) *Economics of Energy & Environmental Policy* 4(1): 5-18.

February 19: Economics of Pollution Control I

Readings for February 19 (complete before class):

- Keohane, Nathaniel O., and Sheila M. Olmstead. 2016. [Markets and the Environment. Washington, DC: Island Press, Chapter 8 and Chapter 9, pp. 139-198](#).
- Econimate video: [The emissions cheating scandal and the health effects of car pollution](#). 2 October 2019. (Based on a paper by Diane Alexander and Hannes Schwandt).
Optional: you can also [see a short video of Diane Alexander describing this research](#).
- **Choose one of the following three papers:**
 - Currie, Janet, Joshua Graff Zivin, Jamie Mullins, and Matthew Neidell. 2014. [What do we know about short-and long-term effects of early-life exposure to pollution?](#) *Annual Review of Resource Economics* 6: 217-247.
 - Do, Quy-Toan, Shareen Joshi, and Sam Stolper. 2018. [Can environmental policy reduce infant mortality? Evidence from the Ganga pollution cases](#). *Journal of Development Economics* 133: 306-325.
 - Ebenstein, Avraham, Maoyong Fan, Michael Greenstone, Guojun He, and Maigeng Zhou. 2017. [New evidence on the impact of sustained exposure to air pollution on life expectancy from China's Huai River Policy](#). *Proceedings of the National Academy of Sciences* 114(39): 10384-10389.

February 26: Economics of Pollution Control II

**Assignment #2 is due (at 9:00am - before class)

Readings for Feb. 26 (complete before class):

- Sandel, Michael J. 2012. [*What Money Can't Buy: The Moral Limits of Markets*](#). New York: Farrar, Straus & Giroux. Pp. 72-79.
- **Case for class discussion:**
 - [*Cleaning up the "Big Dirties": the problem of acid rain*](#). Kennedy School Case No. 1C15-99-1514.0
 - [Big Dirties case instructions](#)

March 4: Environmental Justice and Disparate Pollution Exposure

Readings for March 4 (complete before class):

- Taylor, Dorceta E. 2014. "[Toxic Exposure: Landmark Cases in the South and the Rise of Environmental Justice Activism](#)." In: *Toxic Communities: Environmental Racism, Industrial Pollution, and Residential Mobility*. New York: NYU Press, pp. 6-32.
- Banzhaf, Spencer, Lala Ma, and Christopher Timmins. 2019. [Environmental justice: the economics of race, place and pollution](#). *Journal of Economic Perspectives* 33(1): 185-208.
- Colmer, Jonathan, John Voorheis, and Brennan Williams. 2021. [Air pollution and economic opportunity in the United States](#). Working paper.
- Mock, Brentin. 2015. "[Can we green the hood without gentrifying it?](#)" *Grist*, 9 February.
- **Optional:** Muller, Nicholas Z., Peter Hans Matthews, and Virginia Wiltshire-Gordon. 2018. [The distribution of income is worse than you think: including pollution impacts into measures of income inequality](#). *PLOS One* 13(3): e0192461.

March 11: Spring Break – No Class Meeting

March 18: Economics of Climate Change I

**Assignment #3 is due (at 9:00am, before class).

Required readings (complete before class):

- Klein, Grady, and Yoram Bauman. 2022. *The Cartoon Introduction to Climate Change*. 2nd Edition. Washington, DC: Island Press.
- Hausman, Catie. 2020. [Understanding carbon tax](#). Ford School of Public Policy, Democracy and Debate: Understanding the Issues.
- Rennert, Kevin, et al. 2022. [Comprehensive evidence implies a higher social cost of CO2](#). *Nature* 610: 687-692.

- Newell, Richard G., William A. Pizer, and Daniel Raimi. 2019. [U.S. federal government subsidies for clean energy: design choices and implications](#). *Energy Economics* 80: 831-841.
- Econimate video. 2020. [Heat and learning](#). Based on the research in Park, R. Jisung, Joshua Goodman, Michael Hurwitz, and Jonathan Smith. 2020. “Heat and Learning.” *American Economic Journal: Economic Policy* 12(2): 306-339.

March 25: Economics of Climate Change II

**Assignment #4 is available on Gradescope, due by April 15 at the start of class.

Required readings (complete before class):

- Barrett, Scott S. 2003. [Environment and Statecraft](#). New York: Oxford University Press, pp. 221-239.

**Climate negotiation game (no reading or other preparation necessary).

April 1: Efficient Fisheries Management

Required Readings (complete before class):

- National Geographic. 2022. [How overfishing threatens the world's oceans -- and why it could end in catastrophe](#).
- Keohane, Nathaniel O., and Sheila M. Olmstead. 2016. [Markets and the Environment](#). Washington, DC: Island Press, Chapter 7, pp. 128-138.
- **Optional:** Ostrom, Elinor. 2008. [The challenge of common pool resources](#). *Environment* 50(4): 8-21.

**Case study on tradable fishing quota for class discussion:

- [The Red Snapper Fishery](#). Stanford Law School Environmental and Natural Resources Law and Policy Program, Case No. 98-018.
- [Red Snapper case instructions](#)
- [Red Snapper case Exhibits 1](#)
- [Red Snapper case Exhibits 2](#)
- [Tierney NYT article](#)

April 8: Forest Economics and Deforestation

[Faustmann math](#) - optional viewing for those who are interested

Required readings (complete before class):

- Keohane, Nathaniel O., and Sheila M. Olmstead. 2016. [Markets and the Environment](#). Washington, DC: Island Press, Chapter 7, pp. 114-128.

- Andam, Kwaw S., Paul J. Ferraro, Alexander Pfaff, G. Arturo Sanchez-Azofeifa, and Juan A. Robalino. 2008. [Measuring the effectiveness of protected area networks in reducing deforestation](#). *Proceedings of the National Academy of Sciences* 105(42): 16089-16094.
- Cárdenas, Juan-Camilo. 2015. [Invisible hands working together](#). CoreEcon video.
- Wood, Charles and Robert Walker. 1999. [Saving the Trees by Helping the Poor: A Look at Small Producers Along Brazil's Transamazon Highway](#). *Resources* 136(Summer): 14-17.

April 15: Species Preservation and Biodiversity

**Assignment #4 is due (at 9:00am, before class), Assignment #5 is available on Gradescope (due Apr. 29)

Required readings (complete before class)

- Metrick, Andrew and Martin L. Weitzman. 1998. [Conflicts and choices in biodiversity preservation](#). *Journal of Economic Perspectives* 12(3): 21-34.
- Simpson, David R. 1997. [Biodiversity prospecting: shopping the wilds is not the key to conservation](#). *Resources* 126 (Winter).
- Frank, Eyal, and Anant Sudarshan. 2023. [The social costs of keystone species collapse: evidence from the decline of vultures in India](#). Working Paper.
- **Optional:** Moore, Frances C., Arianna Stokes, Marc Conte and Xiaoli Dong. 2022. [Noah's Ark in a warming world: climate change, biodiversity loss and public adaptation costs in the United States](#). *Journal of the Association of Environmental and Resource Economists* 9(5): 843-1046.

Case Discussion: The Balcones Canyonlands Conservation Plan

- [Balcones Canyonlands Conservation Plan case](#)
- [Case instructions](#)
- [Case exhibits](#) (NOT required reading)

April 22: Trade and the Environment

Required readings (complete before class):

- 't Sas-Rolfes, Michael. 1997. [Elephants, rhinos and the economics of the illegal trade](#). *Pachyderm* 24 (July-Dec): 23-29.
- Hsiang, Solomon, and Nitin Sekar. 2019. [Does legalization reduce black market activity? Evidence from a global ivory experiment and elephant poaching data](#). NBER Working Paper No. 22314. Cambridge, MA: National Bureau of Economic Research.
- Econimate video. 2020. [The environmental bias of trade policy](#). 4 May
- **Optional:** Ederington, Josh, Arik Levinson and Jenny Minier. 2005. [Footloose and pollution-free](#). *Review of Economics and Statistics* 87(1): 92-99.

April 29: Economic Growth and Sustainability

****Assignment #5 is due (at 9:00am, before class).**

Required readings (complete before class):

- Brandon, Carter, Katrina Brandon, Alison Fairbrass, and Rachel Neugarten. 2021. [Integrating natural capital into national accounts: three decades of promise and challenge.](#) *Review of Environmental Economics and Policy* 15(1): 134-153.
- Solow, Robert. 1992. [An almost practical step toward sustainability](#). Lecture on the occasion of the 40th anniversary, Resources for the Future, Washington, D.C.