

IE/IR/PO 370
GREEN GROWTH, SUSTAINABILITY
AND THE NEW ECONOMY
IES Abroad PARIS BIA PROGRAM
SPRING 2025

INSTRUCTOR: Dr. Alvaro Artigas (Sciences Po – Research Associate CEE/IES LKY School of Public Policy)

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DESCRIPTION

The quest to significantly decrease the use of fossil fuels spurred by concerns over energy security, high prices, and the socioeconomic repercussions of climate change is now underway across the globe. The world economic crisis and the need for governments to foster new economic growth in order to create jobs is prompting the development and use of green technologies. At the same time, however, this is creating new global competition for limited resources, such as rare earths, and the race to become a leader in green tech innovation is giving rise to a series of new global political and economic realities, tensions and disputes.

Against this backdrop the European Union has forged a clear path to renewed economic growth in a low carbon era, investing in RES, setting clear targets and creating green jobs. The United States by contrast is hesitating and in fact sustainability and a path to green growth are under fierce attack domestically. Emerging countries are struggling to define a clear position in relation to climate change, even though they are the most exposed.

The goal of this course is to familiarize students with the global transition to low carbon economies already underway, to better understand the technologies, the disputes, the players in the green growth race and their competition as it develops. It also aims at giving them a better understanding of sustainability in action and to help work on the rhetorical arguments needed to explain and defend the transition to ecological sustainability in a globalized world.

CREDITS: 3

SESSIONS: Monday from 3:05 PM to 6:15 PM

LANGUAGE OF PRESENTATION: English

PREREQUISITES: None, but a Macroeconomics or Environmental Studies background is a plus.

METHOD OF PRESENTATION:

Lectures, Prezis and Audiovisual content.

**REQUIRED WORK AND
FORM OF ASSESSMENT:**

Course participation - 10%

Midterm in Class Examination 30%

2 Oral Presentations – 30%

Final in Class Assignment 30%

Course Participation

Students are expected to actively participate in each session and to process the readings to be able to debate. In the light of the present climate negotiations that took place in 2024 in Baku, students will be asked to keep track of developments pertaining to these negotiations.



Quiz Media Assignment

This is a quiz done in class on session 4, on a selection of articles posted the previous week.

Oral presentations: 2 10 minutes presentations prepared in pairs. Their purpose is to explain a complex issue in simple terms, that can be grasped by your classmates. You will be provided with a case study pack with the most relevant literature, but you will have to engage in research of your own to provide context and up to date information. Oral presentations not presented during the intended day, will receive an F grade should the student fail to present a valid reason, duly certified by the IES BIA administrative team.

Midterm in class examination: an in-class examination in written format (pencil/pen and paper). Examination topic, scrap and writing paper will be provided in class the day of the examination

AI Use protocol

This course allows AI use with several restrictions

Students are permitted to use AI-based tools (such as ChatGPT, CoPilot, Gemini) on some assignments. The detailed instructions for each assignment will be posted beforehand on Moodle and will include information about whether and how you may use AI-based tools to complete the assignment. **All sources, including AI tools, must be properly cited. Use of AI in ways that are inconsistent with the parameters above will be considered academic misconduct and subject to investigation.**

Several AI results can be biased and inaccurate. It is your responsibility to ensure that the information you use from AI is accurate. Additionally, pay attention to the privacy of your data. Many AI tools will incorporate and use any content you share, so be careful not to unintentionally share copyrighted materials, original work, or personal information.

IMPORTANT: If you have any questions about citation or about what constitutes academic integrity in this course, please feel free to contact me to discuss your concerns.

Seminar organization.

The class sessions are a mixture of lectures, group work and case studies. Homework assignments are an important part of the course and timely completion of these is a must. Classroom activity will be partly based on students' external work.

Final Exam

It will consist of an essay to be produced in class, selecting one of two topics. Duration 1h30

Grading Rubric for student participation

A	Excellent participation The student's contributions reflect an active reading of the assigned bibliography. Skillfully synthesizes the main ideas of the readings and raises questions about the applications and implications of the material. Demonstrates, through questions and comments, that he or she has been capable of relating the main ideas in the readings to the other information discussed in the course. The student makes informed judgments about the readings and other ideas discussed in class. He/she respectfully states his/her reactions about other classmates' opinions and can contribute to the inquiry spiral with other questions. The student gets fully involved in the completion of the class activities.
B	Very good participation The student's contributions show that the assigned materials are usually read. Most of the time the main ideas are identified, even though sometimes it seems that applications and implications of the information read were not properly reflected upon. The student is able to construct over others' contributions, but sometimes seems to interrupt the shared construction to go over tangents. He/she is respectful of others' ideas. Regularly involved in the activities but occasionally loses concentration or energy.
C	Regular participation The participant evidences a regular reading of the bibliography, but in a superficial way. He/she tries to construct over others' ideas, but commonly provides comments that indicate lack of preparation about the material. Frequently, contributions are shallow or unarticulated with the discussion in hand.
D	Insufficient participation Consistently, the participant reads in a shallow way or does not read at all. Does not participate in an informed way, and shows lack of interest in constructing over others' ideas.

LEARNING OUTCOMES:

By the end of the course students will be able to:

1. Discuss how the drive to lower carbon emissions is changing business and organizations
2. Understand development strategies built around green growth principles
3. Understand how business growth can be decoupled from the overuse of resources

Successful students will have a knowledge and understanding of:

1. The interlink between climate change and business
2. How businesses have implemented sustainable practices
3. The sustainable value chain and business networks for innovative and cooperative solutions

Successful students will be able to gain the following skills and attributes:

1. Take an effective role in identifying areas for change in national economies and international organizations
2. Awareness of the business actors interplay in contributing to sustainable business practices



IES Paris Attendance Policy

Your academics are a priority, and regular class attendance is mandatory, respectful, and essential to academic success. Being absent from class will prevent you from maximizing your learning and will negatively affect your participation grade.

Lateness

Please arrive on time for each class meeting. Arriving late for class is disruptive for faculty members and students alike and will prevent you from maximizing your learning.

- 0 to 15 minutes = late
- Over 15 minutes = 1 absence

If you arrive late 3 times, it will be counted as an absence.

Absences

If you must be absent, please email both your professor and the academic team as soon as possible (mfedon@iesabroad.org) and (emaines@iesabroad.org). Absences for medical reasons and/or emergencies will be considered excused, but justification will be required.

In this case, we will need:

- a *certificat médical*,
- from a French doctor,
- must be submitted within 24 hours of the absence,
- or proof of upcoming medical appointment.

If you are absent for an exam, presentation, or other graded in-class assignment, you must provide justification for the absence, or you will receive an automatic F.

Our attendance policy allows each student to miss one 3h course and two 1.5h class sessions without it affecting the final grade of the class. Above that, your final grade will be lowered. The following example is for a 1.5h class:

Final grade: A-

1 unexcused absence: A-

2 unexcused absences: A-

3 unexcused absences: B+

4 unexcused absences: B

And so on...

Lastly, an important reminder!

For any and all absences students are required to fill out the **ABSENCE FORM**, which can be found using the following link:

<https://airtable.com/appwRScHoi8XeQUhz/shrkeAL2VXGdy1RH5>

Any documentation FOR AN EXCUSED ABSENCE must be uploaded to this platform.



CONTENT:

Week & Session	Content	Assignments (Reading, homework, project due dates, exams)
Session 1 January 20 Sustainability, Green Growth and Global Warming: political social and economic challenges.	1. Functional: Presentation of the class contents and review of the syllabus main themes 2. The Context: Climate Change and Eco-systems 3. Conceptual: short introduction to the methodology of the course, presentation 4. The glossary of green growth: discussion and debate 5. Assignment explanation and allocation 6. The role of expertise vs fake news: the construction of fact Readings (MANDATORY FOR THE FIRST SESSION) -READER Introduction Climate Change and Society: Approaches and Responses, John S. Dryzek, Richard B. Norgaard, and David Schlosberg The - READER Organized Climate Change Denial Riley E.Dunlap and Aaron M.McCright	Interviewing classmates in order to know each other. Asking and giving the motivations to engage with sustainability Oral introduction about climate change issues today
Session 2 January 27 Understanding Sustainability: Scientific Knowledge and History	1. Conceptual: What is sustainability? Scientific Grounding 2. Historical precedents: the role of Climate in History 3. Towards a socio-economic understanding of Climate Change Readings: - <i>Ronnie Ellenblum The Collapse of the Eastern Mediterranean</i> - Climate Change and the Decline of the East, Cambridge, Cambridge University Press 2012 3-36 - <i>Benjamin Lieberman and Elizabeth Gordon. Climate Change in Human History: Prehistory to the Present</i> , New York: Bloomsbury Academic, 2018 Ch.4	Case Study 1: The Fall of Baghdad 1027-1060 Case Study 2: Middle Ages and the Little Climatic Optimum: presenting the facts and the outcomes

Session 3 February 3 The Case of the European Union	1. Conceptual: Economic Integration and Sustainability concerns. 2. Policy Instruments Analysis: Carbon Credits and the 20/20/20 strategy 3. The case of France in the EU 4. The Economy of NCREs Readings - READER Economic Policy Instruments for Reducing Greenhouse Gas Emissions David Harrison, Andrew Foss, Per Klevnas, and Daniel Radov pp.521-532 - Chapter 23 Climate change and energy security in the European Union: from rhetoric to practice? Pp.353-368 Constance Lever-Tracy, "Routledge Handbook of Climate Change and Society" (pdf provided)	Case Study 3: The EU's Green Deal and the 2050 goals Case Study 4: The return of nuclear: GHG reduction imperative or dangerous gambit? A visit will be organized to the Eco District Batignolles after class.
Session 4 February 10 American Dilemmas and State initiatives	1. Conceptual: sustainable development law and policy in the US. 2. The US environmental policy since the 1970s 3. The Ethanol industry in the US Reading - Denis Hayes, Cowed: The Hidden Impact of Agriculture on 93 Million Cows on America's Health, Economy, Politics, Culture and Environment, W&W Norton and Company, 2015, Chapter 6-7 - Chapter 25 Tipping point: crossroads for US climate policy. Pp.379-404 Constance Lever-Tracy, "Routledge Handbook of Climate Change and Society" (pdf provided)	-Media Report Case Study 6: The California Cap and the Trade Market, then and now Case Study 7: An Assessment of the EPA's role under president Biden's tenure Case Study 8: The 2004 Taylor Energy Spill: assessing the cost today

Session 5 February 17 The Asian continent: An open laboratory for global responses and resiliency strategies?	1- A conceptual introduction to manmade and natural risks and hazards. 2- Disaster relief and resilience strategies 3- Demographic and migration dynamics within urban growth. 4- Asian responses: contextual and comparative analysis of national case studies Readings -Green Growth in South East Asia, Position Paper, OECD 2014. -Mozaharul Alam Status of Climate Change Adaptation in Asia and the Pacific by Springer London 2019 Chapter 8	Case Study 9: Manila's Urban Transportation challenge Case Study 10: The case of Kitakyushu: exporting green competence? Case 11: New green cities in China: an assessment of recent trends & government programs
SPRING BREAK		
Session 6 The Industry of Green: Renewable strategies and Green washing perils March 3	1. An introduction to clean production processes and carbon footprint analysis. 2. Non-conventional renewable energies explained 3. A cost-analysis of carbon neutral processes 4. Environmental trade related issues: rules of origin Readings - Varun Sivaram, Taming the Sun: Innovations to Harness Solar Energy and Power the Planet' by MIT Press 2018 p 3-25 -READER The Oxford Handbook of Climate Change and Society By John S. Dryzek, Richard B. Norgaard, David Schlosberg PART XI: GLOBAL GOVERNANCE Ch.39: Pulver,S. Corporate Responsibility/Ch.40: Free, A. Is Green Consumption Really?	Case Study 11: The end of Fast Fashion? Myth and reality Case Study 12: The BYD "miracle": what are the limits of a global success story? Case Study 13: Trees for flights: a review of existing airliners schemes and an assessment of their contribution to more sustainable air travel.

Session 7 March 10 Midterm examination	A study guide will be handed out in advance -READER Paul G. Harris Reconceptualizing Global Governance in The Oxford Handbook of Climate Change and Society By John S. Dryzek, Richard B. Norgaard, David Schlosberg pp.638- 652 -READER The Oxford Handbook of Climate Change and Society By John S. Dryzek, Richard B. Norgaard, David Schlosberg Paterson, M. Selling Carbon: From International Climate Regime to Global Carbon Market 611-624	
Session 8 March 17 Energy fundamentals and the economics of finite resources.	1. A definition of energy: from science to social use 2. Energy efficiency and energy mix 3. The End of fossil fuels? conceptual issues related to the peak oil , shale gas, tar sands and energy dependency Readings -Raw Materials for Future Energy Supply by Friedrich-W. Wellmer Springer London 2019 2nd Edition Ch 2.	Case Study 14: The Proalcool program in Brazil: is ethanol a clean energy? Case Study 15 The reconversion of oil-dependent economies into renewables: the case of the United Arab Emirates
Session 9 March 24 From Non Conventional Renewal Energies to Smart Innovations	1 The issue of energy efficiency: conceptual explanation and empirical demonstration. 2 The role of Renewable energies 3 Sustainable fuels in emergent economies and added value strategies -Willem Middelkoop, Rembrandt Koppelaar The Tesla Revolution: Why Big Oil Has Lost the Energy War Amsterdam University 2017 Introduction pp3-24 -Sebastian Oberthuer / Claire Roche Ke Ily (2008): EU Leadership in International Climate Policy: Achievements and Challenges. In: The International Spectator, Vol. 43/3 p.35-50 -Graves, P.E. Environmental Economics: An Integrated Approach, 2013 Introduction, Ch 1	Case Study 16 The cost of Solar: the chains challenge of feeding clean electricity into the grid in the US today Case Study 17:Dam You: an assessment of Dams and hydroelectricity environmental impacts in China today Case Study 18 The Solar highway: the revolution of solar renewables in Chile



Session 10 March 31 Transportation	2. The transition towards SUMPS 3. The role of EVs 4. New mobility models Readings -Artigas, A. et Halpern C. STUDY“MOBILITY TRANSITION AND GOVERNANCE IN EU MUNICIPALITIES” Acatech Munich 2023.	Media Report 2 Case Study 19: The case of the Grand Paris Express Case Study 20: The Case of Singapore SMRT Case Study 21: A success story? The case of BikeNYC
Session 11 April 7 Smart Cities and Eco- Cities: bringing ICTs in	2. The definition of the SMART City 3. The role of corporate actors and the promotion of an urban growth model 4. Linking ICTs promotion and sustainability strategies: conceptual and empirical issues Readings -Artigas, A. et al.Smart Regulation- New Cities Foundation, 2012 http://www.newcitiesfoundation.org/wp-content/uploads/PDF/New-Cities-Foundation-	No case study. A visit will take place in the second half of the ZAC Paris Bibliothèque.



Session 12 Friday, April 11 th (1,5 hour class) Finite resources and management strategies: the case of Water	1. Water distribution issues and development constraints for the XXIst century 2. Environmental Justice Explained 3. Social progress vs Economic Development: a critical discussion Readings -Matthew Paterson (2001): Principles of Justice in the Context of Global Climate Change. In: Urs Luterbacher / Detlef Sprinz (Ed.): International Relations and Global Climate Change, Massachusetts Institute of Technology, p.119-126. -Chris Paul Methmann (2010): 'Climate Protection' as Empty Signifier : A Discourse Theoretical Perspective on Climate Mainstreaming in World Politics. In: Millennium: Journal of International Studies 39(2), p. 345–372	Case Study 22: Getting the brine out of the water: a cautionary tale of desalinization explained. Case Study 23: Eau de Paris: A French best practice or a contentious model? Case Study 24: Where did my avocado go? Intensive agriculture and water imperatives in Chile
Session 13 April 14 Towards a new model of consumption? Circular Economy and degrowth	1. Reviewing Capitalism and Accumulation Strategies 3Bibliography	Case Study 25: Waste and the City: the case of New York City and its interdependence on its region Case Study 26: The end of waste outsourcing: when India says no.
Session 14 FINAL EXAM	Final Examination December date and time TBD by IES	

REQUIRED READINGS:

John S. Dryzek , Richard B. Norgaard and David Schlosberg (Eds) The Oxford Handbook of Climate Change and Society by),Oxford University Press, Oxford, 2011

RECOMMENDED READINGS:

- Artigas, A. et al.Smart Regulation- New Cities Foundation, 2012
- Aaron M. McCright / Riley E. Dunlap (2003): Defeating Kyoto: The Conservative Movement's Impact on U.S. Climate Change Policy. In: Social Problems, Vol. 50, No. 3. pp. 348-373
- Anthony A. Leiserowitz (2005): American Risk Perceptions: Is Climate Change Dangerous? In: Risk Analysis, Vol. 25, No. 6, pp. 1433-1442.
- Gørild Heggelund (2007): China's Climate Change Policy: Domestic and International Developments. In: Asian Perspective, Vol. 31, No. 2, 2007, pp. 155-191.
- Christopher L. Weber / Glen P. Peters / Dabo Guan / Klaus Hubacek (2008) The contribution of Chinese exports to climate change, Energy Policy, Volume 36 (9), 3572 - 3577.
- Graves, P.E. Environmental Economics: An Integrated Approach, 2013
- Razzaque, J. Environmental Governance in Europe and Asia: A Comparative Study of Institutional and Legislative Frameworks ROUTLEDGE 2012
- Brown, K."Resilience, Development and Global Change" Routledge 2015
- Anco S. Blazev "Solar Technologies for the 21st Century" Fairmont Press 2013. Guzman, T. Overheated: The Human Cost of Climate Change By Andrew OUP, 2013. M. Mani Greening India's Growth: Costs, Valuations and Trade-offs (repost) 2013
- Lesley Masters (2009): The Road to Copenhagen: Climate Change, Energy and South Africa's Foreign Policy. South African Institute of International Affairs (SAIIA).
- Methmann, Chris Paul (2010): 'Climate Protection' as Empty Signifier : A Discourse Theoretical Perspective on Climate Mainstreaming in World Politics. In: Millennium: Journal of International Studies 39(2), p. 345–372
- Never, Babette (2010): Regional Power Shifts and Climate Knowledge Systems: South Africa as a Climate Power? GIGA Working Paper No. 125, p. 1-34.
- Abramovay, Ricardo (2010): Decarbonizing the Growth Model of Brazil: Addressing Both Carbon and Energy Intensity. In: The Journal of Environment & Development 19(3) p.358 -374.
- John C Cole / Diana M Liverman (2011): Brazil's Clean Development Mechanism governance in the context of Brazil's historical environment–development discourses. In: Carbon Management (2011) 2(2), p.145-160.
- "Transatlantic Environment and Energy Politics" by Miranda A. Schreurs, Henrik Selin, Stacy D. VanDeveer, Ashgate 2009
- Denis Hayes, Cowed: The Hidden Impact of 93 Million Cows on America's Health, Economy, Politics, Culture and Environment, W&W Norton and Company, 2015
- OECD, Green Growth in South East Asia, Position Paper, OECD 2014.
- Brown, K."Resilience, Development and Global Change" Routledge 2015
- Anco S. Blazev "Solar Technologies for the 21st Century" Fairmont Press 2013.
- Guzman, T. Overheated: The Human Cost of Climate Change By Andrew OUP, 2013.
- M. Mani Greening India's Growth: Costs, Valuations and Trade-offs (repost) 2013
- Graves, P.E. Environmental Economics: An Integrated Approach, 2013
- Razzaque, J. Environmental Governance in Europe and Asia: A Comparative Study of Institutional and Legislative Frameworks ROUTLEDGE 2012

RECOMMENDED WEBSITES & WEBLOGS

- The Intergovernmental Panel on Climate Change web site - www.ipcc.ch/index.htm - contains the full text of the Fourth Assessment reports and the summaries.
- UNFCCC Country information, http://unfccc.int/parties_and_observers/parties/items/2352.php
http://belfercenter.ksg.harvard.edu/project/56/harvard_project_on_climate_agreements.html
- Documentation of the UNFCCC negotiations International Institute for Sustainable Development: www.iisd.ca/process/climate_atm.htm
- Blog of the International Institute for Sustainable Development, Canada, <http://climate-l.iisd.org/>
- Glossary of Climate Change Acronyms: http://unfccc.int/essential_background/glossary/items/3666.php IPCC. (2007) Synthesis Report. Fourth Assessment Report of the Intergovernmental Panel on Climate Change. http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf



Lecturer Biography

Dr. Alvaro Artigas is a Research Associate at the Centre d'Etudes Européennes (CEE) at Sciences Po Paris and holds a double MA in Comparative Politics (Sciences-Po Paris) and Russian Studies (IMARS- EUSPB Berkeley) as well as a PhD in Political Science and Political Economy (Sciences Po-Paris). His dissertation focused on emergent countries' foreign trade policies and business interest in regional and city development. He worked three years at the Wissenschaft Zentrum für Sozialforschung in Berlin as a research assistant for the European Political Science Network. In 2000-2004, he was awarded the Eiffel excellence fellowship and held an associate fellowship position at the Pontifical University of São Paulo (Brazil) while associated with the Center of International Research at Sciences-Po Paris (CERI). In recent years he has been a visiting fellow at several international academic institutions such as the Telefonica Chair at the IBEI – Barcelona Institute of International Studies at the U. Pompeu Fabra. He works as a lecturer at the Sciences Po Diploma in Paris (Paris School of International Affairs), as well as the Governing the Large Metropolis Master from the Urban School at Sciences-Po. He has extensive work experience with key European think tanks (Fondation Robert Schuman, Notre Europe and the Fondation pour l'Innovation Politique) as well with several Chambers of Commerce and UBIFRANCE. He was one of the lead researchers of the GREENUT project together with the Université Paris Cité Consortium and NUS National University of Singapore and received a research grant by USPC-NUS to co- steer the MEGOWAS project and the CAPinGHG research programme. He is also a member of the steering committee of the Digital Chair at the Urban School at Sciences Po Paris.