IR/EC 330 THE ECONOMICS AND BUSINESS OF CLIMATE CHANGE
IES Abroad
London

DESCRIPTION: This course examines the evidence of the economic impacts of climate change and explores the economics of stabilizing greenhouse gasses in the atmosphere. This course also considers the complex policy challenges involved in managing the transition to a low carbon economy and ensuring that societies can adapt to the consequences of climate change. The course takes an international perspective, as climate change is global in its causes and consequences, and international collective action will be critical in driving an effective, efficient and equitable responses on the scale required. A special attention would be paid to the Paris Agreement and the continued international cooperation in climate change mitigation and adaptation. This course examines the challenges and openings for business, including sustainable development and climate change; climate change mitigation and energy efficiency; business aspects of renewable energy; carbon finance and carbon market development; the greening of business; climate change and adaptation; and sustainability and innovation.

CREDITS: 3 credits

CONTACT HOURS: 45 hours

LANGUAGE OF INSTRUCTION: English

PREREQUISITES: Introductory micro/macroeconomics. Alternatively, previous business, international relations, environmental studies.

METHOD OF PRESENTATION:
- Lectures
- Discussion
- Student presentations
- Course-related field trips are incorporated in the course.

REQUIRED WORK AND FORM OF ASSESSMENT:
- Mid-term paper (typed 2000 words) 25%
  The mid-term paper is a take home exam allowing students to choose from one of three questions that will be distributed a week in advance. The paper is “open book” and allows students to draw in their required reading and any supplemental reading. Papers should be 1500 words in length.
- Individual case studies (a written and oral presentation) 15%
  The individual case studies will show the ability of the students to discuss real life situations and companies, and assess the challenges and opportunities opened by climate change.
- Participation in discussion 10%
  Participation in discussion is a key component of the course. Students’ contributions should reflect their reading and thinking about the relevant topical issues. The style of the discussion will be informal, questioning and participative.
- Final Paper – Course project 50%
  The course project includes two options: a paper containing analysis of the business opportunities for US and European business post-Paris or analysis of EU and climate change/energy issues.

LEARNING OUTCOMES:

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

- Analyze climate change in terms of international challenges and cooperative action
- Develop an insightful understanding of the economics of climate change and sustainable development
- Identify the areas for future international cooperation in climate change mitigation and adaptation
- Refer to 'real life' situations through case studies
- Identify the business opportunities for investing in carbon –free economy.

CONTENT:

Week	Content	Assignments
Week 1	**Climate Change and Its Impact on Economic Growth** The benefits of strong early action on climate change will be discussed in the context of the current economic environment, The role of continued climate change policy dialogue will be highlighted. People in Climate change denial: do they have a point? The role of civil society, the Extinction Rebellion and other forms of protest and engagement will be discussed. Video: Al Gore (2023),	**Homework Readings:** • The World Bank, World Development Report 2010, Development and Climate Change, Washington DC, Chapter1 Understanding the Links between Climate Change and Development pp37-61 and • Focus A, The Science of Climate change, pp 70-84 The climate book, created by Greta Thunberg, pp 2-43
Week 2	**The Risks Associated with Climate Change and Resource Depletion** The following issues will be discussed: - Why climate change threatens the basic elements of life? The uneven distribution of climate change impacts creates further inequalities. The role of climate change policy for tackling the issues of resource depletion and/or scarcity, the link between climate change mitigation and sustainable development will be discussed. The impact of the climate change policies of the US, UK, the EU and China on the transition to low carbon economy will be discussed in detail. The findings of the Sixth Assessment Report of the Intergovernmental Panel on Climate change will be examined in detail.	Homework Readings: • IPCC Global Warming of 1.5 degrees A Summary for policymakers, 2018, www.ipcc.ch • Stern, Nicholas, Why are we waiting? The logic, urgency and promise of tackling climate change 2016 pp 3-33 Ch. 1 The science: How it shapes the economics, ethics, politics and the possible prognoses. • AR6 Synthesis report, Climate change 2023 www.ipcc.ch • The climate book, created by Greta Thunberg, pp 48-93

Week 3	**Emissions and Economic Growth** Why Stabilization of greenhouse gas concentrations in the atmosphere is feasible and consistent with continued growth? The students will be introduced to the macroeconomic models to explore the system-wide effects of the transition to a low carbon energy economy The students would be introduced to the responsibilities of business for sustainable development and the initiatives that business could take in leading the transition to a carbon neutral world. The importance of private- public partnerships and the financial support for developing nations for climate change mitigation and adaptation will be discussed. • Bill Gates, Ted Talk on How to avoid a climate disaster	**Homework Readings:** -The Economics of Climate Change, The Stern Review Ch. 12 Opportunities and wider benefits from climate policies p 269- 283 - Stern, N., A Blueprint for a Safer Planet Chapter 3 How emissions can be reduced and at what cost pp 38- 55 -Stern N. Why are we waiting? Pp91-130 Ch. 3 Policies for dynamic change and transition. Sharpe S. (2023) Five times faster, rethinking the science, economics and diplomacy of climate change, Pp 83-102, pp 160-186 Gates B. How to avoid a Climate disaster, pp 3-51
Week 4	**International Cooperation for Cutting Greenhouse Gases** We shall follow the progress in international negotiations for climate change mitigation from Kyoto to Paris and COP 26- COP 29. Is there a global agenda for climate change mitigation? What is the role of international cooperation for a low carbon future? • Video: Lord Stern on climate change and the need for international action	**Homework Readings:** Stern N. Why are we waiting? Pp 211-247 Development of climate action around the world. Sharpe S. (2023) Five times faster, rethinking the science, economics and diplomacy of climate change, pp 187-235
Week 5	**The Paris Agreement: an overall assessment.** **The follow up and the build -up for COP 30 in Brazil** The "Paris Agreement" represents a milestone in global climate negotiations. It creates a long-term international framework for encouraging, coordinating, and successively enhancing national efforts to curb emissions and promote low carbon technologies. The outcomes from the subsequent COP 26, COP 27 , COP 28 and COP 29 will be discussed as well as the prospects for COP 30 in Brazil. **Video: The Paris Summit meeting on Climate change**	**Homework Readings:** The Paris Agreement, www.unfccc.int Rob Bailey Shane Tomlinson Post-Paris: *Taking Forward the Global Climate Change Deal* Stern, N., A Blueprint for a Safer Planet, Ch.8 The structure of a global deal pp144-180 Stern N. Why are we waiting? Pp247-274 Ch. 8 Building national and international action

Week 6	**The European Union and Climate Change** The European Green Deal and Repower EU will be discussed in detail and the ambition to cut carbon dioxide emissions by 45% by 2030, by 90 % in 2040 and to become carbon neutral by 2050. Both decreases will be achieved through increase in renewable energy and energy efficiency. The challenges for developing and promoting low or even zero emitting technologies, including carbon capture and storage will be discussed.	**Homework Readings:** Tocci , N (2023) A green and global Europe, pp 102-169 Afionis, S. The EU and international climate change negotiations. (2017) pp1-18 Introduction, ch 1 Climate change: from science to policy pp 19-32, ch.9 The demise of the top-down approach, pp.145-162 and ch.10 The EU as a negotiator of the climate regime, pp.163-195 The European Green Deal, Europa.eu
Week 7	**Mid-term papers due**	
Week 8	**The Transition to a Low Carbon Economy: The State of Play and the Way Forward** The challenges for competitiveness and opportunities for growth will be explored. The positions of major stakeholders including national governments and international organizations, IFIs, NGOs and think tanks will be discussed in detail. A special attention will be paid to the opportunities in the energy sector for climate mitigation (wind turbines, solar farms, biomass, geothermal and other forms of renewable energy, energy efficiency, energy storage.	**Homework readings:** -Stern N. Why are we waiting? pp.33-91 Ch.2 Building a new energy industrial revolution -Rob Bailey Shane Tomlinson Post-Paris: Taking Forward the Global Climate Change Deal, 21 April 2016 - Gore Al an Inconvenient sequel Truth to power pp136-175 Hawken P. (2017) Drawdown, pp2-36
Week 9	**The Key Policy Elements to Reduce Emissions** The different policies and methods for carbon emissions reduction will be explored. A special attention will be paid to carbon pricing through tax, trading or government / international agreement regulation; development of a range of low carbon and high efficiency technologies and encouragement of energy efficiency policies and measures on a global, national, company and individual levels A special attention will be paid to the transport sector- electric vehicle and bikes, mass transit and ridesharing, etc.	Readings: -The Economics of Climate Change The Stern Review, Ch. 12 Opportunities and wider benefits from climate policies and 14 Harnessing markets to reduce emissions Stern, N., A Blueprint for a Safer Planet, Ch. 6 Policies to reduce emissions, pp99-123; Ch. 9 Building and sustaining action. pp 181-202 Gates, B. How to avoid a climate disaster, pp66-129 Hawken, P. Drawdown, Ch. Transport pp136-157

Week 10	**Climate Change, Energy and the Case for a Sustainable Business** Different opportunities for sustainable business will be explored- more efficient power and gas market, a wider use or renewable energy and diversification. What can be achieved on a company and personal level? How to stop the wasteful use of finite resources? Reduce, reuse, recycle! The role of cities and the individual US states will be explored. A special attention will be paid to the food industry and land use, including new diet, reduced food waste, conservation and regenerative agriculture, forest protection, afforestation, etc. Case studies for successful business people, government officials, inventors and campaigners that have contributed in different ways and within the existing socio-economic system to the transition to a carbon neutral world.	**Homework Readings** The World Bank, World Development Report 2010, Development and Climate Change, Focus C, Trade and climate change pp251-255 Hamilton, RIIA 2009 Private Financing of Renewable Energy: A Guide for Policymakers Hawken, P. Regeneration, pp193-2013 Hawken, P. Drawdown Ch. Food, pp 38-75 , Ch. Land use, pp108-135 Rathi, A. Climate Capitalism Pp 13-28, pp29-48, pp 49-70 Pp133-149, pp149-182, pp177-202
Week 11	**The Role of Technology and Business.** How to fund renewable energy? What is the role of private and public finance? The link between clean innovation and Intelligent energy will be discussed. The consequences of introduction of new technologies and their impact on business will be analyzed. Intellectual property issues related to climate change mitigation measures will also be examined. A special attention will be paid to the development of carbon neutral technologies and materials and the need for a technological breakthrough..	**Homework Readings:** The WB, Development and Climate Change, Ch. 7 Accelerating Innovation and Technology Diffusion pp287-314 The Economics of Climate Change, The Stern Review, Ch. 16 Accelerating technological innovation pp 347- 376 Gates, B. How to avoid a climate disaster, pp 179-232
Week 12	**Reducing Our Carbon Footprint- Why It Matters** What can be achieved on a company and personal level? What are the business opportunities for SMEs in the effort to mitigate climate change impact? Climate change and corporate social responsibility will be discussed. A special attention will be paid to urbanism and infrastructure (net zero building, walkable cities, bike infrastructure, district heating, green roofs, etc. **Video: Naomi Klein Why No is Not Enough!**	**Homework Readings:** -Stern, N. A Blueprint for a Safer Planet: Ch. 7 Individuals, firms, communities: the power of example pp124- 143 -Stern N. Why are we waiting pp 275-300 Ch 9 Equity across people and nations Hawken, P. Drawdown Ch. Buildings and cities, pp84-107 Hawken,P. Regeneration, pp149-191 David D Environomics pp 1-52, pp53-68, pp89-134

Week 13	**Sustainability and Innovation** The challenges here are: How to view environmental compliance as an opportunity? What should be done for designing sustainable products and services? How to develop new business models that will combine long term impact and immediate benefits? A special attention will be paid to innovative technologies and products that will facilitate the transition to zero emissions world. **Presentation of individual case studies**	**Homework Readings:** -The Economics of Climate Change, The Stern Review, Ch. 17 Beyond carbon market and technology377-402; Ch. 24 Promoting effective international technology cooperation pp516-536 Stern N. Why are we waiting? Pp 307-326 How ideas change over time. Hawken, P. Drawdown. Ch. Coming attractions, pp172-216
Week 14	Submitting of the Course Projects and presentations	

REQUIRED AND RECOMMENDED READINGS:
We will use the following textbooks, official documents and other publications:

Required reading:

- Stern, N. (2015**)** Why are we waiting? The Logic, Urgency and Promise of Tackling Climate Change The MIT Press, Cambridge, Mass
- Stern, Ni. (2010) A Blueprint for a Safer Planet: How We Can Save the World and Create Prosperity.
- Gates B. (2021) ***How to Avoid a Climate Disaster****: The Solutions we have and the breakthroughs we need* Allen Lane London
- *IPCC Climate Change 2023 Synthesis Report* Edited by The Core Writing Team Synthesis Report IPCC, Hoesung Lee, Chairman IPCC , José Romero Head, Technical Support Unit
- ***The Climate Book,*** created by Greta Thunberg (2022) , Allen Lane, an Imprint of Penguin Books, London

Recommended reading

- Afionis, S. (2017*) The European Union in International climate change negotiations,* Routledge, London
- Berners-Lee, M (2019) *There Is No Planet B: A Handbook for the Make or Break Years* , London
- Bloomberg, M., Pope C. *(2017) Climate of Hope: How Cities, Businesses and Citizens Can Save the Planet* St Martin Press, New York
- Favaro, B. (2017) *The Carbon Code: How You Can Become a Climate Change Hero*, John Hopkins University Press
- Goldstein J.S., Qvist S. A. (2019) *Bright Future: How Some Countries Have Solved Climate Change and the Rest Can Follow*
- Frankopan, P., (2023) *The Earth Transformed: An Untold history* Bloomsbury Publishing, London
- Friedman T. L. **(2008)** *Hot, Flat and Crowded: Why the World Needs a Green Revolution - and How We Can Renew Our Global Future*
- Dharshini David *(2024)* ***Environomics*** *How the Green Economy is transforming your world* Elliot and Thompson Ltd, London
- *Goodall C. (2106)* ***The Switch****: How solar, storage and new tech means cheap power for all, Profile books, London*
- Gore, Al (2009) *Our Choice A Plan to Solve the Climate Crisis***,** Bloomsbury, London
- Gore, Al (2017) *An Inconvenient Sequel Truth to Power Your action handbook to learn the science, find your voice and help sole the climate crisis* Rodale, Melcher Media
- Flannery, Tim (2015) *Atmosphere of hope,* Penguin, London

- Hawken, P*., (2017) Drawdown: The Most Comprehensive Plan Ever Proposed to Roll Back Global Warming*, Penguin books,
- Hawken, P (2021**)** ***Regeneration*** *Ending the climate crisis in one generation*, Penguin Books, London
- Helm, D. (2017) *Burnout: The Endgame for Fossil Fuels* Yale University Press, Yale
- Klein, N. (2014) *This Changes Everything: Capitalism vs the Climate. 2014***,** Allen Lane, an imprint of Penguin
- Mann G, Wainright J. (2018) *Climate Leviathan A political theory of our planetary future* Verso, London, New York
- Mann M.E (2021*)* ***The New Climate War,*** *The fight to take back our planet* Scribe Melbourne, London
- Klein, N., (2017) *No Is Not Enough: Defeating the New Shock Politics,* Allen Lane,
- Maslin, M. (2009): *Global Warming: A Very Short Introduction* (Very Short Introductions) (Paperback), Oxford University Press, 2009
- Rati, A (2024) ***Climate Capitalism*** *Winning the Global Race to Zero emissions* John Murray, London
- Sharpe S (2023) ***Five Times Faster*** *Rethinking the science, economics and diplomacy of climate change,* Cambridge University Press Cambridge (UK)
- Shayler M. (2023) ***You Can't Make Money from a Dead Planet*** *The Sustainable method for driving profits* Kogan Press London
- Stern, N. *The Economics of Climate Change: The Stern Review* (Paperback)
- Tocci, N. (2023) *A Green and Global Europe,* Polity, London
- Tol R.S.J., (2019), *Climate Economics: Economic Analysis of Climate, Climate Change and Climate Policy: Economic Analysis of Climate, Climate Change and Climate Policy*, 2nd edn
- Wallace-Wells D. (2019**)** *The Uninhabitable Earth: A Story of the Future* Allen Lane, London