

Dr Mirabelle Muûls

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FIELDS OF SPECIALISATION: Climate Change Economics; Trade and Productivity.

TEAM (current): 7 researchers (1 Post Doc; 4 PhD students; 2 researchers).

PhDs supervised to completion: 4

CURRENT POSITIONS

2015 - **Assistant Professor in Economics**, Imperial College Business School, ICL
2022 - **Co-Director**, Hitachi-Imperial Research Centre for Decarbonisation and Natural Climate Solutions
2021 - **Research Fellow** in Climate Change Economics, National Bank of Belgium
2019 - **Management Board**, Integrated Development of Low-carbon Energy Systems (IDLES), ICL
2018 - **Research Affiliate**, Grantham Institute for Climate Change and the Environment, ICL
2014 - **Research Associate**, Growth Program, Centre for Economic Performance, London School of Economics
2021 - **Research Fellow** in the International Trade and Regional Economics programme of CEPR
2020 - **Associate Editor**, Journal of Industrial Business and Economics
2021 - **Affiliate**, Wicked Acceleration Labs, Business School ICL and Royal College of Art
2018 - **Independent Steering Committee**, CHILL Study - Children's Health in London and Luton, Queen Mary University London
2016 - **Higher Education Fellow**

PAST POSITIONS

2016 – 2022 **Academic Programme Director**, MSc Climate Change, Management and Finance, ICL
2021 **Member**, Imperial College History Group
2021 – 2022 **Visiting Researcher**, ECARES, Université Libre de Bruxelles
2018 – 2021 **Advisory Board**, Centre for Research into Energy Demand Solutions, University of Oxford
2016 **Co-chair**, Imperial College Business School Annual Conference in collaboration with the Grantham Institute, “Mobilising business, acting on climate”
2015 - 2018 **Grantham Lecturer**, Grantham Institute for Climate Change and the Environment, ICL
2014 **Junior Research Fellow**, Business School, Imperial College London
2011 – 2014 **Leverhulme Early Career Research Fellow**, Grantham Institute and Business School, ICL
2008 – 2011 **Research Associate**, Grantham Institute, ICL

EDUCATION

2016 **PG Cert in University Teaching and Learning**, Imperial College London
2007 **PhD in Economics**, London School of Economics
Thesis: “The Interaction between Firms and Governments in Climate Change and International Trade”
2001 **MSc in Politics of the World Economy**, London School of Economics -
2000 **MA in Economics**, Université Catholique de Louvain, Belgium

PUBLICATIONS:

A) Refereed Full Papers

1. “[Unraveling Firms: Demand, Productivity and Markups Heterogeneity](#)” (with Forlani, E., Martin, R. and G. Mion), *Economic Journal*, 2023
2. “[A mean field game model on firm-level innovation](#)” (with Barker, M., Degond, P and Martin, R.), forthcoming in *Mathematical Models and Methods in Applied Sciences*, Special Issue “Active Particles Methods in Science and Society”, 2023
3. “[Searching for carbon leaks in multinational companies](#)” (with Dechezleprêtre, A., Gennaioli, C., Martin, R. and Stoerk, T.), *Journal of Environmental Economics and Management*, 2021, Vol. 112, December 2021
4. “[Competition and Norms: A Self-Defeating Combination?](#)” (with Alberts, G., Gurguc, Z., Koutroumpis, P., Martin, R. and Napp, T.), *Energy policy*, 2016, Vol. 96, September 2016, Pages 504-523, ISSN 0301-4215, <http://dx.doi.org/10.1016/j.enpol.2016.06.001>.
5. “[The Impact of the EU ETS on Regulated Firms: What is the Evidence After Ten Years?](#)” (with Martin R, and U.J. Wagner), *Review of Environmental Economics and Policy*, Winter 2016, Vol. 10-1 pp.129-148, doi:10.1093/reep/rev016
6. “[Exporters, Importers and Credit Constraints](#)”, *Journal of International Economics*, March 2015, Vol. 95-2 pp.333-343, <http://dx.doi.org/10.1016/j.jinteco.2014.12.003>
7. “[Industry Compensation Under Relocation Risk: A Firm-Level Analysis of the EU Emissions Trading Scheme](#)” (with Martin, R., de Preux, L. B., and U. J. Wagner), *American Economic Review*, August 2014, Vol. 104-8 pp. 2482-2508.
featured in *Science*, Vol. 344, 11th April 2014, page 129 (Editor’s choice)
8. “[On the Empirical Content of Carbon Leakage Criteria in the EU Emissions Trading Scheme](#)” (with Martin, R., de Preux, L. B., and U. J. Wagner), *Ecological Economics*, September 2014, Vol. 105 pp. 78–88.
9. “[A Swing-State Theory of Trade Protection in the Electoral College](#)” (with D. Petropoulou), *Canadian Journal of Economics*, May 2013, Vol. 46 pp. 705-724.
10. “[Anatomy of a Paradox: Management Practices, Organizational Structure and Energy Efficiency](#)” (with Martin, R., de Preux, L. B., and U. J. Wagner), *Journal of Environmental Economics and Management*, March 2012, Vol. 63-2 pp. 208–223.
11. “[Imports and Exports at the Level of the Firm: Evidence from Belgium](#)” (with M. Pisu), *World Economy*, April 2009, Vol 32-5, pp. 692-734
12. “[Priority Research Areas for Ecosystem Services in a Changing World](#)” (with Nicholson, E., Mace, G., Milner-Gulland, E.J. et al.), *Journal of Applied Ecology*, November 2009, Vol.46, pp.1139-1144
13. “[Understanding Cross-Country Differences in Exporter Premia: Comparable Evidence for 14 Countries](#)”, The International Study Group on Exports and Productivity, *Review of World Economics*, December 2008, Vol. 144 – 4, pp.596-635

B) Books Authored

14. [A Forward-Backward SDEs Approach to Pricing in Carbon Markets](#), (with Chassagneux, J-F. and Chotai, H.), Springerbriefs in Mathematics of Planet Earth, Springer, ISBN 978-3-319-63114-1, 2017

C) Contributions to Books Edited by Others

15. “[Firms and finance during the green transition](#)”, (with De Haas, R., Martin, R. and Schweiger, H.), in *Scaling Up Sustainable Finance and Investment in the Global South*, Schoenmaker, D. and Volz, U., CEPR Press, November 2022

16. “Trading Behavior on the EU ETS”, (with Martin, R. and U.J. Wagner), in [*Emissions Trading Systems as a Climate Policy Instrument: Evaluation & Prospects*](#), Gronwald, M. and Hinterman, B., MIT Press, August 2015
17. “Using Micro Data to Examine Causal Effects of Climate Policy”, (with Gennaioli, C. and R. Martin), in the [*Handbook of Energy and Climate Change*](#), Fouquet, R., Edward Elgar, 2013

OTHER PUBLICATIONS

Working papers

“Does pricing carbon mitigate climate change? Firm-level evidence from the European Union emissions trading scheme” (with Colmer, J., Martin, R. and Wagner, U.), CEP discussion paper 1728, November 2020 – revise and resubmit at Review of Economic Studies

"Management Practices and Climate Policy in China", with Yong, SK., Wagner, U., Shen, P., de Preux, L. Martin, R. and J. Cao, SSRN discussion paper 3797466, March 2021– revise and resubmit at Journal of the Association of Environmental and Resource Economists

“Consumer-driven virtual power plants: A field experiment on the adoption and use of prosocial technology” (with Coutellier Q., Gosnell G, Gurguc, Z. and R. Martin), Working paper 350, Grantham Institute, London School of Economics, 2020

"Managerial and Financial Barriers to the Net-Zero Transition" (with de Haas, R., Martin, R. and H. Schweiger), CEPR Discussion Paper No. 15886 – March 2021

[“Do Carbon Prices Affect Stock Prices?”](#) (with Bolton, P. and A. Lam), SSRN discussion paper 4369925, March 2023

"Facing the energy transition: A multi-decade perspective of words and actions in the oil industry", with Hamilton, J and A. Hawkes, mimeo Imperial College, 2023

“Homeworking can be Net Positive, Evidence from the UK Lockdown during COVID-19” (with Coutellier Q., Hardy, J. and R. Martin), SSRN discussion paper 3927719, September 2021

“Making Smart Meters Smarter the Smart Way” (with Coutellier Q., Gosnell G, Martin M, Muûls M. and G Strbac), CEP discussion paper 1602, February 2019

“Weather Shocks in a Globalized World: A Firm-level Analysis”, (with Colmer, J., Martin, R. and U.J. Wagner), *World Congress of Environmental and Resource Economists, Istanbul, June 2014*

Reports

“CRC Energy Efficiency Scheme Evaluation - Stage 2 Econometric Report” (with Martin, R.), UK Department of Energy and Climate Change report, July 2015

“An evidence review of the EU Emissions Trading System, Focusing on Effectiveness of the System in Driving Industrial Abatement” (with Martin, R. and U.J Wagner), UK Department of Energy and Climate Change report, July 2012

"The sensitivity of UK manufacturing firms to extreme weather events" (with Martin, R. and Ward, A.), Climate Change Committee Adaptation Sub-Committee report supporting research, 2011

“Still Time to Reclaim the European Union Emissions Trading System for the European Tax Payer “, CEP and Grantham Institute for Climate Change Policy Brief, April 2010 – Cited in New York Times, 10/11/2010

Thought Leadership Articles

- “[Do Carbon Prices affect Stock Prices?](#)”, Harvard Law School Forum on Corporate Governance, April 2023
- “[How are climate change policies affecting firms' competitiveness?](#)”, CEP and Economics Observatory, December 2021
- “[Barriers to net-zero: How firms can make or break the green transition](#)”, World Bank blog, May 2021,
- “[Barriers to net-zero: How firms can make or break the green transition](#)”, United Nations PRI blog, May 2021,
- “[Barriers to net-zero: How firms can make or break the green transition](#)”, Vox-EU blog, March 2021,
- “[Impacts of COVID-19 on the Energy System](#)”, (with A. Trask et al.), Energy Futures Lab, 2021
- “Can an app be win-win for energy companies, customers and the climate?”, <https://www.imperial.ac.uk/business-school/ib-knowledge/entrepreneurship-innovation/can-app-be-win-win-energy-companies-customers-and-the>, Imperial College Business School, February 2017
- “How can disruptive business models help climate change?”, <https://www.imperial.ac.uk/business-school/ib-knowledge/technology/how-can-disruptive-business-models-help-climate-change>, Imperial College Business School, February 2017
- “How can business address climate change?”, <https://www.imperial.ac.uk/business-school/ib-knowledge/management/how-can-business-address-climate-change>, Imperial College Business School, February 2016
- “[Europe's emissions trading scheme: taxpayers versus the industry lobby](#)”, CentrePiece, LSE, July 2010
- “[Do Swing States Influence US Trade Policy?](#)” (with D. Petropoulou), CentrePiece - LSE, 13 (2), 2008

RESEARCH GRANTS

- | | |
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| 2022 | Hitachi-Imperial Research Centre for Decarbonisation and Natural Climate Solutions, £760K of total £3M as Co-Investigator (Co-I) |
| 2022 | International Growth Centre (IGC) and LSE, £19K, Co-I |
| 2022 | Private Enterprise Development in Low-Income Countries (PEDL) CEPR and DIFID, £38K |
| 2021 | National Bank of Belgium Fellowship, €200K, Principal Investigator |
| 2018 | EPSRC grant, Integrated Development of Low-Carbon Energy Systems (IDLES), £6.7M, Co-I |
| 2017 | MITEI Seed Fund, £150K, Co-I |
| 2016 | SeMIoT Securing the Value of Smart Metering, EPSRC Petras IoT Hub, £9.8M
Allocation for POWBAL sub-project: £40K, Co-I |
| 2015 | Innovate UK, £747K, Co-I |
| 2012 | British Academy Small Research Grant, £7K, Co-I |
| 2012 | Framework Program 7, ENTR'ACTE, £2M, Co-I |
| 2012 | ESRC Small Grant, £80K, PI |
| 2012 | Framework Program 7, SIMPATIC, £1.9M, Co-I |
| 2009 | European Climate Foundation, £71K, PI |

AWARDS

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| 2023 | Best paper in Finance - General award from the Southwestern Finance Association |
| 2023 | Distinguished Paper Award from the Federation of Business Disciplines |
| 2019 | Imperial College President's medal for outstanding contribution to Teaching Excellence |
| 2019 | Finance for the Future awards for “Climate Leadership” and “Driving Change through Education and Academia” , ICAEW |
| 2016 | Teaching Excellence Award for PhD Supervision, Imperial College Business School (ICBS) |
| 2015 | Dean's award for Excellence, Sustainable Business Thinking, ICBS |
| 2015 | Erik Kempe Award in Environmental and Resource Economics, to the best paper in the field of environmental and resource economics, published in a refereed journal, joint with Dr Martin, Dr de Preux and Pr Wagner |
| 2014 | Robert Mundell Prize by the Canadian Economics Association for the best paper by young economists published in the Canadian Journal of Economics in the previous calendar year, joint with Dr Petropoulou |
| 2003 | London School of Economics, Economics Department teaching prize in 2003 for the best teaching evaluation scores. |

TEACHING

Programme Director – MSc Climate Change, Management and Finance, 2016-2022: instrumental role in creation and launch of new MSc and its growth from 40 to 110 students. Creation of network of 300+ companies involved and supporting programme. Academic steering. Pastoral care. Constitution and chairing of advisory board. Support for development of outstanding extra-curricular initiatives.

Departmental PhD programme director, Economics and Public Policy department, 2021-2022

Higher Education Fellow

Modules: Climate Change, Business and Finance (MBA and MiM), Business Economics, Climate Change and the Environment (MSc CCMF), External Speaker Series (MSc CCMF), Business Economics (undergraduate), International Economics (undergraduate)

Supervision:

PhDs

- Dr Hinesh Chotai – completed 2019 –co-supervised with Pr Dan Crisan and Dr J.F. Chassagneux - Department of Mathematics, Imperial College London.
- Dr Quentin Coutellier and Dr. Tamar Gomez, completed 2021- Imperial College Business School
- Dr Matt Barker – completed 2022 - co-supervision with Pr Pierre Degond, Department of Mathematics- ICL
- Sandra Bernick, Petra Sarapatkova, Costanza Tomaselli - Imperial College Business School
- Jamie Hamilton – co-supervision with Pr Adam Hawkes, Department of Chemical Engineering – ICL

MSc and MBA yearly supervision

INVITED ACADEMIC SEMINARS or TALKS

Dec 2022	CEPR 5th FirmOrgDyn conference on “Bracing for the ecological transition”, Paris
Sep 2022	London School of Economics Environment Week
May 2022	10th Mannheim Conference on Energy and the Environment, University of Mannheim
Nov 2021	High-Level Policy Dialogue, European University Institute
Sep 2021	Economics Department, KU Leuven
Jun 2021	Oxford Martin School, University of Oxford
Jun 2021	Bank of Spain
Jun 2021	OECD-EAERE conference
Jun 2021	Centre for Globalisation Research, School of Business and Management Queen Mary University’s Workshop on Political Economy and Economic Development
May 2021	9th Mannheim Conference on Energy and the Environment, University of Mannheim
Mar 2021	ECARES, Université Libre de Bruxelles
Sep 2020	International Workshop on Financial System Architecture & Stability, CASS Business School
Sep 2020	VATT Department of Economics, University of Helsinki
Jun 2020	London School of Economics/Imperial conference on Environmental Economics
Jun 2019	CEPR-EBRD conference on Environmental Economics and the Green Transition
Mar 2019	Economics Department, NYU Shanghai
Aug 2018	NBER Summer Institute (EEE), Boston
Jul 2017	Mercator Institute, Research Seminar on Environment, Resource and Climate Economics, Berlin
Apr 2017	Economics Department, University of Oslo
Apr 2017	UK Environmental Economists conference, London
Jun 2016	CORE 10 th anniversary, Université Catholique de Louvain
Feb 2016	Trade workshop, Centre for Economic Performance, London School of Economics
Sep 2015	Economics of Innovation, Diffusion, Growth and the Environment, LSE

Jul 2015	Our Common Future Under Climate Change, Paris-UNESCO
Jun 2015	Association of Environmental and Resource Economists, San Diego
May 2015	Rencontres de l'Environnement, CORE- Université Catholique de Louvain
May 2015	Centre for Economic Performance, LSE
Jun 2014	World Congress of Environmental and Resource Economists, Istanbul
Oct 2013	Annual Climate Policy Research Conference, European University Institute, Florence
Jul 2012	NBER Summer Institute
Mar 2012	EnvEcon Conference, London
Jun 2011	European Association of Environmental and Resource Economists Conference, Rome
Oct 2010	Comparative Analysis of Enterprise (micro) Data (CAED) Conference, London
May 2009	Centre for Economic Performance, London School of Economics
Jan 2009	Merton Seminar in International Trade, University of Oxford
Jan 2009	NCCR Climate – The International Dimensions of Climate Policies, Bern
Oct 2008	Empirical Investigations in International Trade, University of Colorado at Boulder

ACADEMIC SERVICE

Reviewing Activities

- **Articles:** Review of Economic Studies, Journal of the European Economic Association, Economica, Economic Journal, Environmental and Resource Economics, Journal of Economic Geography, Journal of Environmental Economics and Management, Journal of International Economics, Journal of International Trade and Economic Development, Recherches Economiques de Louvain, Scandinavian Journal of Economics, Energy Economics, Journal of the Association of Environmental and Resource Economists
- **Grants:** Economic and Social Research Council, Swiss National Science Foundation
- **Conferences:** European Economic Association Conference Programme Committee

Assessments: Early and Late Stage reviews (ICL), PhD external examiner (University of Oslo, Paris Sorbonne)

Professional Bodies

Member of the European Economic Association, the American Economic Association, the Royal Economic Society and the European Association of Environmental and Resource Economists.

2011-2012: Seminar organiser of joint LSE-Imperial Grantham seminar in climate change economics

Consultancies

European Bank for Reconstruction and Development, Transition report contribution, 2019

European Bank for Reconstruction and Development, Green Module of the BEEPS and Transition report contribution, 2016-2017

Department for Energy and Climate Change (DECC), "CRC Energy Efficiency scheme evaluation", 2014-15

UK Trade and Investment, "Evaluation of the impact of UKTI services on trade in goods", 2014

DECC, "An Evidence Review Of The EU Emissions Trading System, Focussing On Effectiveness Of The System In Driving Industrial Abatement", Spring 2012

OUTREACH

Current and Future Luminaries talk with President Alice Gast (May 2021)
Covid and Energy at Policy Brief launch event (June 2021)
Transition to Zero Pollution roundtable – Imperial College (October 2022 and November 2020)
Event on Covid and Climate Change (June 2020)
Building Net-Zero UK - LSE and Imperial Grantham Institute workshop (August 2020)

Presentations to or meetings with:

Hitachi Parliamentary Reception (September 2022)
Royal College of Defence Studies (October 2019, 2020 and 2021)
Aldersgate Group (July 2019)
Bristol Festival of Ideas (November 2018)
EBRD (September 2017)
BEIS (June 2017)
[Grantham Institute-Business School event](#) on EU ETS's future (March 2017)
Belgian Secretary of State for Trade (January 2017)
Imperial Business Partners (February 2016)
The European Commission - DG Clima (July 2014)
The Chinese Embassy First Counsellor (June 2014)
UK Trade and Investment (September 2013)
FCO China, Delegation from Shanghai (March 2013)
Sainsbury's (July and September 2012)
Department for Climate Change (December 2010, February 2011 and June 2012)
Rio Tinto (September 2011)
European Parliament, Environment Committee (October 6, 2010)
European Commission - DG Clima (June 2010)

Media appearances

BBC TV News, BBC Radio, Sky TV News, La Libre Belgique, America Economia, Forbes, The Independent, Wall Street Journal