

Gilles LAFFORGUE

TBS Education (Toulouse Business School)

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ACADEMIC POSITIONS

- Since 2012 Professor of Economics at TBS Education (Toulouse Business School)
- Since 2012 Associate faculty at Toulouse School of Economics (TSE), member of the Climate and Energy Focus Center
- 2005 – 2012 INRAe research fellow (TSE-LERNA)
- 2003 – 2005 Assistant professor, Agrocampus Ouest (Angers)
- 2002 – 2003 Lecturer in economics (ATER), University of Perpignan
- 2001 – 2002 Lecturer in economics (ATER), University of Toulouse Capitole
- 1998 – 2001 Doctoral research fellow and teaching assistant, University of Toulouse Capitole

EDUCATION

- 2013 HDR (French accreditation to supervise research), Toulouse School of Economics
- 2002 *Ph.D.* in Economics, University of Toulouse
- 1998 *MSc.* - Master in Environmental and Natural Resource Economics, University of Toulouse
- 1998 *MSc.* - Master in Economics and Statistics (Magistère), University of Toulouse

TEACHING

Toulouse Business School, since 2012:

Macroeconomics (MBA), Managerial economics (undergraduate), Environmental and natural resources economics (MSc), Climate and energy economics (undergraduate and MSc), International economics (MSc)

INP Toulouse (ENSIACET-ENSEEIH and ENM), since 2015:

Climate economics (MSc)

Toulouse School of Economics, since 2008:

Energy economics and climate policy (master and PhD)

Toulouse School of Economics, 2008 – 2012:

Economic dynamics (master), Demography and economic applications (master)

RESEARCH INTERESTS

Environmental and natural resource economics
Energy and climate change
Growth and technical change
Recycling

PUBLICATIONS

Published papers

- Compilation and applications of an open-source dataset on global air traffic flows and carbon emissions (2024), with A. Salgas, J. Sun, S. Delbecq and T. Planes. *Journal of Open Aviation Science*, 2, pp. 1-33.
- Comparing volume and blend renewable energy mandates under a carbon budget constraint (2022), with J-P. Amigues, U. Chakravorty and M. Moreaux. *Annals of Economics and Statistics*, 147, pp. 51-78.
- Environnement et ressources naturelles: Introduction (2022), with M. Fodha, F. Ricci and A. Risch, *Revue Française d'Economie*, 37(2), pp. 1-10.
- Recycling under environmental, climate and resource constraints (2021), with E. Lorang. *Resource and Energy Economics*, 67, 101278.
- A dynamic model of recycling with endogenous technological breakthrough (2019), with L. Rouge. *Resource and Energy Economics*, 57, pp. 101-118.
- Environnement et ressources naturelles: Introduction (2016), with F. Salanié and L. Rouge, *Revue Française d'Economie*, 31(3), pp. 1-8.
- Des modes de capture du carbone et de la compétitivité relative des énergies primaires (2016), with J-P. Amigues and M. Moreaux. *Economie et Prévisions*, 208-209, pp. 39-55.
- Optimal timing of carbon capture policies under learning-by-doing (2016), with J-P. Amigues and M. Moreaux. *Journal of Environmental Economics and Management*, 78, pp. 20-37.
- Optimal timing of carbon sequestration policies (2015) avec J-P. Amigues et M. Moreaux. *Economics Bulletin*, 35(4), pp. 2242-2251.
- Optimal timing of CCS policies with heterogeneous energy consumption sectors (2014), with J-P. Amigues and M. Moreaux. *Environmental and Resource Economics*, 57(3), pp. 345-366.
- A note on the induced effects of carbon tax and R&D subsidies in carbon-free technologies (2013), with A. Berwald and N. Taverdet-Popiolek. *Energy Studies Review*, 20(2), pp. 71-89.
- Optimal carbon capture and storage policies (2013), with A. Ayong le Kama and M. Fodha. *Environmental Modeling and Assessment*, 18(4), pp. 417-426.
- Faut-il subventionner la R&D dans les technologies énergétiques non carbonées ? L'apport des modèles macro-économiques sur la question (2012), with N. Taverdet-Popiolek. *Revue de l'Energie*, 606, pp. 119-128.
- Climate change mitigation options and directed technical change: A decentralized equilibrium analysis (2011), with A. Grimaud and B. Magné. *Resource and Energy Economics*, 33(4), 938-962.
- Climate change mitigation policies: Are R&D subsidies preferable to a carbon tax? (2008), with A. Grimaud. *Revue d'Economie Politique*, 119(6), pp. 915-940.
- Stochastic technical change, exhaustible resource and optimal sustainable growth (2008). *Resource and Energy Economics*, 30(4), pp. 540-554.
- Energy substitutions, climate change and carbon sinks (2008), with B. Magné and M. Moreaux. *Ecological Economics*, 67(4), pp. 589-597.
- Optimal soil management and environmental policy (2007), with W. Oueslati. *Economics Bulletin*, 17(3), pp. 1-10.
- Sustainable growth, exhaustible resource and stochastic discovery process (2006), in French. *Annals of Economics and Statistics*, 81, pp. 93-111.

- Uncertainty and amenity values in renewable resource economics (2005). *Environmental and Resource Economics*, 31(3), pp. 369-383.

Collective books; Book chapters, special issues

- *Environnement et Ressources Naturelles* (2022), in French, coedited with M. Fodha, F. Ricci and A. Risch, special issue of *Revue Française d'Economie*, Vol. 37(2).
- *Environnement et Ressources Naturelles* (2016), in French, coedited with L. Rouge and F. Salanié, special issue of *Revue Française d'Economie*, Vol. 31(3).
- The optimal sequestration policy with a ceiling on the stock of carbon in the atmosphere (2008), with B. Magné and M. Moreaux. In *The Design of Climate Policy* (Chapter 14, pp. 273-304), R. Guesnerie and H. Tulkens eds, Boston: The MIT Press.
- The optimal use of a renewable resource under catastrophic risks (2002). In *Risk and uncertainty in environmental and resource economics*, E.C. van Ierland, H.P. Weikard and J. Wesseler eds, Wageningen, The Netherlands (Conference proceedings).

Recent working papers

- Marginal abatement cost curves for aviation: metrics and prospective decarbonisation scenarios analysis (2024), with A. Salgas, T. Planès and S. Delbecq. Submitted.
- Climate, (de)growth and the optimal direction of technical change (2024), with A. Grimaud and L. Rouge. Submitted.
- Optimal adaptation policies under a carbon budget constraint (2024), with J-P. Amigues. Submitted.
- Dynamics and stability analysis in an endogenous growth model with directed technical change (2023), with A. Grimaud. Submitted.
- Optimal recycling policies in a dynamic economy with endogenous R&D (2023), with L. Rouge.
- Optimal climate policy under net zero targets (2023), with J-P. Amigues.

Other publications and newspaper articles

- Compilation of an open-source traffic and CO₂ emissions dataset for commercial aviation (2023), with A. Salgas, J. Sun, S. Delbecq and T. Planès. *Journal of Open Aviation Science*, Vol. 1. Proceedings of the 11th OpenSky Symposium, DOI:10.59490/joas.2023.720.
- Modelling and simulation of new regulatory measures in prospective scenarios for air transport (2023), with A. Salgas, S. Delbecq, T. Planès and J. Jézégou. *Aerospace Europe Conference Proceedings*, DOI: 10.13009/EUCASS2023-593.
- Top Level Aircraft Requirements relaxation for a single-aisle aircraft: A case study on fleet-wide CO₂ emissions and economic impacts (2023), with A. Salgas, S. Delbecq and T. Planès. *AIAA SciTech*, DOI: 10.2514/6.2023-1357.
- Life Cycle Assessment models for overall aircraft design (2022), with A. Fabre, T. Planès, S. Delbecq and V. Budinger. *AIAA SciTech*, DOI: 10.2514/6.2022-1028.
- 6 initiatives étudiantes qui font du bien à notre société (interview). *Les Echos Start*, 22 novembre 2022.
- Recycling opportunity under environmental impacts (2019), avec E. Lorang. *Newsletter Resource Modelling Association*, Fall 2019, pp. 9-10.
- Pourquoi l'économie circulaire ne doit pas remplacer la sobriété, avec P. Delacote et E. Lorang. *The Conversation*, 29/06/2019.
- Les Français doivent accepter l'idée d'un prix à la pompe de plus en plus élevé. *La Tribune*, 16/11/2018.

- Retrait des Etats-Unis de l'Accord de Paris, quelles conséquences ? *Diplomeo*, 13/06/2017.
- Fixer un prix au carbone, le point de départ de toute alternative énergétique. *TBScope* n°8, 2016.
- Lutte contre le réchauffement climatique : Quelle stratégie de séquestration du CO₂ ? *TBSearch* n°3, juin 2013.
- Séquestration du carbone et politique climatique : Une analyse économique, avec N. Dubreu et J. Hardelin. *CGDD – Etudes & Documents*, n°65, mai 2012.
- Optimal transfer to preserve tropical forests (2011), avec H. Ollivier, *LERNA working paper* n°11.14.348.
- Des subventions à la R&D « verte » sont-elles préférables à une taxe carbone pour lutter contre le changement climatique ?, *INRA Sciences Sociales* n°2-3, décembre 2011.
- Pas de plan de relance sans recherche verte, avec A. Grimaud, *Objectif News*, 09/05/2009.
- Stimulons enfin la recherche « verte » !, avec A. Grimaud. *La Tribune*, 12/01/2009.

CONFERENCES & SEMINARS

Conferences presentations

2024: FAERE (Strasbourg); EAERE (Leuven). **2023:** 12th IBEO Workshop (Corte). **2021:** FAERE (Grenoble). **2019:** FAERE (Rennes). **2018:** SURED (Ascona). **2017:** EAERE (Athens); FAERE (Nancy). **2016:** SURED (Banyuls-sur-mer); FAERE (Bordeaux). **2015:** FAERE (Toulouse). **2014:** WCERE (Istanbul); FAERE (Montpellier). **2013:** EAERE (Toulouse); APET (Lisbon). **2012:** SURED (Ascona); EAERE (Prague). **2011:** EAERE (Roma). **2010:** SURED (Ascona); WCERE (Montreal). **2009:** GCET (Lisbon). **2008:** EAERE (Gothenburg); SURED (Ascona). **2007:** CREE (Ottawa); EAERE (Thessaloniki). **2006:** WCERE (Kyoto); SURED (Ascona). **2004:** SURED (Ascona); AERNA (Vigo). **2002:** CREE (Montreal); Conference on “Risk and Uncertainty in Environmental Economics” (Wageningen). **2001:** ASSET (Rethymno); IWRC (Girona).

Invited talks and seminars

2023: DEM Seminar (University of Luxembourg); CEE-M Seminar (Université de Montpellier). **2022:** TSE Conference on the Economics of Energy and Climate. **2020:** Séminaire du Beta (Université de Nancy). **2019:** TSE (Reading Group in Environmental and Resource Economics). **2018:** International Workshop on “Environmental and Natural Resources Economics” (Rennes); Green ECON Spring School (Marseille); CEE-M Seminar (Université de Montpellier). **2017:** EconomiX Environmental Economics Seminar (University of Paris 10 – Nanterre). **2016:** Conference on “Combating climate change” (Vrije University, Amsterdam). **2015:** TSE Conference on Energy and Climate (Toulouse). **2014:** TIGER Forum (Toulouse School of Economics); LEF Workshop on “Economics of Carbon, Climate Change and Forest” (Nancy). **2013:** TBS Financial economics seminar (Toulouse). **2011:** TSE Conference in Honor of M. Moreaux (Toulouse). **2010:** Public Economics Seminar (Agroparistech Grignon); Environmental Economics Seminar (Paris School of Economics); ERF Conference on “Environmental Challenges in the MENA Region” (Casablanca); Journées INRA de l'Environnement (Montpellier). **2009:** LEMNA Seminar (Nantes); CESifo Conference on Climate Change (Munich); IDEI-LERNA Conference on “Equity in Environmental and Resource Economics” (Toulouse); Recent Advances in CCS Economics and Sociology (Pau). **2008:** Journées Jeunes Chercheurs INRA (Montpellier). **2007:** Seminar of the Center of Resource and Environmental Studies (Tilburg University); Conference on “Macro-dynamics and Environmental Economics” (University of Paris 10 – Nanterre). **2006:** EUREQua Seminar (University of Paris 1), LERNA Seminar (University of Toulouse 1); **2004:** GEAPE Seminar (University of Angers); ENSAR Seminar (Agrocampus Rennes); EUREQua Seminar (University of Paris 1); **2003:** CREREG Seminar (University of Rennes); LEN Seminar (University of Nantes), JEREM Seminar (University of Perpignan), EUREQua Seminar (University of Paris 1).

REFEREE and EDITION SERVICES

Editorial Board

- French Economic Review (Revue Française d'Economie)
- FAERE Working Papers series

Journals (referee services)

Annals of Economics and Statistics, Ecological Economics, Economics Bulletin, Energy Economics, Energy Studies Review, Environment and Development Economics, Environment Development and Sustainability, Environmental and Resource Economics, European Economic Review, Journal of the Association of Environmental and Resource Economists, Journal of Economic Dynamics and Control, Journal of Environmental Economics and Management, Journal of the European Economic Association, Journal of Public Economy, Journal of Public Economic Theory, Journal of Risk and Uncertainty, Macroeconomic dynamics, Review of Agricultural and Environmental Studies, Resource and Energy Economics, Revue d'Economie Industrielle, The BE Journal of Macroeconomics, The Review of Economic Studies

Conference program committee

EAERE (since 2010), TSE Conference on Energy and Climate (since 2015), FAERE (2015, 2022), WCERE (2014, 2018), , EAAE (2008), AFSE (2008, 2012)

OTHER SCIENTIFIC AND ADMINISTRATIVE ACTIVITIES

PhD supervision

- L. Peragin (co-supervision with S. Monjon – Université Paris Dauphine): *Matières premières recyclées : Quels traitements, quels usage ? Impacts sur les ressources et le bilan carbone*. In progress.
- A. Salgas (co-supervision with S. Delbecq – ISAE-Supaero): *Simulation de scénarios à moyen et long terme pour un transport aérien durable par une approche pluridisciplinaire*. In progress.
- J. Visi Bobese (DBA, TBS Paris): *Sustainable development in the Congo Basin tropical forest of DRC*. In progress.
- E. Lorang (co-supervision with P. Delacote – Climate Economics Chair): *Circular economy, recycling and CO2 emissions*. Defended in March 2022.

Ph.D and HDR committee member

- M. Davin (2023, HDR, referee), University of Montpellier
- P. Cayet (2021, PhD, rapporteur), Université Paris Nanterre
- C. Andrade (2021, PhD), PSL University
- A. Tomini (2019, HDR, referee), Aix-Marseille School of Economics
- P. Da Costa (2017, HDR), University of Toulon
- M-H. Hubert (2017, HDR, referee), University of Rennes1
- M. Altaghlibi (2017), University of Amsterdam
- B. Vardar (2016, referee), Paris School of Economics and Université Catholique de Louvain
- A. Vogt-Schilb (2015, referee), Université Paris Est
- M. Renner (2015, referee), Université Paris Ouest-Nanterre
- R. Coulomb (2013), Paris School of Economics
- A. Mosiño (2012), Université de Grenoble Haute-Savoie

Other committees and administrative duty

- Since 2024 Head of the Department Economics & Finance, TBS Education
- Since 2021 Steering Committee member (treasurer) of the FAERE (French Association of Environmental and Resource Economists)
- Since 2019 Elected member, Executive Committee of the FAERE, French Association of Environmental and Resource Economists (FAERE)
- Since 2020 Co-creator and co-supervisor (with L. Rouge) of the Climat Action Program at TBS (3 years elective track dedicated to climate and energy transition)
- 2011-2013 Elected member, Scientific Committee, INRA, Department of Social Science (SAE2)
- 2006-2008 Member of the recruitment committee (commission de spécialistes, section 05), UT1

Expertise

- Since 2021 Expert for the CEDD (Commission Economique du Développement Durable)
- 2017-2019 Appointed member of the France's Commission on the Social Value of Carbon
- 2015-2018 Expert for the CCEE (Commission des Comptes et de l'Economie de l'Environnement)

Granted research programs and partnerships

- 2023-2030 TAEF (Technical And Economic Foresight), PEPR PC3 "Subsoil, common good", member.
- 2021-2025 SCARCYCLET (economics of recycling), ANR-21-CE03-0012, member.
- 2021-2026 Project Waste2Build, European program LIFE20 GIE/FR/000118, member.
- 2021-2023 SUSAN (SUStainable AviatioN), granted by STAE Foundation, coordinator.
- 2014-2017 SEARRCH (Sustainable Engineering Assessment Research for Recycled Composites with High value), ANR-13-ECOT-0005-04, member.
- 2011-1014 GLOBAL IQ (Global Impact Quantification), EU-FP7-266992, member.
- 2011-2012 « Séquestration des gaz à effet de serre, compétitivité relative des énergies primaires et diversité de leurs usages », Conseil Français de l'Energie, coordinator.
- 2010-2012 Partnership TSE-Ministry of Ecology (MEEDTL), coordinator.
- 2008-2009 « Changement Climatique, Progrès Technique Endogène, Choix énergétiques et CCS », INRA-SAE2, CSD grant for junior researchers, coordinator.
- 2006-2009 « Changement climatique et croissance endogène », Conseil Français de l'Energie, member.
- 2003-2005 ACI « Modélisation économique du développement durable », Ministère Recherche, member.