

Open Letter to COP30: A Scientific Call to Confront the Risks of the Growing Global Biofuels Demand

To world leaders and decision makers of the international climate community,

As institutions committed to environmental integrity, scientific rigour, and climate justice, we, the undersigned members of the scientific and civil society community, are calling on COP delegations and attendees to recognise the dangers of an uninhibited expansion of global biofuels demand.

Biofuels are often promoted as a low-carbon alternative to fossil fuels. On top of current demand from the road sector, ambitious targets from the aviation and shipping sectors, such as EU and national SAF mandates and the IMO Net-Zero framework, are set to ramp up demand considerably. However, mounting scientific evidence reveals that the uninhibited scaling up of biofuel production - particularly those derived from food and feed crops - carries serious environmental and social risks. Unrestricted growth in global biofuel demand without stringent safeguards could derail climate progress, displace communities, degrade ecosystems and deepen food insecurity.

It is projected that by 2030, global feedstock demand for biofuels used in the transport sector, excluding relative areas used for crop co-products, will require 52 million hectares of cropland - a staggering increase of 63% from 2023 levels - equivalent to the size of France.¹ This is an incredibly inefficient and wasteful use of land and agricultural resources. For comparison, only 3% of the current biofuels area would be needed to produce the same amount of energy from solar panels, which demonstrates how highly inefficient burning crops for biofuels truly is.²

This projected expansion is expected to:

- **Increase net global greenhouse gas emissions** by nearly 34 MtCO₂e annually³, due to global cropland expansion and high-emissions crop cultivation, equivalent to nearly 30 million new diesel cars on the road;
- **Displace and disturb natural ecosystems**, especially in biodiverse and carbon-rich regions of South America and Southeast Asia;
- **Consume scarce water resources** and contribute to agricultural runoff, with devastating consequences for soil, water quality, and aquatic ecosystems;
- **Exacerbate global hunger**, by directly increasing food prices, intensifying food price volatility in vulnerable economies and diverting calories from human consumption.

¹ (Cerulogy, 2024) *Diverted Harvest: Environmental Risk from Growth in International Biofuel Demand*. p.55

² (Transport & Environment, 2025) *CrOP30: Why burning food for land-hungry biofuels is fueling the climate crisis*. pg. 11

³ (Cerulogy, 2024) *Diverted Harvest: Environmental Risk from Growth in International Biofuel Demand*. pg. 4

While some nations may achieve marginal emissions reductions through advanced biofuels or waste-based pathways, the global trend in biofuels consumption remains deeply unsustainable. 92% of projected 2030 biofuel demand is still expected to be met by food-type feedstocks.⁴ Meanwhile, even optimistic estimates of biofuel life-cycle savings are often dwarfed by the carbon opportunity costs of not restoring land to forests or other natural systems.

The expansion of crop biofuels is not a climate solution. It is a costly detour.

As COP30 approaches - an opportune moment of global reckoning and responsibility - we, the undersigned signatories, call on world leaders to:

1. **Prevent an uninhibited expansion of first generation biofuels** under international climate mechanisms or national plans;
2. **Phase out subsidies and mandates for biofuels from food and feed crops**, and redirect support to more sustainable energy solutions;
3. **Prioritise investments in electrification and energy efficiency and sufficiency** as primary strategies for decarbonizing road transport;
4. **Prioritise land restoration and biodiversity protection** over land conversion for fuel production;
5. **Establish robust global sustainability criteria, verification procedures and sufficient enforcement frameworks** that justifiably account for indirect emissions, carbon opportunity costs and social impacts. This is highly relevant for exploring sustainable fuel alternatives within international aviation and shipping decarbonization frameworks, such as CORSIA and IMO.

Truly sustainable biofuels can play a limited role in decarbonising a narrow set of hard-to-electrify sectors, such as aviation, but this must not justify a blind embrace of policies that repeat past mistakes of relentless crop biofuels expansion.

The science is clear: we cannot burn our way to net zero - especially not at the expense of forests, food and future generations.

We urge you to reflect on this science in the decisions made at COP30.

Signed,

Adrián Escudero, Catedrático de Universidad. Director de Instituto de Investigación en Cambio Global, Universidad Rey Juan Carlos, Spain

Agnès Ducharne, Research Scientist in Hydrology, CNRS, France

Ahmad Dermawan, Postdoctoral Researcher, NMBU, Norway

⁴ (Cerulogy, 2024) *Diverted Harvest: Environmental Risk from Growth in International Biofuel Demand*. Pg. 3

Alejandra Filippo Gonzalez Neves dos Santos, Professora Adjunta IV, Universidade Federal Fluminense, Spain

Alicia Valero Delgado, Catedrática de Ingeniería Mecánica, Universidad de Zaragoza, Spain

Anthony Patt, Professor of Climate Policy, ETH Zurich, Switzerland

Asun Rodríguez-Uña, Postdoctoral Researcher, University of Cambridge, United Kingdom

Axel Liebich, Senior Scientist, ifeu – Institut für Energie- und Umweltforschung Heidelberg, Germany

Calli Paul, PhD Candidate, IMBE, France

Cameron Brick, Assistant Professor, University of Amsterdam, Netherlands

Carlos Alonso Álvarez, Investigador Científico, Museo Nacional de Ciencias Naturales (CSIC), Spain

Catherine Aubertin, Senior Scientist, IRD, France

Cato Sandford, Senior Researcher in Climate and Energy Policy, Cerulogy, United Kingdom

Celia Martínez Alonso, Investigadora, CETEMAS, Spain

Charles A. S. Hall, Professor Emeritus, State University of New York College of Environmental Science and Forestry, United States

Charlie J. Gardner, Associate Senior Lecturer, Durrell Institute of Conservation and Ecology, University of Kent, United Kingdom

Chris Kesteloot, Professor Emeritus, Department of Earth and Environmental Sciences, KU Leuven, Belgium

Chris Malins, Director, Cerulogy, United Kingdom

Christian Lauk, Senior Scientist, Institute of Social Ecology, BOKU University Vienna, Austria

Claude Goeury, CNRS (pensioner), CNRS – Mediterranean Institute of Biodiversity & Ecology, France

Clemens Kaupa, Assistant Professor, Vrije Universiteit Amsterdam, Netherlands

Clément Lasselin, Postdoctoral Researcher, Lund University, Sweden

Coro J.-A. Juanena, Profesor, Universidad Rey Juan Carlos / Kolonialismo Osteko Ikasketa Zentroa Elkartea (KOIZ), Spain

Daniel Müller, Professor Dr., Leibniz Institute of Agricultural Development in Transition Economies (IAMO), Germany

David Almeida, Profesor Adjunto, Universidad CEU, Spain

David Verdiell Cubedo, Investigador Postdoctoral, Universidad de Murcia, Spain

Edouard Davin, Professor of Climate Scenarios for Sustainable Development, University of Bern, Switzerland

Emili García-Berthou, Catedrático de Ecología, Universitat de Girona, Spain

Enrique Andivia, Associate Professor, Complutense University of Madrid, Spain

Fabian Bergk, Senior Scientist, ifeu, Germany

Federico Velázquez de Castro González, Presidente, Sociedad Española de Química y Medio Ambiente, Spain

Felix Creutzig, Professor, Germany

Ferran Pauné, Adjunct Lecturer, UAB, Spain

Francisco Pugnaire, Research Professor, CSIC, Spain

Gerd Esser, Professor Dr. (Carbon Cycle Research, Ecology), University Giessen, Germany

Gianni Silvestrini, Scientific Director, Kyoto Club, Italy

Hannah Daly, Professor in Sustainable Energy, University College Cork, Ireland

Heiko Keller, Senior Expert in LCA of Bio-based Products, ifeu – Institut für Energie- und Umweltforschung Heidelberg, Germany

Horst Fehrenbach, Team Leader, ifeu, Germany

Hugo Saiz, Profesor Permanente Laboral, Universidad de Zaragoza, Spain

Idoia Biurrun, Profesora Titular de Universidad, Universidad del País Vasco, Spain

Jean Vacelet, Directeur de Recherches CNRS Émérite, Station Marine d'Endoume (IMBE), France

Jean-Pascal van Ypersele, Professor, Université Catholique de Louvain (UCLouvain), Belgium

Jeremy Martin, Director of Fuels Policy, Union of Concerned Scientists, USA

Jesús Herranz Barrera, Profesorado Permanente Laboral, Universidad Autónoma de Madrid, Spain

Jorge Riechmann, Profesor Universitario; Director del Máster en Humanidades Ecológicas (MHESTE), Universidad Autónoma de Madrid, Spain

José Luis Balcázar, Senior Researcher, Catalan Institute for Water Research (ICRA), Spain

Josef Settele, Professor Dr. / Head of Department of Conservation Biology and Social-Ecological Systems, Helmholtz Centre for Environmental Research (UFZ), Germany

Juan A. Oliet, Catedrático de Universidad, Universidad Politécnica de Madrid, Spain

Julie Bos, EU Climate Justice Policy Advisor, Oxfam, Belgium

Kevin Sartor, Energy Responsible / Doctor, University of Liège, Belgium

Kirsten Biemann, Dr.-Ing., ifeu Institute, Germany

Kobe Boussauw, Associate Professor of Spatial Planning and Mobility, Vrije Universiteit Brussel – Cosmopolis Centre for Urban Research, Belgium

Lela Mélon, Director of LL.M. in European and Global Law, Pompeu Fabra University, Spain

Louis Delannoy, Dr., Stockholm Resilience Centre, Sweden

Luis Llabrés, Fundador / Investigador, Centre Resiliència Mallorca, Spain

Magnus Bengtsson, Policy Director, Hot or Cool Institute, Germany

Mamen Cuéllar Padilla, Profesora Titular de Universidad / Responsable del equipo de investigación Cambio Institucional (SEJ179) Andalucía, Universidad de Córdoba, Spain

Marco Raugei, Senior Research Fellow, Oxford Brookes University, United Kingdom

Marga L. Rivas, Profesora Titular, Universidad de Cádiz, Spain

Margarita Mediavilla Pascual, Profesora de Universidad, Universidad de Valladolid, Spain

María Cecilia Pinto de Moura, PhD / Scientist, Union of Concerned Scientists, USA

María Victoria Román, Postdoctoral Researcher, Basque Centre for Climate Change (BC3), Spain

Mario Díaz Esteban, Full Professor, Spanish Research Council, Spain

Mark T. Brown, Emeritus Professor, University of Florida, USA

Mark Z. Jacobson, Professor of Civil & Environmental Engineering, Stanford University, United States

Mathieu Nicole, DR CNRS Member of AAF, CNRS / AAF, France

Melissa Denton, Engineer in Biological Methods, Mediterranean Institute of Biodiversity and Continental and Marine Ecology (IMBE), France

Miguel Menéndez, Catedrático de Ingeniería Química, Universidad de Zaragoza, Spain

Mik Carbajales-Dale, Professor of Environmental Engineering & Science, Clemson University, USA

Mona Bachmann, PhD, University of Copenhagen, Denmark

Moritz Hallama, Associate Professor, Universitat de Girona, Spain

Myriam Catalá Rodríguez, Profesora Titular de Universidad de Biología Celular, Universidad Rey Juan Carlos, Spain

Nicola Armaroli, Research Director, CNR – Italian National Research Council, Italy

Nicolas Clerbaux, Dr., Royal Meteorological Institute of Belgium (RMIB), Belgium

Pablo Manzano, Ikerbasque Fellow, Basque Centre for Climate Change (BC3), Spain

Paula Ortega, Investigadora en Formación, Real Jardín Botánico – CSIC, Spain

Pauline Modrie, General Manager, Canopea, Belgium

Peter H. Feindt, Professor of Agricultural and Food Policy, Humboldt-Universität zu Berlin, Germany

Regine Vogt, Environmental Scientist, ifeu Heidelberg, Germany

Ricardo Reques, Profesor, Universidad de Córdoba, Spain

Rich Pancost, Professor of Biogeochemistry, University of Bristol, United Kingdom

Rubén Torices, Profesor Titular de Universidad de Ecología, Universidad Rey Juan Carlos, Spain

Salomé Coquin, PhD, IMBE, France

Sara Vicca, Professor, University of Antwerp, Belgium

Sébastien Barot, Senior Scientist, IRD, France

Serge Morand, Directeur de Recherche, CNRS, France

Sergi Nuss Girona, Investigador, Departamento de Geografía – Universitat de Girona, Spain

Sophia Fehrenbach, GHG Accounting Consultant, IFEU - Institute for Energy and Environmental Research Heidelberg, Germany

Sofía Teresa Blanco Ariño, Profesora Titular de Universidad, Universidad de Zaragoza, Spain

Sophie Szopa, Research Director, CEA, France

Steven Sleutel, Associate Professor of Soil Biogeochemistry, Ghent University, Belgium

Sven Buyle, Principal Research Fellow, University of Antwerp, Belgium

Sven Gärtner, Senior Researcher, IFEU – Institute for Energy and Environmental Research Heidelberg, Germany

Thomas Kastner, Senior Scientist, Senckenberg Biodiversity and Climate Research Centre, Germany

Thomas Wiedmann, Professor of Sustainability Science, UNSW Sydney, Australia

Tim Benton, Professor, University of Leeds, United Kingdom

Tommaso Brazzini, Senior Researcher, University of Valladolid, Spain

Victoria Reyes-García, ICREA Research Professor, Institut de Ciència i Tecnologia Ambientals (UAB), Spain

Wolfgang Cramer, Professor Dr., CNRS / Member of the French Academy for Agriculture, France