GREEN FINANCE OBSERVATORY

NATURE MUST BE PROTECTED FROM THE "NATURE POSITIVE ECONOMY" – OPEN LETTER TO THE WWF, WORLD ECONOMIC FORUM, CONVENTION ON BIOLOGICAL DIVERSITY & EUROPEAN COMMISSION

November 2022

A big campaign[1] is underway to promote a so-called "nature positive economy." While this may seem at first glance like a good idea, the "nature positive" framing and related proposals raise serious concerns:

1. The nature positive agenda promotes a meaningless monetary valuation of nature

This is evidenced in our view by calls to "*recognize the value of nature,*"[2] "*start valuing nature in economic transactions*,[3]" calls for "*complementary measures of economic progress (…) including natural capital*[4]" (natural capital accounting being the official name for the monetary valuation of nature[5]) and references to the Dasgupta Review on the Economics of Biodiversity[6] - a report promoting the monetary valuation of nature.[7]

Yet, it has been found that the monetary valuation of nature's functions relies on incorrect assumptions, such as the idea that traditional environmental regulation has failed, that monetary

[1] WWF, Call to action to ensure transition to a net zero and nature positive economy
https://wwf.panda.org/discover/our_focus/finance/greening_financial_regulation/call_to_action/

[2] "*Nature is in crisis, placing human and planetary health at risk. This decade must be - the turning point where we recognize the value of nature, place it on the path to recovery and transform our world to one where people, economies and nature thrive.*" Naturepositive.org
https://www.naturepositive.org/

[3] *"What else is needed in the global architecture for nature positive? (…)- The institutionalisation of complementary measures of economic progress alongside GDP as a way to repurpose the economy. Measures such as 'inclusive wealth' which measures the capital assets upon which future prosperity depends, including natural capital - as recommended in the Dasgupta Review on the Economics of Biodiversity.*
- Well-governed 'nature markets', whereby companies or consumers pay for the natural capital embedded in the goods they produce or consume, as a way to start valuing nature in economic transactions (some of this work has started with the Taskforce on Nature Markets)."
WWF International, Proposal to establish a Roadmap to a Nature Positive Economy
https://wwfint.awsassets.panda.org/downloads/proposal_for_a_roadmap_to_nature_positive_economy_20220603.pdf

[4] WWF International, Proposal to establish a Roadmap to a Nature Positive Economy
https://wwfint.awsassets.panda.org/downloads/proposal_for_a_roadmap_to_nature_positive_economy_20220603.pdf

[5] https://ec.europa.eu/environment/nature/capital_accounting/index_en.htm

[6] WWF, towards a nature positive global economy, https://www.wwf.org.uk/dasgupta-review

[7] https://greenfinanceobservatory.org/wp-content/uploads/2021/05/Nature-Life-relations-finales.pdf

considerations would lead to better conservation outcomes or that it would be possible to reflect all the values of nature in monetary values.

In reality, most valuations models only value a few main ecological functions and ignore the rest as well as their interdependences. Comprehensive modelling would require a complete scientific knowledge that we do not possess and would be too complicated and too costly. It has also been documented that the monetary valuation methodologies being used are weak and vulnerable to many biases, and provide at best lower bounds of monetary values[8]. ***As a result, the monetary values being produced do not represent the value of nature's ecological functions, not even a proxy.*** Yet misleading figures are not better than nothing but worse than nothing, as they can lead to wrong policy decisions with irreversible consequences.

The monetary valuation of nature's ecological functions can also give a ***dangerous and misleading illusion of substitutability*** between critical ecosystemic functions, where one assumes incorrectly that as long as the total monetary value remains stable, nature is in good shape.

History shows that there is absolutely no need for monetary valuation for sound conservation policies.

2. The nature positive agenda promotes biodiversity offsetting

"Nature positive" is described as stopping and reversing the loss of nature from 2020 towards a net gain of biodiversity[9] by 2030. In this respect, it seems similar to the EU biodiversity strategy's Net Gain principle, as well as the UK's forthcoming biodiversity net gain requirement.[10]

Just as with net zero climate targets, the "net" element allow for "offsetting" destruction with restoration promises. While, according to a WEF document, *'"net" nature positive must clearly state companies and countries cannot destroy nature in one place and restore elsewhere,'*[11] a number of elements suggest precisely the opposite: WWF's proposal for a nature positive economy roadmap explains indeed that "*well-governed nature markets*" embedding the value of natural capital are needed in the global architecture for nature positive.[12] The same document also references the Taskforce on Nature Markets – a newly created lobby group that promotes nature markets that "deliver nature positive outcomes" such as intrinsic markets, offset markets and derivatives markets on nature. [13] Other examples include WWF's call for investments in Nature-Based Solutions,[14] one of the new codewords for carbon and biodiversity offsetting.[15] All of this is consistent with WWF's view that "*markets can be a force for good.*"[16]

---

[8] Hache F, 50 shades of green part II: the fallacy of environmental markets, Green Finance Observatory, May 2019 https://greenfinanceobservatory.org/wp-content/uploads/2019/05/50-shades-biodiversity-final.pdf

[9] Nature Positive.org https://www.naturepositive.org/

[10] Hache F, UK biodiversity unit market: trading permits to destroy nature as a way to protect it? Green Finance Observatory, June 2022 https://greenfinanceobservatory.org/2022/06/28/uk-biodiversity-unit-market-trading-permits-to-destroy-nature-as-a-way-to-protect-it/

[11] World Economic Forum, What is 'nature positive' and why is it the key to our future? June 2021 https://www.weforum.org/agenda/2021/06/what-is-nature-positive-and-why-is-it-the-key-to-our-future/

[12] *"What else is needed in the global architecture for nature positive? (…) Well-governed 'nature markets', whereby companies or consumers pay for the natural capital embedded in the goods they produce or consume, as a way to start valuing nature in economic transactions (some of this work has started with the Taskforce on Nature Markets)."* WWF International, Proposal to establish a Roadmap to a Nature Positive Economy https://wwfint.awsassets.panda.org/downloads/proposal_for_a_roadmap_to_nature_positive_economy_20220603.pdf

[13] "*What are Nature Markets? Three key types of nature markets, highlighting their breadth and diversity.*
Intrinsic markets - the trade of nature itself e.g. food, nature-based medical products, wood products, the sale of sand, earth and minerals, the nature value of tourism
Offset markets - investments and/or trade in aspects of nature to offset a negative impact elsewhere e.g. emerging biodiversity credit markets
Derivative markets - trade instruments that reflect the value of nature embodied in the underlying economic assets and enterprises e.g. nature-related risk markets, non-fungible tokens (NFTs)" Taskforce on nature markets, https://www.naturemarkets.net/

[14] WWF, Nature positive by 2030, https://wwfeu.awsassets.panda.org/downloads/wwf_global_biodiversity_framework_leaflet_aug_2020.pdf

This would also be consistent with an international context where the UK is working hard to set up markets for nature including biodiversity offsetting,[17] the EU is promoting biodiversity offsetting[18] and the UN is expected to do the same at the CBD COP15 later this year.[19]

Biodiversity offsetting is unfortunately not a new idea at all, having been promoted since 2010 by the European Commission and having been implemented in several countries with an appalling track record of failure.[20]

Biodiversity offsetting has also been shown to have critical environmental and social issues:
i. Recreating or restoring ecosystems to a former state is often unlikely to be feasible within reasonable timeframes or prohibitively costly. *"Given the complexity and variability of natural systems, the ecological community is increasingly recognizing that recreating or restoring ecosystems to some specified former state is often unlikely to be feasible, especially within reasonable timeframes."* [21]

---

[15] The European Commission itself has recently acknowledged in response to written parliamentary questions that it's definition of nature-based solutions included "like for like or better" biodiversity offsetting, the most extreme form of offsetting.
Parliamentary questions 26 January 2022 Answer given by Mr Sinkevičius on behalf of the European Commission Question reference: E005319/2021 https://www.europarl.europa.eu/doceo/document/E-9-2021-005319-ASW_EN.html Parliamentary questions 29 March 2022 Answer given by Mr Sinkevičius on behalf of the European Commission Question reference: E000485/2022
https://www.europarl.europa.eu/doceo/document/E-9-2022-000485-ASW_EN.html

[16] WWF, Markets, https://wwf.panda.org/discover/our_focus/markets/

[17] Hache F, UK biodiversity unit market: trading permits to destroy nature as a way to protect it? Green Finance Observatory, June 2022
https://greenfinanceobservatory.org/2022/06/28/uk-biodiversity-unit-market-trading-permits-to-destroy-nature-as-a-way-to-protect-it/

[18] Hache F, EU restoration law: discreetly promoting the financialisation of biodiversity destruction, Green Finance Observatory, July 2022
https://greenfinanceobservatory.org/2022/07/13/eu-restoration-law-discreetly-promoting-the-financialisation-of-biodiversity-destruction/

[19] Hache F, Serious concerns and serious questions – GFO's assessment of the first draft of the post2020 biodiversity framework, Green Finance Observatory, July 2021
https://greenfinanceobservatory.org/wp-content/uploads/2021/07/GFO-assessment-of-the-first-draft-of-post2020.pdf

[20] *"In Australia, a report by the Nature Conservation Council found that "in 75% of cases, offsets resulted in "Poor" or "Disastrous" outcomes for wildlife and bushland, while only 25% resulted in "Adequate" outcomes. None resulted in "Good" outcomes for nature." It concluded that instead of helping, offsetting pushes species to the brink, adding "extinction pressure to the very species these schemes are supposed to protect." Scientific evaluation studies also found 2/3 of expected offsets completely failed to materialize in Australia.*
In Canada, researchers found that 63% of projects that offset fish habitat loss failed to achieve their targets. Another study analysing 558 offset projects between 1990-2011 found that despite offset attempts the net loss of habitats was 99%. In the USA, scientists looking at 12 of the longest established wetland mitigation areas in Ohio found that many did not even meet the regulation's objectives. More broadly, a study looking at a broad range of restoration projects around the world found that up to two-thirds of offsets aiming to restore an ecosystem were unsuccessful. The figure was even higher for offsets that created ecosystems from scratch.
Hache F, 50 shades of green part II: the fallacy of environmental markets, Green Finance Observatory, May 2019
https://greenfinanceobservatory.org/wp-content/uploads/2019/05/50-shades-biodiversity-final.pdf

[21] *"There is evidence within the restoration ecology literature that shows that the science of restoration is still in its infancy and demonstrates mixed to poor outcomes. (…) Restoration ecology is a relatively young and inexperienced discipline with a still-embryonic and patchy evidence base. Given the complexity and variability of natural systems, the ecological community is increasingly recognizing that recreating or restoring ecosystems to some specified former state is often unlikely to be feasible, especially within reasonable timeframes."*
CEEweb for Biodiversity, Critical review of Biodiversity Offset track record – For the purposes of IEEP in their review of 'Policy Options for a potential EU No Net Loss Initiative'. https://www.ceeweb.org/wp-content/uploads/2011/12/Critical-review-of-biodiversity-offsets_for-IEEP_Final.pdf
'Some elements of the natural environment can clearly be restored, created or re-created while there are others for which there is limited evidence of recreability'. According to several authors (e.g. Salzman and Ruhl, 2000; Ring et al., 2010a; Wassel and Wätzold, 2010) the problems to establish equivalence arise mainly due to three dimensions: type (restored and destroyed habitat provide different functional values), space (configuration and connectivity of sites matters) and time (restoration of habitat requires time, leading to increased vulnerability).'
Morris et al (2006) mentioned in Ferreira dos Santos Rui et al., Offsets, Offsets, Habitat Banking and Tradable Permits for Biodiversity Conservation, in Ring Irene, Schröter, Schlaack Christoph (Eds.), Instrument Mixes for Biodiversity Policies – POLICYMIX Report 2, Helmholtz Centre for Environmental Research – UFZ Leipzig, June 2011.
https://www.researchgate.net/publication/255826485_Instrument_Mixes_for_Biodiversity_Policies
"Unlike a building that can be retrofitted for sustainability, once habitat is destroyed it might be impossible to reconstruct. Revegetation and restoration can increase tree cover and create habitat for some species. However, to date recreation of ecosystems with all component species and functions has proved prohibitively expensive or impossible (Wilkins et al. 2003)."
Bekessy Sarah A., et al. The biodiversity bank cannot be a lending bank, Conservation Letters 3, 151-158, 20190.
Online. Available at: https://onlinelibrary.wiley.com/doi/full/10.1111/j.1755-263X.2010.00110.x

The environmental integrity of biodiversity offsetting is further weakened in the case of ***"like for like or better"*** biodiversity offsetting, an extreme approach historically favoured by the European Commission,[22] where under some conditions the destruction of one ecosystem can be deemed to be compensated by the restoration of another.

To be clear, restoration can be a good thing, but only as long as it comes in addition to and not instead of curbing destruction, since the two are not comparable. Thus, while it is essential that governments curb destruction and ensure restoration, restoration should never be considered as - and financed through - offsets. Yet, this is precisely what happens within "net" gain biodiversity strategies, where destruction and restoration are measured together under a single metric, thereby considering implicitly that restoration and curbing destruction are equivalent, and favouring the former as it is much cheaper.

The same dynamic is already at play in "net zero" climate policies, where rich countries often prefer to pay for planting a few trees where land is cheap or protecting forests allegedly at risk of destruction rather than change their lifestyle and curb more drastically their emissions.

ii. Offsetting by definition is not about curbing destruction, at best displaces it, promotes destroying to restore: addressing the 6th mass extinction requires both drastically curbing the destruction of ecosystems and restoring past destruction; offsetting, by contrast is about promising future compensation to enable additional destruction.

If comprehensive recreation of the ecosystem functions that are destroyed were possible, offsetting would lead to a mere displacement of destruction; since in reality, such recreation is generally even on purely ecological grounds not possible, offsetting most often leads in practice to a net loss of biodiversity.

***iii. Offsetting in general has also been found to often result in land-grabbing, conflicts over land-use and human rights abuse*.[23]** Offsetting often requires lots of cheap land to plant trees or restore ecosystems. As a result, it has been documented to often lead to land-grabbing of indigenous land in poor countries, related human-rights abuses, as a form of green neo-colonialism.
It has also been found that the cumulative offset commitments are already so large that they threaten to exacerbate conflicts over land-use and could lead to spiralling food prices.[24]

iv. Privatizing conservation and reconceptualizing it based on profitability considerations
Promoting biodiversity offset markets could transfer critical conservation decisions for our future to financial markets and their well-known irrational mood swings. This is problematic because financial markets have been found to be unable to price scarcity adequately[25], and because prices are often far too volatile to be able to incentivize changes in behaviour.

---

[22] Eftec, technical report for the European Commission DG Environment, the use of market based instruments for biodiversity protection – the case of habitat banking, Feb 2010
https://ec.europa.eu/environment/enveco/pdf/eftec_habitat_technical_report.pdf
[23] 23 Kill Jutta, Franchi Giulia, Rio Tinto's biodiversity offset in Madagascar – Double landgrab in the name of biodiversity? World Rainforest Movement, Re:Common, https://wrm.org.uy/wp-content/uploads/2016/04/RioTintoBiodivOffsetMadagascar_report_EN_web.pdf
Vidal John, the tribes paying the brutal price of conservation, The Guardian, August 2016. Online. Available at:
https://www.theguardian.com/globaldevelopment/2016/aug/28/exiles-human-cost-of-conservation-indigenouspeoples-eco-tourism
Re:common, Turning forests into hotels The true cost of biodiversity offsetting in Uganda, Apr 2019. Online. Available at:
https://www.recommon.org/eng/turning-forests-into-hotels-thetrue-cost-of-biodiversity-offsetting-inuganda/
[24] Oxfam, Tightening the net, Aug 2021 https://oxfamilibrary.openrepository.com/bitstream/handle/10546/621205/bp-net-zero-land-food-equity-030821-en.pdf
[25] Bouleau N, le mensonge de la finance, Editions de l'atelier https://www.babelio.com/livres/Bouleau-Le-mensonge-de-la-finance/1024693

More fundamentally, this raises crucial public interest questions, such as should critical conservation policies be based on short-term cost-benefit and profitability considerations, and do we want to let private speculators determine the price of destruction and therefore what is to be saved or destroyed?

3. The nature positive agenda diverts the conversation away from the need to curb destruction, further entrenches the status quo

The nature positive agenda also includes calls to central bankers and financial supervisors to use monetary policy and financial regulation, for example through publishing their own transition plans, to address the biodiversity and climate crises.

While this could be a good idea all other things being equal, here is why we find this suggestion problematic in the broader political context:
- *It diverts the conversation away from the need for tighter environmental regulations curbing biodiversity destruction*: all the media and policy space used to discuss the regulation of sustainable finance is not used to discuss the inadequacy of our conservation policies, and can give an illusion that the issue is being addressed. Likewise, most often financial regulation for sustainability purposes does not come in addition to appropriate environmental policies but instead of it, as private lobbies are prompt to claim that there is no longer any need to tighten conservation regulations.

- *It is not a more promising political avenue* than public pressure for tighter environmental regulations: believing that financial regulation would lead to more ambitious results than environmental policies ignores the fact that the same power dynamics are at play in financial and environmental policymaking, leading to the same results.
Shifting the conversation from environmental regulations to financial supervision regulations is however arguably worse, since most citizens tend to disengage from finance topics as they fear (incorrectly) that they will not understand, thereby reducing public pressure and scrutiny.[26]

- *It further empowers private finance and financial markets*: the idea that finance would have a key role to play is a very specific political framing that empowers private finance actors – who can then negotiate dearly their participation - while downplaying the power of governments to set up appropriate regulations. It is part of a political push to promote economic incentives for private actors instead of constraining regulations. Yet, it should be remembered that traditional environmental regulations could shift capital flows faster and more comprehensively: any regulation automatically changes the future expected profits of the impacted economic sectors, and as a result private capital flows shift mechanically to adjust to the new future expected returns.

[26] Tariq Fancy, Financial world greenwashing the public with deadly distraction in sustainable investing practices, USA Today
https://eu.usatoday.com/story/opinion/2021/03/16/wall-street-esg-sustainable-investing-greenwashing-column/6948923002/
Tariq Fancy, The Secret Diary of a 'Sustainable Investor' — Part 1, Medium, Aug 2021
https://medium.com/@sosofancy/the-secret-diary-of-a-sustainable-investor-part-1-70b6987fa139

Conclusion

Behind its cheerful and vague name, the nature positive economy agenda promotes in our view the financialization of nature's destruction, via a monetary valuation of ecosystems, biodiversity offsetting and diverting the conversation away from the need to curb biodiversity destruction and towards "sustainable" finance regulation.

We understand its political objective to be maintaining the status quo – i.e., providing the social licence for economic growth maximization to continue as long as there is a "net" reversal of biodiversity decline, i.e., thanks to alleged offsetting – while creating tremendous profit opportunities for private finance.

As such, it is in our view a neoliberal agenda hidden behind cheerful and meaningless keywords, that continues to prioritize economic growth and competitiveness in rich countries over truly addressing critical biodiversity loss, and must be resisted.

In essence, this is what happened with climate change and carbon markets 15 years ago, but it will be much worse, as while there are only 6 greenhouse gases, there are millions of species with incredibly complex webs of interdependences.

Unfortunately, many scientific experts, from biologists to economists, appear to ignore the historical context and politics of biodiversity finance. As a result, a large number of well-meaning experts can end up endorsing vested agendas, that are being fostered by a few institutional and civil society enablers and are designed to maintain the destructive status-quo that benefits a few at the cost of many.

Addressing the 6th mass extinction of species does not require at all the alleged monetary valuation of ecosystems, nor the creation of offset markets and the privatization of conservation, which would most likely worsen the issue. For all these reasons, we strongly oppose the nature positive economy agenda and call on governments and the European Commission to instead put in place tighter environmental regulations mandating a reduction in biodiversity destruction.

****

List of signatories:

Manuel B. Aalbers, Professor of Geography, KU Leuven

ABIBINSROMA FOUNDATION, Ghana

Kevin Anderson, Professor of Energy and Climate Change, School of Mechanical, Aerospace and Civil Engineering at the University of Manchester, former Director of the Tyndall Centre for Climate Change Research

Kalina Arabadjieva, Researcher on Just Transitions, European Trade Union Institute

Susi Arnott, Biologist, Film-maker, Carbon Literacy Trainer

Marie-Anne Arrio, Researcher, CNRS, Member of the Interdisciplinary Political Economy Working Group (Ecopolien)

Genevieve Azam, Lecturer in economics, University Jean-Jaurès, Toulouse

Maude Barlow, Board Chair of Food and Water Watch, co-founder of the Blue Planet Project

Stefano Battiston, Associate Professor of Sustainable Finance, Deputy chair of Center of Competence for Sustainable Finance, Univ. of Zurich, IPCC AR6 Lead Author in Chapter 15 Finance and Investments

Vincenzo Bavoso, Senior Lecturer in Commercial Law, University of Manchester

Gilles Billen, Research Director, Biogeochemistry, Center for National Scientific Research (CNRS)

Guillaume Blanc, Lecturer in Contemporary History, University Rennes 2, Author of “the invention of green colonialism”

BLENDED FINANCE PROJECT

BLUE PLANET PROJECT - COUNCIL OF CANADIANS

Steffen Boehm, Professor in Organisation & Sustainability, Director of Research, Department of Sustainable Futures, University of Exeter BS

J.J. Boillot, Economist, Researcher associated to IRIS

Dominique Bourg, Honorary Professor, Institute of Geography and Sustainability (IGD), University of Lausanne

Clara Bourgin, Campaigner on food, agriculture and nature, Friends of the Earth Europe

François Briens, Energy Policy Analyst - Renewable Energy Division, International Energy Agency (IEA)

Adrienne Buller, Director of Research at Common Wealth, London

Joanna Cabello, activist and researcher, World Rainforest Movement

Mariel Cabero Ugalde, Environmental Justice Advisor

Louison Cahen-Fourot, assistant professor in Economics, Department of Social Sciences and Business, Roskilde University (Denmark) and guest researcher, Institute for Ecological Economics, WU Vienna University of Economics and Business (Austria)

Michel Capron, Professor in Management Science, Université Paris 8

Guillaume Carbou, Lecturer in Communication Science, University of Bordeaux, Member of Atecopol (Political Ecology Working Group), Toulouse

Damien Carême, Member of the European Parliament, European Greens

Wim Carton, Associate Professor / Docent, Lund University Center for Sustainability Studies

Prof. Dr. Marc Chesney, Professor of Mathematical Finance, Faculty of Economics, Chair of the Center of Competence for Sustainable Finance, University of Zurich

Eve Chiapello, Professor, EHESS, Paris, France

Maxime Combes, economist, co-author of « La nature n'a pas de prix, les méprises de l'économie verte » (2012)

COOPESOLIDAR R.L, CONSERVACION Y DERECHOS HUMANOS, COSTA RICA

COORDINADORA NACIONAL DE DEFENSA DE LOS TERRITORIOS INDIGENAS ORIGINARIOS CAMPESINOS Y ÁREAS PROTEGIDAS

Mickaël CORIAT, Researcher in Astrophysics, Institut de Recherche en Astrophysique et Planétologie, Member of Atecopol (Political Ecology Working Group), Toulouse

THE CORNER HOUSE, UK

Romain COUILLET, Professor in Applied Mathematics, University Grenoble-Alpes, Member of France Nature Environnement Isère

Thomas Coutrot, Associate Researcher, Institute of Economic and Social Research (IRES)

Valérie Dacremont, Head of Global and Environmental Health, Professor at University of Lausanne

Colin Davis, Chair in Cognitive Psychology, University of Bristol

Julien Delord, Lecturer in History and Philosophy of Ecology, University Toulouse-Le Mirail

Peter Dietsch, Professor of Philosophy, University of Victoria

Michel Duru, Agronomist, Senior Scientist à INRAE Toulouse

Jeannette Eggers, Researcher in Forest Planning, Program Manager for Forest Sustainability Analysis, Swedish University of Agricultural Sciences

Magnuz Engardt, Associate Professor in Meteorology. Researchers Desk, Sweden

Anita Engels, Professor of Sociology, Chair of the Cluster of Excellence "Climate, Climatic Change, and Society (CLICCS)", Universität Hamburg, Germany.

Ismail Ertürk, Senior Lecturer in Banking, Head of Management & Organisation Studies Group, Alliance Manchester Business School

Fabrice Flipo, Professor of Social and Political Philosophy and Philosophy of Sciences, Institut Mines-Télécom Business School

FLOW (For Love Of Water)

Daniela Gabor, Professor of Economics and Macro-Finance, UWE Bristol

Karin Gerhardt, Researcher in Sustainable Food Systems, Swedish Biodiversity Centre, Swedish University of Agricultural Sciences

Julie Gobert, Researcher, Water, City, Environment and Urban Systems Lab, Ecole des Ponts and INSA, Strasbourg

Prof. Erik Gomez-Baggethun, Professor, Norwegian University of Life Sciences

Dr. Eduardo Gonçalves Gresse, Universität Hamburg, Hamburg, Germany

Fanny Guillet, Researcher in Sociology, Ecology and Conservation Sciences Center lab, CNRS, Muséum National d'Histoire Naturelle

Antoine Guisan, Professor in Spatial Ecology, 50% in the Faculty of Biology & Medicine, 30% in the Faculty of Geosciences & Environment, University of Lausanne

Frédéric Hache, Director, Green Finance Observatory

Thomas Hahn, Associate Professor, Stockholm Resilience Centre

Niclas Hällström, WhatNext?

Jean-Marie Harribey, Professor of Economics, Université de Bordeaux

HEINRICH-BÖLL-STIFTUNG

Jennifer Hinton, Ecological economist, Centre for Environmental and Climate Science, Lund University, Sweden

Nina Holland, Researcher, Corporate Europe Observatory

Stig-Olof Holm, Lecturer in ecology and environmental science, Umeå university, Sweden

Jean-Michel Hupé, CNRS Researcher in Political Ecology, Toulouse

Kristoffer Hylander, Professor in Ecology, Stockholm University

Lina Isacs, Ecological Economist, Climate Change Leadership (CCL), Department of Earth Sciences, Uppsala University

Esther Jeffers Professor of Economics, Université de Picardie

Jesper Jespersen, Professor emeritus, Economic Policy, Institutions and Change, Roskilde University

Maria Johansson, PhD ecology, Swedish Researchers Desk

Florence Joly, Researcher in Immunology, Atécopol Aix-Marseille

Meera Karunananthan, Lecturer in the Department of Geography and Environmental Studies, Carleton University Ottawa

Steve Keen, Honorary Professor of Economics, UCL & ISRS Distinguished Research Fellow

Frida Kieninger, Director of EU Affairs, Food & Water Action Europe

Jutta Kill, Biologist, freelance researcher

Andrea Lagna, Lecturer in International Management and Innovation, Loughborough University

Thomas Lagoarde Segot, Professor of Economics and International Finance, Kedge Business School

Hervé Le Crosnier, Information and communication scientist, publisher

Marine Legrand, Researcher, Anthropology, LEESU, ENPC

Duncan Lindo, Economist and Finance researcher, Vrije Universiteit Brussel, Université de Lausanne

Larry Lohmann, Corner House, Co-founder of the Durban Group for Climate Justice

Pierre-Yves Longaretti, Theoretical Astrophysicist, CNRS, co-founder of the STEEP (Soutenabilité, Territoires, Environnement, Économie et Politique) research team, INRIA, Grenoble

Donnie Maclurcan PhD, Executive Director, Post Growth Institute; Affiliate Professor of Economics, Southern Oregon University

Mariam Mayet, Executive Director, African Centre for Biodiversity (Acbio)

Manuel Mercier, Research Engineer, Dynamics of Cognitive Processes Group, Institut de Neurosciences des Systèmes (INS, Inserm UMR1106)

Jason W. Moore, Professor of Sociology, Binghamton University, and co-coordinator, World-Ecology Research Network

Joan Moranta, Instituto Español de Oceranografía (IEO, CSCI), Grup d'Oceanografia d'Ecosistemes (GRECO), Centre Oceanogràfic de Balears (IEO, CSIC)

Thierry Moutin, Professor of Marine BioGeoChemistry, Aix-Marseille University, Institut Méditerranéen d'Océanographie

NAWI - Afrifem Macroeconomics Collective

Mordecai O. Ogada. Director, Conservation Solutions Afrika, Kenya

Martin Pigeon, Water, Forests & Climate Researcher and Campaigner

PLATFORM FOR COMMUNITY PARTNERSHIP OF THE AMERICAS (PAPC)

Xavier Poux, Associate Researcher in Agronomy, IDDRI

Emmanuel Prados, Head of Research, INRIA STEEP (Sustainability, Transition, Environment, biophysical Economy, local Policy-Making)

Stefano Prato, Society for International Development (SID)

Carola Rackete, ecologist and activist

RAINFOREST FOUNDATION UK

Rupert Read, Associate Professor of Philosophy, University of East Anglia, Environmental campaigner

Dr Andrew K. Ringsmuth, Deputy Head, Social Complexity and System Transformation Research Group, Wegener Center for Climate and Global Change, University of Graz

Malcolm Sawyer. Emeritus Professor of Economics, University of Leeds

Michael F. Schmidlehner, Professor in Philosophy at the Acre Federal Institute of Education, Science and Technology IFAC

Ian Scoones, Co-director of the ESRC STEPS (Social, Technological and Environmental Pathways to Sustainability) Centre, Institute of Development Studies, University of Sussex

Clive Spash, Chair of Public Policy and Governance, Vienna University of Economics and Business

Pr Julia Steinberger, Institute of Geography & Sustainability, Faculty of Geosciences & Environment, University of Lausanne

Isak Stoddard, Phd Candidate, Department of Earth Sciences, Uppsala University

Per Espen Stoknes, PhD, Director, BI Centre Sustainability and Energy Norwegian Business School

Dr. Servaas Storm, Senior Researcher and Assistant Professor of Economics, Delft University of Technology

Steve Suppan, Senior Policy Analyst, Institute for Agriculture and Trade Policy

Sophie Swaton, Philosopher and Economist, Institute of Geography and Sustainability (IGD), University of Lausanne

Erik Swyngedouw, Professor of Geography, School of Environment, Education and Development, University of Manchester

Bruno TASSIN, Research Director in Environmental Sciences, École des Ponts ParisTech

Laure Teulières, Lecturer in History, University Jean-Jaurès, Toulouse, co-founder of l'Atelier d'Ecologie Politique (Atecopol)

John Thackara, Ecological and Social Design, Senior Fellow, Royal College of Art London

THIRD WORLD NETWORK

Marie Toussaint, Member of the European Parliament, European Greens

Romain Tramoy, Researcher on plastic pollution, University of Paris-Est Creteil

Gert Van Hecken, Associate Professor, University of Antwerp

Shiney Varghese, Senior Policy Analyst, Institute for Agriculture and Trade Policy, USA

Arild Vatn, Professor Emeritus of Economics, Department of International Environment and Development Studies, NMBU

Jakob Vestergaard, Associate Professor, Department of Social Sciences and Business, Economic Policy, Institutions and Change, Roskilde University, Denmark

Sophie Wahnich, Researcher in Environmental Issues and Democratic Opportunities, dr1 CNRS, Pacte, STEEP-INRIA, Grenoble