INSTITUT DE CIENCIA I TECNOLOGIA AMBIENTALS UAB

ICTA
Institut de Ciència i Tecnologia Ambientals
ICTA-UAB

EXCELENCIA MARÍA DE MAEZTU

Annual Report

2021

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MISSION

MISSION

The Institute of Environmental Science and Technology (ICTA-UAB) is a multidisciplinary centre that promotes academic research and postgraduate education in the environmental sciences. It aims to improve our understanding of global environmental change, and the origin and changing nature of environmental problems. In addition, it studies policies, strategies and technologies to foster a transition to a sustainable economy.

OUR OBJECTIVES

- Development of frontier research for a sustainable Earth
- Design and implementation of a Knowledge Exchange Initiative
- Training and Career Development Scheme
- Consolidation of a transparent, equitable and effective Governance System

"Our institute promotes research and postgraduate education to contribute to the development and achievement of the SDGs.

EXECUTIVE BOARD

Director ICTA-UAB
Xavier Gabarrell Durany

Scientific Secretary
Jordi Garcia Orellana

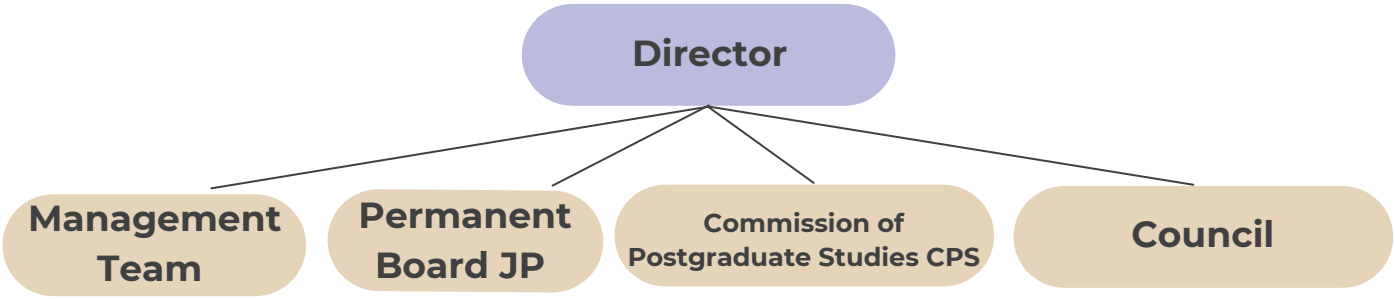
Deputy Director of Postgraduate Studies
Antoni Rosell Melé† (December 2021)
PhD coordinator until May 2021

Scientific career
Giorgos Kallis

Director MdM
Esteve Corbera

Manager
Maica Nogales

ICTA-UAB GOVERNANCE



ABOUT US

The JP involves the Principal Investigators of ICTAs research groups, representatives of the doctoral and postdoctoral communities, and the administration

The CPS has a director, 4 additional senior researchers, and an administrative manager. It reports to the Doctoral School

The council includes the Institutes PhD holders, and representatives of the doctoral students, and the administrative staff. The council can propose improvements to any aspect related to ICTAs scientific and teaching activities, and it can also approve or disprove strategic decisions adopted by the JP

NEW STAFF

Inphinit Incoming La Caixa Foundation
Oskar Louis Wood Hansen
Diego Macall

Grants for contracts for doctoral training MICIU
Irene Alorda Montiel
Gemma Simon Mas
David Alejandro Camacho Caballero

FI AGAUR
Andréanne Chu Breton-Carbonneau
Ashley Nicole Brauntal

Grants for university teacher training (FPU)
Julia Rodriguez Puig
Lucia Muñoz Sueiro

Beatriu de Pinós programme
Roberto Cantoni
Leticia Santos de Lima
Sandrine Gallois

Daniel Carasso Foundation
Daniel Gaitan

Ramon y Cajal
Evangelia Apostolopoulou
Arnim Scheidel

Juan de la Cierva
Nina Davtian
Melissa García-Lamarca

Margarita Salas
Marcel Llavero Pasquina
Brototi Roy

Maria Zambrano
Gerald Langer
Anna Petit Boix
Alvaro Fernández-Llamazares Onrubia
Giacomo D'Alisa
Ana Beatriz Pierri Daunt
Umberto Lombardo

ABOUT US

ICTA IN NUMBERS

103 RESEARCHERS

49% FEMALE RESEARCHERS

28 COUNTRIES

8 ERC GRANTS

253 PUBLICATIONS

20 DOCTORAL THESES

ABOUT US

WEBSITE

45K* USERS

148k* PAGE VIEWS

116 NEWS ITEMS ON WEBSITE

1,473 NEWSLETTER SUBSCRIPTIONS

44 PRESS RELEASES

TWITTER

1,352 TWEETS

1,794,800 IMPACTS

180,768 PROFILE VISITS

*until October (cyber attack)

RESEARCH GROUPS

ICTA-UABs research areas are developed through specific research groups (SGR). These groups share an interest in the study of the causes, mechanisms and impacts of global environmental change, including climate change, the latest interactions with human societies and wellbeing, and the policy and institutional responses necessary for a transition to a sustainable future.

AEROBIOTAS Aerobiology, atmospheric transport and health

Responsible Jordina Belmonte

AEROBIOTAS aims to provide service to medical doctors (mainly aerologists) and allergy patients to be permanently informed on allergenic pollen and spore shows in the air during different seasons and environmental conditions. It is also an excellent tool that citizens can directly use when/if affected by pollen/spores allergy to be able to take necessary precautions when needed.

ABOUT US

IASTE Integrated assessment: sociology, technology and the environment

Responsible Mario Giampietro

The overarching research objective of the group is to replace the technocratic approach of evidence-based policy with a more effective approach of co-production of knowledge claims to inform policy in the face of uncertainty.

MERS Marine and environmental biogeosciences

Responsible Patrizia Ziveri and Jordi García-Orellana

MERS is addressing various environmental biological and geochemical processes regulating the marine and freshwater realms as well as interacting with climate change. Human-induced global and climate change affects society, natural resources and economy around the world and the awareness of their impact has increased considerably in the last decades.

ABOUT US

ECONECOL Ecological economics

Responsible Giorgos Kallis

Ecological economics is the interdisciplinary science of the study of sustainability. Their mission is to develop, apply and disseminate critical knowledge necessary for understanding causes and solutions to environmental problems linking them to economic systems and policies that create or address these problems.

ABOUT US

IMPACTANT Dynamics of natural systems and the anthropic impacts

Responsible Antoni Rosell

IMPACTANT aims to study of the anthropic impacts on the dynamics of the natural systems of the planet to design strategies of sustainable development.

LASEG Laboratory for the analysis of social-ecological systems in a globalised world

Responsible Victoria Reyes-García and Esteve Corbera

LASEG aims to better understand how local and indigenous knowledge can contribute to environmental sustainability, and how to better reconcile biodiversity conservation and the provision of ecosystem services with human wellbeing, in both rural and urban settings.

SOSTENIPRA Sustainability and environmental protection

Responsible Xavier Gabarrell

SOSTENIPRA aims to develop, adapt and apply tools to promote sustainability and environmental protection with a systemic, life cycle approach. The group research focuses on resource management for a circular economy, sustainable food systems, and integrated analysis of urban nature-based solutions.

RESEARCH THEMES

RESEARCH

The research agenda aims to inform a number of environmental and societal challenges that need to be addressed in order to guarantee human progress in an ecologically sustainable Earth. We engage with a set of global, yet inter-related environmental challenges, including climate change, biodiversity loss, resource extraction, oceans' acidification and water pollution, and their social and economic ramifications. Each research foci aims to advance specific research questions and simultaneously engage with important policy and social goals and debates, including for example the United Nations' Sustainable Development Goals (SDGs), the mitigation goals of the Paris Accord on Climate Change, or the Aichi Targets. In doing so, we aim to provide evidence on the best strategies to make progress on these global and regional sustainability goals, as well as to shed light on possible trade-offs across apparently desirable policy objectives

5 Societal Challenges

ICTA-UAB's strategic research program, funded by the Maria de Maeztu Unit of Excellence, is structured around 5 interrelated Societal Challenges.

- OCEANS
- LAND
- CONSUMPTION
- CITIES
- POLICIES

RESEARCH THEMES

OCEANS

We study the impacts of global change on oceanic and coastal systems to develop pathways towards sustainable and equitable interactions with marine environment and their resources.

Highlight publications

Pallacks S, Ziveri P, Martrat B, Mortyn PG, Grelaud M, Schiebel R, et al. 2021, 'Planktic Foraminifera changes in the western Mediterranean Anthropocene', Global and Planetary Change, 103549.

Bell , S. M., Terrer, C., Barriocanal Lozano, C. A., Jackson, R., & Rosell-Mele, A. 2021. Soil organic carbon accumulation rates on Mediterranean abandoned agricultural lands. Science of the Total Environment, [143535].

RESEARCH THEMES

LAND

We analyze the combined effects of climate and other drivers of global environmental change on the sustainability of rural landscapes and livelihoods.

Highlight publications

Brondizio, E.S., Y. Aumeeruddy-Thomas, P. Bates, J. Carino, Á. Fernández-Llamazares, M. Ferrari, K. Galvin, V. Reyes-García, et al. 2021, 'Locally based, regionally manifested and globally relevant: Indigenous and local knowledge, values, and practices for nature'. Annual Review of Environment and Resources. 46: 481-509.

Labeyrie, V; Renard, D; Aumeeruddy-Thomas, Y; Benyei, et al. and Reyes-Garcia, V 2021, 'The role of crop diversity in climate change adaptation: insights from local observations to inform decision making in agriculture', Current Opinion In Environmental Sustainability, 51, 15 - 23.

RESEARCH THEMES

CONSUMPTION

We examine how processes of production and consumption of goods and services relate to global environmental impacts and affect human well-being and technological transitions.

Highlight publications

Cadillo-Benalcazar JJ, Bukkens SGF, Ripa M & Giampietro M 2021, 'Why does the European Union produce biofuels? Examining consistency and plausibility in prevailing narratives with quantitative storytelling', Energy Research & Social Science, vol. 71, article 101810.

Harder R, Giampietro M & Smukler S 2021, 'Towards a circular nutrient economy. A novel way to analyze the circularity of nutrient flows in food systems', Resources, Conservation and Recycling, 172, 105693.

RESEARCH THEMES

CITIES

We interrogate and advance actions and projects for climate-responsive, equitable and healthy cities and urban systems.

Highlight publications

Kotsila P, Anguelovski I, Sekulova F, Connolly JJT, Langemeyer J & Baró F 2021, 'Nature-based solutions as discursive tools and contested practices in urban nature's neoliberalisation processes', Environmental and Planning. E. 4, 2, 252 - 274.

Tonne, C., Adair, L., Adlakha, D., Anguelovski, I., Belesova, K., Berger, M., Brelsford, C., Dadvand, P., Dimitrova, A., Giles-Corti, B. 2021. "Defining pathways to healthy sustainable urban development." Environment international 146, 106236.

RESEARCH THEMES

POLICIES

We analyze and advocate for effective and equitable cross-scale policies, institutions and social responses to address global environmental change.

Highlight publications

Mastini R, Kallis G & Hickel J 2021, 'A Green New Deal without growth?', Ecological Economics, 179, 106832.

Konc, T., I. Savin and J. van den Bergh 2021. The social multiplier of environmental policy: Application to carbon taxation. Journal of Environmental Economics and Management 105, 102396.

SELECTED PROJECTS

SELECTED CONCLUDED PROJECTS

COMMONS COPRODUCTION AND TERRITORIAL DEVELOPMENT IN THE BARCELONA METROPOLITAN AREA

Principal investigator: Sergio Villamayor
Budget: 23.0000 €
Funding entity: Universitat Pompeu Fabra (UPF)
Period: 2020-2021

The project results show that many instances of co-production take places between SSE organizations of second and third level and the public administration. For the commons co-production model to consolidate there is the need of a framework that moves beyond the public-private logic that has so far guided the relationship between the public administration and the third sector and fits the idiosyncrasies and added value of commons initiatives. Beyond this, a better integration of street level technicians in the co-production processes would be desirable

SELECTED PROJECTS

TECBIOMET

New TEChnologies for the study of the diversity and dynamics of aeroBIOlogical components and for their forecast based on METeorology

Principal investigator: Jordina Belmonte
Budget: 66.550 €
Funding entity: Ministerio de Economía y Competitividad
Period: 2018-2021

This project studied the effects of extreme meteorological events on the biological biodiversity present in the atmosphere in order to predict changes in the environment and possible affectations on human health

SELECTED PROJECTS

NEW RESEARCH PROJECTS

PAUL

Pilot Application in Urban Landscapes - Towards integrated city observatories for greenhouse gases

Principal investigator: Gara Villalba
Budget: 12.999.999 € (20.000 € UAB)
Funding entity: EU
Period: 2021-2025

Cities are emission hotspots and play an important role in emission reduction efforts. Observing and verifying greenhouse gas emissions from densely populated urban areas is essential. The EU-funded project PAUL (ICOS Cities) will develop and evaluate innovative greenhouse gas measurement technologies and observatories. The aim is to provide unique data sets feeding diverse models and scientific studies, while testing the feasibility of modelling approaches in various areas. Moreover, the project will help cities execute their climate action goals by providing data on fossil fuel emissions from urban areas. Pilots will be conducted in Munich, Paris and Zurich. For increased impact, 12 other European cities are included in the city network

SELECTED PROJECTS

BIOCAL

Global biodiversity of marine planktonic calcifiers

Principal investigator: Patrizia Ziveri, Graham Mortyn
Budget: 169.400 €
Funding entity: Ministerio de Ciencia e Innovación
Period: 2021-2025

BIOCAL will ascertain past changes from the marine sedimentary perspective, profiting from core samples globally, and via key collaborators from France, Germany, the UK, and Norway

SELECTED PROJECTS

LIVEN

Living lab on environmental modelling for energy planning

Principal investigator: Cristina Madrid
Budget: 181.500 €
Funding entity: Ministerio de Ciencia e Innovación
Period: 2021-2024

This project aims at creating the lab and during its implementation will actively seek ways to keep it open as a space for testing and transferring new advances in environmental modelling for energy. Further works could include gender studies, the assessment of water policies with the same nexus perspective or the inclusion of open access, modular energy system modelling tools

SIRAH

Promoting access to open urban agriculture from the Fertilecity lab to the city

Principal investigator: Xavier Gabarrell
Budget: 103.500 €
Funding entity: Ministerio de Ciencia e Innovación
Period: 2021-2023

SIRAH, proof of concept within the framework of the “Fertilecity” concept.

The resulting low resilience of cities to food supplies was directly experienced during the COVID-19 pandemic. Based on this vulnerability,new approaches are needed to provide fresh and local food to cities. The implementation of urban agriculture (UA) could be a solution toincrease city resilience to avoid such potential food shortages, while reducing pressure on surrounding farmlands as well as increasinggreen areas and biodiversity in these current concrete deserts. On the other hand, research and new technologies are needed todisseminate urban agriculture in sustainable way

SELECTED PROJECTS

Resilient municipalities to pandemics through the nexus of local agriculture, energy, water and waste. From pilot to municipality

Principal investigator: Xavier Gabarrell
Budget: 346.900 €
Funding entity: Direcció General de Recerca de la Generalitat de Catalunya
Period: 2021-2022

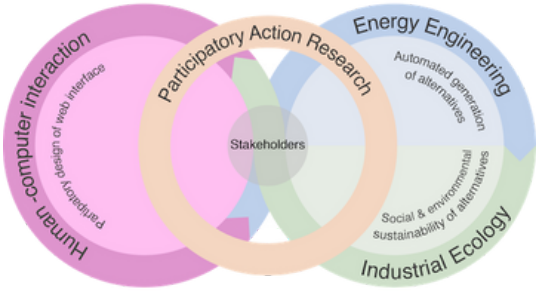
The current coronavirus pandemic has shown us that cities were not prepared for this type of catastrophe. Cities concentrate services, workplaces, promote social interaction, etc. On the other hand, they also generate 70% of the world's waste, and consume 80% of the food produced globally. As a result of these facts, it has been possible to confirm the lack of resilience of cities, expressed through the fear of possible shortfalls in food distribution during confinement. This project aims to transform cities into resilient, sustainable and healthier spaces for current and future generations, through local agriculture and waste recycling/reduction

SELECTED PROJECTS

SEEDS

Stakeholder-Based Environmentally-Sustainable and Economically Doable Scenarios for the Energy Transition

Principal investigator: Gara Villalba
Budget: 149.986 €
Funding entity: Ministerio de Ciencia e Innovación
Period: 2021-2024



The urgency to cut energy-related greenhouse gas emissions is recognised by EU policy. Efforts to do so, however, are hindered by the limitations of software used to generate and assess national energy transition scenarios. These tools generally overlook social issues and environmental sustainability in favour of a techno-economic worldview, where an optimal solution is determined by cost minimisation. Yet, when it comes to the practical on-the-ground implementation of such scenarios, real-world concerns come to the forefront. Such concerns are both environmental (e.g. land and resource use) and social (e.g. what trade-offs are important to local stakeholders). No workable solutions to integrate both of these into techno-economic energy system modelling software exist. We address this by developing and testing a novel digital workflow that automatically integrates humans into scenario design while accurately modelling the relevant technical, economic and environmental constraints. With this project, we plant the seeds for locally desirable, environmentally friendly and implementable energy transition scenarios

SCIENTIFIC OUTPUT

SCIENTIFIC OUTPUT

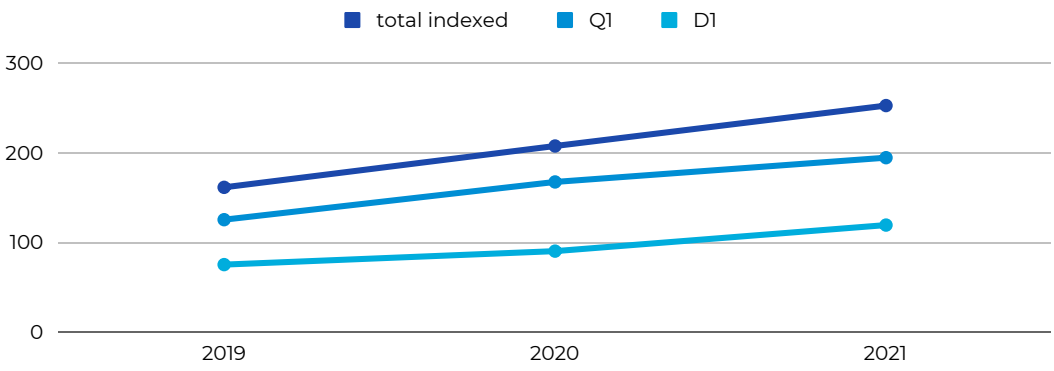
Our research continues to be published in leading, high-impact-factor journals. 14 articles were published in Nature and Science-related journals, as well as in Proceedings of the National Academy of Sciences, USA (PNAS) among others. Overall, about 250 scientific articles were published in peer-reviewed journals in 2021, across more than 139 different scientific journals. Over 77% of the articles appeared in journals with an impact factor of four or higher.

253 INDEXED ARTICLES

195 ARTICLES PUBLISHED IN 1ST QUARTILE

120 IN 1ST DECILE

ANNUAL NUMBER OF PUBLICATIONS



SELECTED PUBLICATIONS

SELECTED PUBLICATIONS (D1 journals)

Hickel, J., Brockway, P., Kallis, G., Keyßer, L., Lenzen, M., Slameršak, A., Steinberger, J., Ürge-Vorsatz, D.
Urgent need for post-growth climate mitigation scenarios
Nature Energy 6(8) (2021)
doi: 10.1038/s41560-021-00884-9

Exadaktylos, F., van den Bergh, J.
Energy-related behaviour and rebound when rationality, self-interest and willpower are limited
Nature Energy 6(12) (2021)
doi: 10.1038/s41560-021-00889-4

Terrer, C., Phillips, R.P., Hungate, B.A., Rosende, J., Pett-Ridge, J., Craig, M.E., van Groenigen, K.J., Keenan, T.F., Sulman, B.N et al.
A trade-off between plant and soil carbon storage under elevated CO2
Nature 591 (7851) (2021)
doi: 10.1038/s41586-021-03306-8

Poorter, L., Craven, D., Jakovac, C.C., van der Sande, M.T., Amissah, L., Bongers, F., Chazdon, R.L., Farrior, C.E., Kambach, S., Meave, J.A., Muñoz, R., Norden, N., Rüger, N., van Breugel, M., Zambrano, A.M.A., et al.
Multidimensional tropical forest recovery
Science 374 (6573) (2021)
doi: 10.1126/science.abh3629

SELECTED PUBLICATIONS

Epstein, G., Gurney, G., Chawla, S., Anderies, J.M., Baggio, J., Unnikrishnan, H., Villamayor Tomas, S., Cumming, G.S.
Drivers of compliance monitoring in forest commons
Nature Sustainability 4 (5) (2021)
doi: 10.1038/s41893-020-00673-4

Ruiz-González C., Rodellas V., Garcia-Orellana J.
The microbial dimension of submarine groundwater discharge: current challenges and future directions
FEMS Microbiology Reviews 45 (5) (2021)
doi: 10.1093/femsre/fuab010

Draper, F.C., Costa, F.R.C., Arellano, G., et al.
Amazon tree dominance across forest strata
Nature Ecology and Evolution 5 (6) (2021)
doi: 10.1038/s41559-021-01418-y

Zhu, D., Galbraith, E.D., Reyes-García, V., Ciais, P.
Global hunter-gatherer population densities constrained by influence of seasonality on diet composition
Nature Ecology and Evolution 5 (11) (2021)
doi: 10.1038/s41559-021-01548-3

SELECTED PUBLICATIONS

Rosa, L., Rulli, M.C., Ali, S., Chiarelli, D.D., Dell'Angelo, J., Mueller, N.D., Scheidel, A., Siciliano, G., D'Odorico, P.
Energy implications of the 21st century agrarian transition
Nature Communications 12 (2021)
doi: 10.1038/s41467-021-22581-7

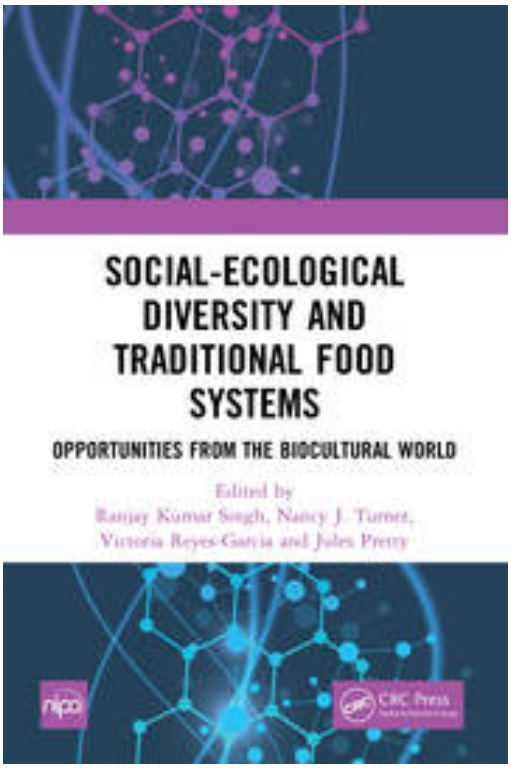
Maestre-Andrés, S., Drews, S., Savin, I., van den Bergh, J.
Carbon tax acceptability with information provision and mixed revenue uses
Nature Communications 12 (1) (2021)
doi: 10.1038/s41467-021-27380-8

Harder, R., Giampietro, M., Mullinix, K., Smukler, S.
Assessing the circularity of nutrient flows related to the food system in the Okanagan bioregion, BC Canada.
Resources, Conservation and Recycling 174 Article number 105842 (2021)
doi: 10.1016/j.resconrec.2021.105842

Mempel, F., Corbera, E.
Framing the frontier - Tracing issues related to soybean expansion in transnational public spheres
Global Environmental Change 69 art. no. 102308 (2021)
doi: 10.1016/j.gloenvcha.2021.102308

SELECTED PUBLICATIONS

BOOKS



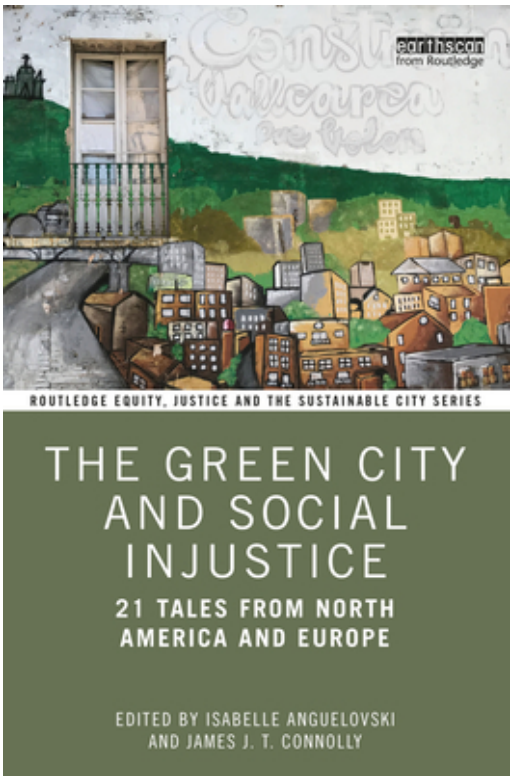
Social-Ecological Diversity and Traditional Food Systems

Taylor and Francis, November 2021

new book edited by ICREA Research Professor Victoria Reyes-García

This book draws on world-wide experiences and valuable lessons to highlight community-ecosystem interactions and the role of traditional knowledge in sustaining biocultural resources through community-based adaptations. The book targets different audiences including researchers working on human-environment interactions and climate adaptation practices, biodiversity conservators, non-government organizations and policy makers involved in revitalizing traditional foods and community-based conservation and adaptation in diverse ecosystems. This volume is also a source book for educators advocating for and collaborating with indigenous and local peoples to promote location-specific adaptations to overcome the impacts of multiple biotic and abiotic stresses.

SELECTED PUBLICATIONS



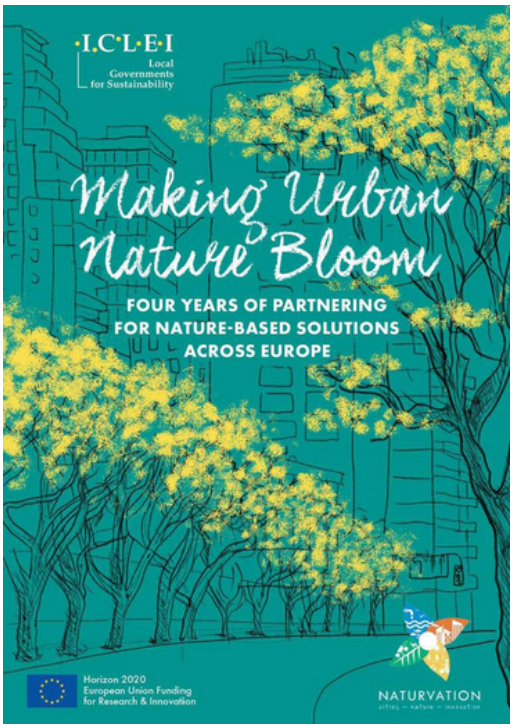
The Green City and Social Injustice

Routledge, Novembre 2021

Edited by Isabelle Anguelovski alongside James Connolly.
The book features close to 15 ICTA researchers in collaboration with international authors

In this volume a collective of researchers examines the recent urban environmental trajectory of 21 cities in Europe and North America over a 20-year period. The aim is to identify the circumstances under which greening interventions can create a new set of inequalities for socially vulnerable residents, while also failing to eliminate other environmental risks and impacts.
The book examines how displacement and gentrification in the context of greening are not only physical but also socio-cultural, creating new forms of social erasure and trauma for vulnerable residents. Its breadth and diversity allow students, scholars and researchers to debunk the often-depoliticized branding and selling of green cities and reinsert core equity and justice issues into green city planning—a much-needed perspective. Building from this critical view, the book also shows how cities that prioritize equity in green access, in secure housing and in bold social policies can achieve both environmental and social gains for all.

SELECTED PUBLICATIONS



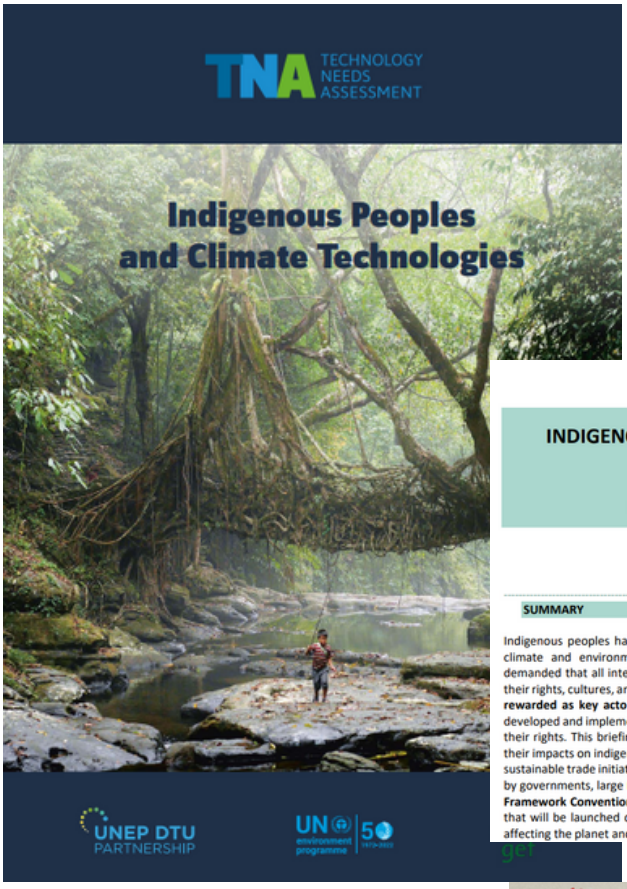
Making Urban Nature Bloom

ICLEI, January 2021

coordinated by ICLEI Europe and based on the case studies of the H2020 NATURVATION project (NATure-based URban innoVATION)

The book is based on the case studies referring to the analysis and promotion of nature-based solutions in the cities of Barcelona, Malmö (Sweden), Utrecth (Netherlands), Leipzig (Germany), Győr (Hungary) and Newcastle (United Kingdom). ICTA-UAB and ENT Environment and Management are the local partners of Barcelona

POLICY REPORTS



COP26


FPP briefing paper – October 2021

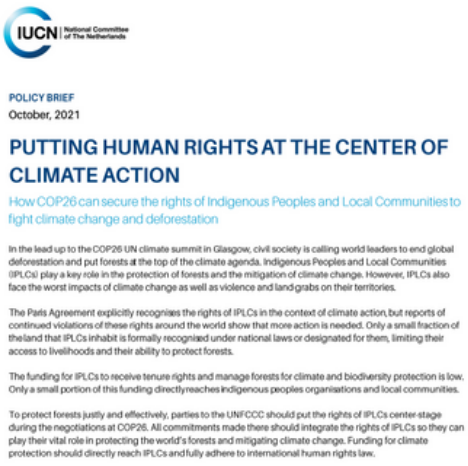
INDIGENOUS PEOPLES' RIGHTS, GLOBAL CLIMATE POLICIES AND FINANCE

A brief critical review for COP26 and beyond

Forest Peoples Programme

SUMMARY

Indigenous peoples have long called for national and global actions to tackle the root causes of climate and environmental destruction and associated rights abuse. They have additionally demanded that all international climate policies, funding, and initiatives must respect and protect their rights, cultures, and knowledge. **They have insisted repeatedly that they be acknowledged and rewarded as key actors in climate solutions.** Yet, from their experience, global climate policies developed and implemented to date have often marginalised their communities and failed to uphold their rights. This briefing presents a rapid review of *existing* climate programmes and finance and their impacts on indigenous peoples. This review also flags several *new* so-called 'green' finance and sustainable trade initiatives as well as funds and market-based instruments that are being showcased by governments, large NGOs, and big business at the 26th Conference of the Parties (COP) to the **UN Framework Convention on Climate Change** (UNFCCC), herein after **COP26.** These global initiatives that will be launched during COP26 are being proposed as possible solutions to the climate crisis affecting the planet and all of humanity.


IUCN National Committee of The Netherlands

POLICY BRIEF

October, 2021

PUTTING HUMAN RIGHTS AT THE CENTER OF CLIMATE ACTION

How COP26 can secure the rights of Indigenous Peoples and Local Communities to fight climate change and deforestation

In the lead up to the COP26 UN climate summit in Glasgow, civil society is calling world leaders to end global deforestation and put forests at the top of the climate agenda. Indigenous Peoples and Local Communities (IPLCs) play a key role in the protection of forests and the mitigation of climate change. However, IPLCs also face the worst impacts of climate change as well as violence and land grabs on their territories.

The Paris Agreement explicitly recognises the rights of IPLCs in the context of climate action, but reports of continued violations of these rights around the world show that more action is needed. Only a small fraction of the land that IPLCs inhabit is formally recognised under national laws or designated for them, limiting their access to livelihoods and their ability to protect forests.

The funding for IPLCs to receive tenure rights and manage forests for climate and biodiversity protection is low. Only a small portion of this funding directly reaches indigenous peoples organisations and local communities.

To protect forests justly and effectively, parties to the UNFCCC should put the rights of IPLCs center-stage during the negotiations at COP26. All commitments made there should integrate the rights of IPLCs so they can play their vital role in protecting the world's forests and mitigating climate change. Funding for climate protection should directly reach IPLCs and fully adhere to international human rights law.

AWARDS

Victoria Reyes García elected to prestigious National Academy of Sciences

ICREA research Professor Victoria Reyes-García has been elected to the U.S. National Academy of Sciences in recognition of her distinguished and continued achievements in original research

AWARDS

Gara Villalba, new Generalitat's ICREA Acadèmia Award

Gara Villalba has been granted a Research Professor position, awarded by the Catalan Institution for Research and Advanced Studies (ICREA). An ICREA Academia position aims to boost and develop research and scientific, humanistic and technological knowledge in benefit of society

AWARDS

Joan Martínez Alier received the Balzan Prize in Rome

Economist Joan Martínez Alier from the ICTA-UAB received the Balzan Prize in Rome from the President of the Italian Republic, Sergio Mattarella. Martínez Alier has been awarded in the category of “Environmental Challenges: Responses from the Social Sciences and Humanities

Victoria Reyes-García received the Narcís Monturiol Medal

Victoria Reyes-García received the Medal for Scientific and Technological Merit from the Minister of Research and Universities, Gemma Geis, at the Palau de la Generalitat

RECOGNITIONS

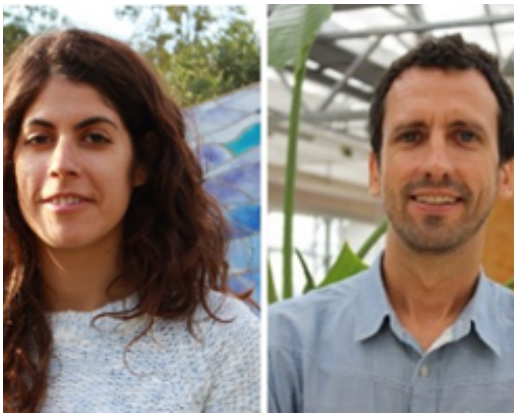
2020 North-South Prize awards the MedECC

The 2020 North-South Prize of the Council of Europe has been awarded to the Mediterranean Experts on Climate and Environmental Change (MedECC) network of the Union for the Mediterranean composed of more than 600 scientists from 35 Mediterranean and European countries, including the oceanographer Patrizia Ziveri from ICTA-UAB

Four ICTA-UAB researchers among the world's top Climate scientists

Reuters created a system to identify and rank 1,000 climate academics according to how influential they are. The four ICTA-UAB researchers are Jeroen van den Bergh, Joan Rieradevall, Antoni Rosell-Melé and Xavier Gabarrell

RECOGNITIONS



ICTA-UAB researchers among the most cited worldwide

Esteve Corbera and Margarita Triguero-Mas feature among the researchers with the world's most highly cited papers, according to Clarivate Analytics.

Nine ICTA-UAB researchers, among the most influential in the world

The ICTA-UAB members included in the list published by the Stanford University are Jeroen van den Bergh, Joan Martínez Alier, Giorgos Kallis, Esteve Corbera, Victoria Reyes-García, Isabelle Anguelovski, Mario Giampietro, David Saurí and Antoni Rosell-Melé

SOCIETAL IMPACT

Councillor Geis highlights the value of ICTA-UAB's research excellence

The Catalan Minister for Research and Universities, Gemma Geis, visited ICTA-UAB as part of an institutional visit to the Universitat Autònoma de Barcelona, where she met with the government team, led by Rector Javier Lafuente

The Ministry of Universities says that he will prioritize coordination with universities in the face of the climate emergency

The Ministry of Universities, Manuel Castells, attended the Autonomous University of Barcelona in the context of the talk University campuses: laboratories for sustainable cities, which took place at ICTA-UAB

Xavier Gabarrell named scientific coordinator of the SMART-ER project

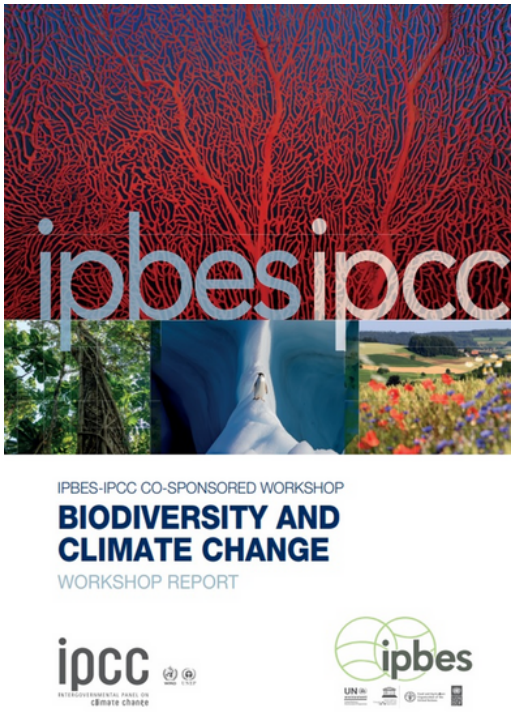
Researcher and director of the ICTA-UAB Xavier Gabarrell has been appointed scientific coordinator of the new SMART-ER project, which will create a virtual research institute within the framework of the ECIU University, focused on smart and sustainable regions

ICTA-UAB scientists at the European Research Night

ICTA-UAB researchers Beatriz Rodríguez Labajos and André Colonese participated in the European Research Night edition 2021

POLICY OUTREACH EVENT

POLICY OUTREACH EVENTS



Presentation of the Report of the Workshop on Climate Change and Biodiversity co-sponsored by IPBES-IPCC

On 10 June, the report of the workshop “Climate Change and Biodiversity” between IPBES and selected IPCC scientists, involving ICTA-UAB researcher Victoria Reyes-García, was presented at a public event

In this workshop global experts discussed how to jointly address biodiversity, climate crises and their social impacts. The workshop discussed the lack of connection between previous policies that have addressed biodiversity loss and climate change, and that address synergies between mitigation of biodiversity loss and climate change, while considering its social impacts, it offers the opportunity to maximize benefits and meet global development goals

POLICY OUTREACH EVENT

COP26

The UK hosted the 26th UN Climate Change Conference of the Parties (COP26) in Glasgow on 31 October – 13 November 2021. Dr. Gara Villalba participated at COP26 through the session "How we can make cities both healthier and carbon neutral". This session talked about the current problems, discussed solutions and demonstrated how climate action, urban and transport planning and health go hand in hand to create carbon neutral, healthy and liveable cities.

Gara Villalba talked about the need to reintroduce nature and greener cities for many reasons. She highlighted the ones that she's involved to. First, to gain food sobiranity by promoting urban and a periurban agriculture. "The lost of urban agriculture is a global trend, actually. In a few years, here in BCN, we have gone to being able to supply 20% of the fresh products that we need to only 2-3%". From this, we can have more circular use of the resources in our city. We can recover nutrients like phosphites and nitrogen from solid waste and waste water in order to have a more circular use of the resources if we promote the food production in the urban area

COP26

Nature-based solutions (NbS) are crucial for cities to jointly address the climate and biodiversity crises, while creating quality green jobs and wellbeing for local communities. This COP26 EU Side Event featured different sector practitioners (policy makers, entrepreneurs, international organizations) delivering inspiring presentations and engaging in a panel discussion highlighting a variety of perspectives on key challenges, opportunities, and pathways to mainstream urban NbS and boost local economies. This online session was hosted by the EU Pavilion at COP26. The session revolved around the role of urban nature-based solutions to address the climate and biodiversity crises, create quality green jobs, and bring about holistic wellbeing. It was jointly organized by representatives of three Horizon2020 consortia INTERLACE, CONEXUS and Connecting Nature, as well as FIDIC (International Federation of Consulting Engineers)

EQUIPMENTS

EQUIPMENTS

Greenhouse gases measurement station at ICTA-UAB

The ICTA-UAB, within the framework of the ERC URBAG project, has a greenhouse gases measurement station located in its building. The collector offers the daily levels of CO2, CH4 and H2O, which can be consulted through the institution's website.

Other in-house laboratory facilities and equipments

ICTA-UAB has a unique concentration of expertise in environmental, forensic and archaeological sciences, supported by state-of-the-art laboratory and instrumentation facilities in organic and inorganic chemistry, with applications spanning from atmospheric science to past biota, past climates, and human ecology.

The laboratories were designed to cover a range of research topics, including Organic and Inorganic chemistry, microplastic extraction lab, Organic Geochemistry and Environmental Lab, Agro-urban lab: i-RTG integrated rooftop greenhouse, Biomolecular archaeology and palaeoecology, Micropalaeontology, Laboratory of Stable Isotope Analysis and Sedimentology.

TRAINING PROGRAMS

PhD IN ENVIRONMENTAL SCIENCE AND TECHNOLOGY

Coordinator: Antoni Rosell Melé/Adriana Artola

TRAINING

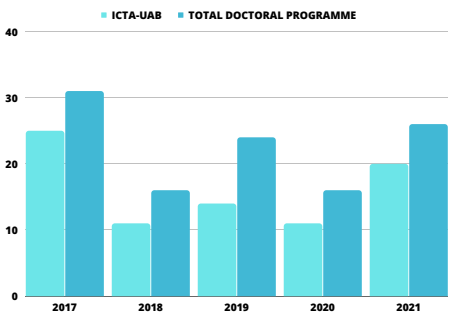
The PhD in Environmental Science and Technology is a UAB program adapted to the European Higher Education Area (EHEA and is governed by Royal Decree 99/2011 of January 28, 2011 of the Government of Spain.

Doctoral Program accreditation to renew the Mention for Excellence obtained in 2014 and granted by the Ministry of Education (MEE2011-0443) was postponed due the pandemic. During 2021 an accreditation self-report was drawn up.

ICTA-UAB has an Academic Commission for the PhD degree and Academic Commission for the Master that plan formation and tutoring of students and assist them where needed.

20 DOCTORAL THESES

Number of doctoral theses defended from 2017 to 2021



TRAINING

MASTER'S DEGREE IN INTERDISCIPLINARY STUDIES IN ENVIRONMENTAL, ECONOMIC AND SOCIAL SUSTAINABILITY

Coordinator: Eduard Ariza Sole

Multi-disciplinary and inter-departmental Master degree in nature with international focus. Specialization tracks are:

- Ecological Economics
- Global Change
- Environmental Technology
- Urban and Industrial Ecology

The master's degree offers a mixed approach.

- it includes advanced course components for graduates of Environmental Sciences,
- it meets the needs of other graduates interested in incorporating environmental knowledge and skills into their academic training, based on fields such as Ecological Economics and Environmental Management, Analysis of the Natural Environment, Environmental Technology, Industrial Ecology or Global Change, all of which are considered specialisations in this master's degree

TRAINING

The ICTA-UAB and R&D launch the 1st online master's on "Degrowth: Ecology, Economics and Policy"

The ICTA-UAB and Research & Degrowth have launched the first online master´s on "Degrowth: Ecology, Economics and Policy", an international master's fully dedicated on research and policy for degrowth

ICTA-UAB Training Weeks

ICTA-UAB offers general and specific training activities through the Maria de Maeztu programme, on an annual basis and at the start of each academic year

SELECTED MEDIAL ACTIVITIES

OUTREACH

Article in El Periodico on the COP

Entendre-hi + amb la ciència

¿De què ha servit fins ara l'Acord de París?

La competitivitat de les tecnologies netes s'ha disparat en els anys successius a l'últim pacte climàtic. No obstant, aquest suposat 'efecte París' no és suficient per evitar els pitjors efectes de l'escalfament.

MICHELE CATANZARO

L'Acord de París ha generat un tsunami de compromisos. Per exemple, països i territoris que representen més de la meitat del PIB global ja han promès arribar a zero emissions netes. No obstant, mentre el 2015 s'emetien 53.000 milions de tones de CO_2, el 2020 ja en són 55.000.

No obstant, un informe publicat aquest mes afirma que hi ha un extraordinari *efecte París* en l'economia. Segons l'estudi de la consultora Systemiq, el 2015 amb prou feines hi havia tecnologies baixes en carboni igual de competitives que les contaminants (o sigui, que haguessin arribat al mercat de masses). Actualment, n'hi ha en sectors que corresponen al 25% de les emissions globals.

«En els últims cinc anys hem vist un creixement exponencial i més ràpid del previst», afirma Julia Turner, coautora del treball. Aquestes tecnologies afecten sectors que van del transport a l'agricultura, i sobretot l'energia. Per exemple, la caiguda en el preu de l'energia solar ocorreguda en els últims cinc anys correspon a la que s'esperava per al 2050. Alhora, la producció de carbó als Estats Units han caigut en picat i la indústria de les proteïnes alternatives a la carn ha crescut un 29%, entre altres dades.

Cercle virtuós

¿Mèrit de París? «París no ho explica tot, però ha sigut fonamental per crear un cercle virtuós entre l'ambició climàtica en la política i la confiança dels inversors en les tecnologies baixes en carboni», afirma Turner. «París té un efecte quant a dissenys de polítiques, però aquestes encara no s'estan implementant majoritàriament», discrepa Jaime Nieto, economista de les universitats de Valladolid i de Leeds. Nieto coincideix amb altres experts que consideren que l'augment de competitivitat ve d'abans.

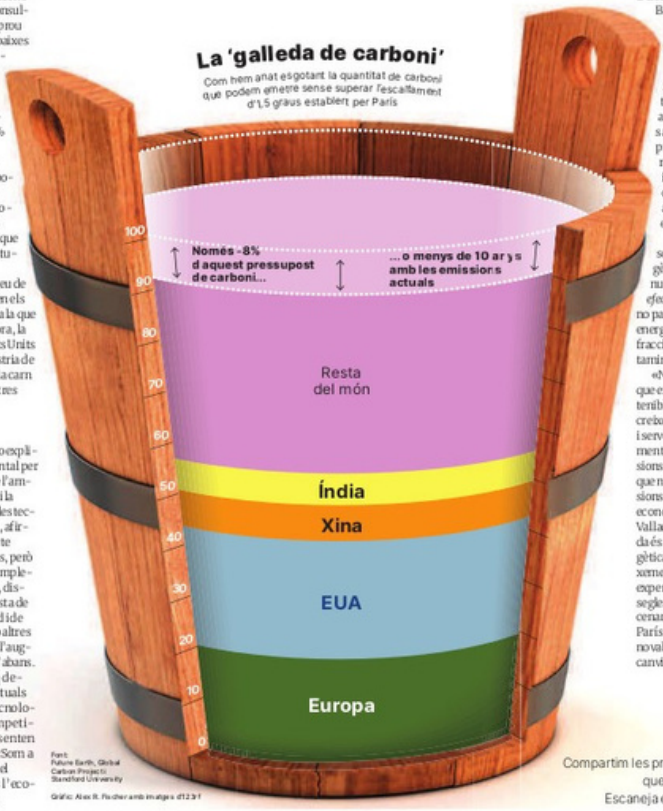
L'informe de Systemiq dedueix de les tendències actuals que en 10 anys hi haurà tecnologies baixes en carboni competitives en sectors que representen el 70% de les emissions. «Som a prop d'uns punts crítics del mercat després dels quals l'economia canviarà de forma dramàtica», afirma Turner.

Diversos experts no comparteixen aquest optimisme. Per exemple, Jeroen van den Bergh, investigador de l'Institut de Ciència i Tecnologia Ambientals (ICTA-UAB), cita estudis que revelen que les polítiques nacionals estan quedant curtes respecte a allò pactat a París. Amés, els mateixos objectius acordats són insuficients per arribar a la retallada d'emissions necessàries per evitar el pitjor del canvi climàtic.

Més enllà de la tecnologia. Fiar-ho tot a la tecnologia porta alguns problemes. «Per construir centrals solars i eòliques es necessiten energia i materials, alguns dels quals escassíssims», observa Enric Tello, catedràtic d'Economia de la Universitat de Barcelona. Crear la infraestructura i les cadenes de subministrament de l'energia renovable requereix molta energia fòssil i impacta sobre la biodiversitat i les comunitats. «En aquest moment hem de pensar molt bé en què utilitzem el pressupost de carboni que tenim», afirma Alfons Pérez, investigador de l'Observatori del Deute en la Globalització i autor del llibre *Pactos verdes entiempos de pandemias*.

Amés, en alguns dels països amb més eficiència energètica, les emissions han continuat pujant (és l'anomenat *efecte rebot*). Com que el consum no para d'augmentar, tot i que les energies netes representin una fracció creixent del total, les contaminants continuen augmentant.

«No hi ha evidència empírica que existeixi un creixement sostenible. A cap país s'ha produït un creixement a la producció de béns i serveis desvinculat del creixement corresponent de les emissions, almenys no de la magnitud que necessitem per reduir emissions», observa Iñigo Capellán, economista de la Universitat de Valladolid. «La transició requerida és ecològica, no només energètica, i comporta el final del creixement econòmic tal com l'estem experimentant en els dos últims segles», afirma Tello. «L'únic escenari que compleix els acords de París és el desplegament de les renovables de la mà de profunds canvis estructurals», conclou.■



Font: Future Earth, Global Carbon Project i Stanford University

Gràfic: Alex R. Fischer amb imatges d'i2.3 i

Compartim les preguntes sobre l'actualitat que la ciència pot respondre. Escaneja el codi QR per escriure'ns.

OUTREACH

Piece of news in La Vanguardia on the research carried out by LICCI group on indigenous peoples and biodiversity conservation

Tornem a creure en el futur

Els pobles indígenes, referents en biodiversitat

Els seus coneixements i pràctiques ancestrals poden ajudar a reparar la natura i a frenar el seu declivi a tot el món

Getty Images

Nacions Unides adverteix de la necessitat d'evitar la pèrdua, les pròximes dècades, d'un milió d'espècies a causa de la degradació dels seus ecosistemes

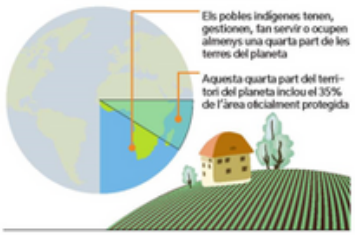
Lorena Farcia Pérez

La pèrdua de biodiversitat és més lenta a les terres dels pobles indígenes, segons la Plataforma Intergovernamental Científiconormativa sobre Diversitat Biològica i Serveis dels Ecosistemes (IPBES). Fins i tot "hi ha àrees habitades per poblacions indígenes que estan millor que algunes zones protegides del món", afirma Victoria Reyes-Garcia, professora d'investigació Icrea a l'Institut de Ciència i Tecnologia Ambientals de la Universitat Autònoma de Barcelona (ICTA-UAB).

Què els converteix en referents en conservació de la biodiversitat? La seva actitud. "Per a nosaltres, la natura és com un recurs sobre el qual tenim un dret. Les poblacions indígenes, en canvi, se'n consideren part. Com que no se senten superiors, la tracten com un igual. No extreuen recursos perquè sí i quan ho fan és per supervivència", explica Reyes-Garcia.

Aquesta actitud es podria resumir en tres enfocaments: respecte, prevenció i reparació. Naturgy aplica aquests principis en les seves diferents línies d'actuació. Reyes-Garcia afegeix que "les poblacions indígenes participen i col·laboren, de manera regular, en activitats de restauració de la natura impulsades per governs o ONG perquè per a ells la natura és vital, en depenen per viure". La científica també indica que són uns grans activistes mediambientals.

Gestió indígena del planeta



PREVENCIÓ I REPARACIÓ

La Política Global de Medi Ambient de Naturgy estableix el compromís de la companyia amb la conservació de la biodiversitat, amb una atenció especial als espais i les espècies protegides. Com a conseqüència, un dels principis d'actuació del Grup és respectar el capital natural, la biodiversitat i el patrimoni cultural en els entorns on opera. Un símil a l'actitud de respecte de les poblacions indígenes cap a les seves terres.

"En el pla dels processos, considerem totes les fases de les instal·lacions, des del disseny fins al desmantellament, i actuem des d'un enfocament preventiu", indica Núria Rodríguez, directora de Medi Ambient i RSC del Grup Naturgy. Amb l'objectiu de prevenir danys sobre la biodiversitat, es fan estudis ambientals i arqueològics previs en tots els projectes que ho requereixen, per triar l'alternativa de menys afecció i reduir els impactes negatius del cicle complet de vida. Així mateix, des de la fase de construcció fins al desmantellament, s'estableixen mesures per mitigar els impactes de les instal·lacions sobre l'entorn natural i el patrimoni cultural, i es fan estudis i vigilància de l'estat ambiental i ecològic de l'entorn.

Algunes empreses com Naturgy també desenvolupen actuacions de restauració ambiental d'hàbitats

En el cas de les poblacions indígenes, la prevenció de danys és intrínseca a les seves "formes de maneig ancestrals", afirma la investigadora Icrea a l'ICTA-UAB. "Són capaços de gestionar l'aigua i el foc o domesticar animals generant biodiversitat al mateix temps", assenyala Reyes-Garcia.

"Quan no és possible evitar completament l'afecció, s'implanten les mesures de mitigació i restauració, i finalment, per als impactes residuals, les mesures compensatòries necessàries", explica Rodríguez. De manera complementària, la companyia aplica procediments rigorosos de control operacional i de gestió de riscos (plans d'emergència ambiental, simulacres, etc.) per prevenir els incidents abans que tinguin lloc o per minimitzar-ne els danys.

Amb l'objectiu de reduir i compensar els impactes negatius sobre la biodiversitat, Naturgy desenvolupa diverses actuacions de restauració ambiental d'hàbitats. Part d'aquestes iniciatives les han portat a terme els empleats de la companyia. "A través de la Fundació Naturgy -apunta la directora de Medi Ambient i RSC del Grup-, vam posar en marxa un programa de voluntariat ambiental amb el qual tant ells com les seves famílies poden contribuir directament a la protecció de la biodiversitat". Gràcies a aquestes accions, els últims cinc anys s'han recuperat entorns que equivalen a la superfície de tretze camps de futbol.

Segons un estudi publicat a *Nature* en què va participar l'ICTA-UAB, restaurar el 30% dels ecosistemes del món en àrees prioritàries podria prevenir el 70% de les extincions projectades d'espècies. Aquest estudi es basa en les advertències de l'ONU que indiquen que estem de cami a perdre un milió d'espècies, les pròximes dècades. En aquest sentit, Naturgy està desenvolupant un Pla d'Acció de la Biodiversitat a l'entorn dels parcs eòlics de Fuentelsaz, a Guadalajara, amb la missió fonamental d'introduir mesures de protecció dels hàbitats sobretot de dues espècies: l'àlosa becuda (*Chersophilus duponti*) i el voltor comú (*Gyps fulvus*).

Els pobles indígenes, que amb prou feines representen el 6% de la població mundial, tenen, gestionen, fan servir o ocupen almenys una quarta part de les terres del planeta. Aquestes xifres comprenen aproximadament el 35% de l'àrea que està oficialment protegida i al voltant del 35% de tota la terra amb molt poca intervenció humana restant.

Habilitats úniques molt útils per a la ciència

Una investigació internacional en què ha participat l'Institut de Ciència i Tecnologia Ambientals de la Universitat Autònoma de Barcelona (ICTA-UAB) ha determinat que els pobles indígenes tenen habilitats úniques per percebre com els ecosistemes estan sent alterats. Liderat per la Universitat Rutgers (Estats Units) i publicat a la revista 'Journal of Applied Ecology', l'estudi mostra la importància del coneixement indígena i local per ajudar la ciència a monitoritzar i gestionar els canvis que tenen lloc en els ecosistemes. Es tracta de coneixements i recursos transmesos entre generacions i que es basen en indicadors que van des del greix en les preses caçades fins als canvis en els tipus d'espècies que troben. Sovint, els científics no són capaços de fer aquest tipus d'observacions, ja que la ubicació remota i aïllada d'algunes àrees provoca que els estudis a llarg termini siguin molt costosos.

OUTREACH

Jeroen van den Bergh's statements in the newspaper El País talking about taxes to fight climate change

EL PAÍS El País España 17/05/21

Pr: Diaria
Tirada: 117.892
Dif: 79.659

Cod: 13694376

Pagina: 23

Secc: SOCIEDAD Valor: 28.936,58 € Area (cm2): 429,7 Ocupac: 45,36 % Doc: 1/1 Autor: CARLOS GARFELLA, Barcelona Cuatro años d Num. Lec: 830000

Cataluña abre otro frente contra el CO_2 de los coches

La comunidad gravará por tramos las emisiones de los vehículos desde noviembre

CARLOS GARFELLA, **Barcelona**

Cuatro años después de aprobar la medida, con un recurso de inconstitucionalidad y una pandemia por medio, el Gobierno catalán empezará a cobrar a partir del próximo noviembre el llamado impuesto al dióxido de carbono (CO_2), un tributo pionero en España que gravará por tramos cada año a los titulares de los vehículos (coches, furgonetas y motos) más contaminantes. La Generalitat calcula que afectará a 2,3 millones de vehículos y recaudará 67 millones de euros en el primer ejercicio. Los ingresos irán destinados a un fondo climático y a financiar medidas para proteger la biodiversidad.

El gravamen se introdujo en la Ley de Cambio Climático Y Transición Energética aprobada por el Parlamento catalán en 2017 a instancias de la CUP, pero siete meses después quedó suspendida cautelarmente tras ser recurrida por el Gobierno de Mariano Rajoy. El Estado consideró que el tributo invadía competencias y se solapaba con el impuesto de matriculación, que ya grava a los coches más contaminantes.

La diferencia es que mientras con el impuesto de matriculación los propietarios solo pagan cuando compran el vehículo, con la tasa catalana pasarán a hacerlo cada año. También es novedoso que todo lo recaudado vaya a financiar una Oficina del Cambio Climático de reciente creación. El Tribunal Constitucional levantó su suspensión en 2018 tras desestimar los argumentos del Ejecutivo central.

El tributo catalán se adelanta a las modificaciones fiscales respecto al coche que los diferentes ejecutivos han ido aparcando por su complejidad competencial, ya que se plantea la fusión del impuesto de matriculación (de titularidad estatal) y el de circulación (municipal).

El Gobierno catalán optó por una tasa progresiva en la que los que más contaminan más pagan. En este primer año empezarán a pagar los coches y las motos que emitan más de 120 gramos por kilómetro y las furgonetas que rebasen los 160 gramos. Sus cálculos reflejan que los propietarios de turismos que contaminen entre 120 y 140 gramos por kilómetro deberán pagar de media 8,8 euros. Los que contaminen entre 140 y 160 gramos por kilómetro deberán pagar 17,8 euros, y 38 euros los que lo hagan entre 160 y 200 gramos. Los más contaminantes (los que superan los 200 gramos por kilómetro) deberán pagar 96 euros. Con el parque automóvil actual y teniendo en cuenta estos baremos, el Govern ha calculado una media general en la que a cada propietario de un coche contaminante le saldrá a pagar unos 35 euros al año.

Ambulancias exentas

En el caso de las motos, de los cálculos de Govern sale a que los motoristas con vehículos que contaminen más de 120 gramos pagarán de media 26,5 euros. Y los conductores de furgoneta que rebasen los 160 gramos unos 21 euros. Los coches históricos y las ambulancias, los vehículos oficiales y los adaptados para personas con movilidad reducida quedarán exentos.

El impuesto cuenta con el rechazo frontal de las patronales del motor. La de los fabricantes, ANFAC, y la de los concesionarios, Faconauto, entienden que no es necesario introducir un impuesto adicional. Se basan en la existencia del de matriculación, del de circulación y de las etiquetas ambientales que califican a cada coche y que se están utilizando para regular el paso en las zonas de bajas emisiones.

El objetivo, explica la secretaria de Hacienda de la Generalitat y arquitecta del impuesto, Marta Espasa, es poner cada vez más trabas a los conductores de vehículos contaminantes para que, poco a poco, opten por otro más sostenible. Espasa no cree que la gente cambie el coche solo porque tengan que afrontar un nuevo impuesto, pero sí que cuando alguien quiera comprar uno nuevo, la tasa incline la balanza hacia el menos contaminante. "Era necesario hacer un impuesto puramente climático para gravar al CO_2. En Dinamarca hace años que se hace", añade.

El profesor de Investigación ICREA del Instituto de Ciencia y Tecnología Ambientales de la Universidad Autónoma de Barcelona (ICTA-UAB) Jeroen van den Bergh lo ve, sin embargo, insuficiente: "Los impuestos relacionados con el clima pueden tener dos objetivos: estimular la compra de vehículos con bajas emisiones o estimular un menor uso con un verdadero impuesto sobre los combustibles. El problema con el impuesto propuesto es que ni siquiera es proporcional y continuo en emisiones por kilómetro, y por tanto no aporta ninguno de los incentivos anteriores". También cree que el impuesto lejos de concienciar puede causar un efecto contrario y dar una "licencia moral" para que los conductores de vehículos contaminantes se limiten a pagar por contaminar.

Recaudación para políticas ambientales

Barcelona, como una de las ciudades con más contaminación de Europa y que año tras año incumple la normativa de emisiones, será un buen termómetro para calcular si el tributo a los vehículos en función de sus emisiones tiene o no un efecto real. Miquel Ortega es doctor en Ciencias Ambientales y responsable de la plataforma Contaminación Barcelona. Se muestra optimista y define como interesante "el fondo finalista" del tributo, que irá destinado en su totalidad a financiar políticas ambientales. Ortega cree que servirá para concienciar, pero también que se queda corto.

La secretaria de hacienda, Marta Espasa, coincide que lo ideal para reducir emisiones es subir los impuestos a los carburantes, pero afirma que, dentro de las competencias en materia fiscal que tiene la Generalitat, este gravamen ha sido una de las propuestas más sensatas. "Queremos que sea un impuesto concienciador. Cuando se es pionero en algo también se tiene que ser prudente", explica la secretaria de Hacienda.

OUTREACH

Interview to Aaron Alorda on submarine ground discharge

Última Hora
Islas Baleares
06/10/21
Pr: Diaria
Tirada: 18.898
Dif: 15.109
Pagina: 20
Secc: LOCAL Valor: 6.039,56 € Area (cm2): 450,6 Ocupac: 53,05 % Doc: 1/1 Autor: JOAN J. SERRA Num. Lec: 138000

Entrevista ***Aaron Alorda*** • Ambientólogo

Aaron Alorda ha publicado su estudio en la revista 'Earth Science'.

«En Mallorca hay más de ochenta descargas de aguas subterráneas al mar»

Pese a su juventud, Alorda es un especialista en aguas subterráneas y contaminaciones, con sus afectaciones ambientales y socioeconómicas

JOAN J. SERRA

Aaron Alorda (Valldemossa, 1993) obtuvo el grado de Ciencias Ambientales en la Autònoma de Barcelona, hizo un máster de Oceanografía por la Universitat de Barcelona y la Politècnica de Catalunya y está realizando el doctorado en el Institut de Ciència i Tecnologia Ambientals de la Autònoma. Está especializado en descargas de aguas subterráneas y sus afectaciones ambientales y socioeconómicas. Con otros investigadores, acaba de publicar en la revista *Earth Science* un artículo sobre las implicaciones sociales de estas descargas.

¿En qué consiste el artículo que ha publicado?
—Por primera vez, describe los servicios ecosistémicos de las cargas de aguas subterráneas en el mar. Entendemos como servicios ecosistémicos todo aquello que se obtiene de manera directa o indirecta de la naturaleza. Hasta ahora, estas descargas sólo eran estudiadas desde el punto de vista natural. Ahora establecemos una conexión con las implicaciones sociales y culturales.

¿Por ejemplo?
—Estas descargas han servido para suministro humano, dar beber a los ganados, aportar agua dulce a las barcas de pesca, tratamientos curativos y también han contribuido a puntos más ricos de pesca por su aportación de nutrientes. Desde el punto de la vista de la toponimia, no podemos olvidar nombres en Mallorca como es Dolç o s'Aigua Dolça.

¿En Mallorca hay muchos puntos de descarga?
—Hemos encontrado más de 80 puntos de descarga a los que en algún momento se les ha dado un uso. Evidentemente, muchos de estos usos ya no se dan. Por ejemplo, el de agua dulce para los pescadores. Sin embargo, también nos podemos encontrar con que el punto de descarga ya no aporta agua o ya no es dulce por sobreexplotación del acuífero, porque el caudal se aprovecha de otra manera o por intrusión marina. Hay antiguos pozos en primera línea de costa o en los propios puertos de los que se extraía agua dulce y ahora ya sólo aportan agua salada.

¿Cuál sería el gran punto de descarga en Mallorca?
—Sa Costera. Es una gran fuentes que descargaba directamente al mar y ahora la sociedad puede aprovechar su caudal gracias a un gran proyecto hidráulico.

¿Piensa que las implicaciones sociales pueden dar lugar a conflictos?
—Sí, ya los hay. En Hawái se ha registrado una resolución judicial que permite al Gobierno estatal regular las descargas con consecuencias sobre las aguas costeras y la pesca. No hay que olvidar que estamos hablando de aguas subterráneas, no de un río.

> «Los turistas usan más agua que nosotros; nuestra cultura no tenía golf ni piscinas»

¿En Mallorca también ha habido conflictos?
—Puede haberlos, pero lo que ya hay en Mallorca son problemáticas, como las coloraciones verdes del agua del mar en Cala Deià y Cala Santanyí. Estas coloraciones se deben a la proliferación de microalgas causadas por un exceso de nutrientes y la alta temperatura del agua del mar. Estamos estudiando las causas últimas de este exceso de nutrientes. Podríamos hablar de un conflicto si tenemos en cuenta que estas calas tienen un uso turístico que exige aguas cristalinas.

¿Estamos sobreexplotando nuestros acuíferos?
—Hay acuíferos costeros sobreexplotados, lo que facilita la intrusión marina, para atender un incremento de la población que incluye al turismo, con unos visitantes acostumbrados a usar más agua que nosotros. Y nosotros venimos de una cultura sin campos de golf ni piscinas.

Report on microplastics on TVE, for the programme La ventura del saber, with Patrizia Ziveri

Report in 30 minuts program (TV3) on climate emergency

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Soil

This article is more than 1 year old

One of Earth's giant carbon sinks may have been overestimated - study

The potential of soils to slow climate change by soaking up carbon may be less than previously thought

Damian Carrington
Environment editor

Grassland in Russia. The study suggests that plans to plant trees is such areas to combat climate change may be counterproductive. Photograph: Valery Matytsin/TASS

The storage potential of one of the Earth's biggest carbon sinks - soils - may have been overestimated, research shows. This could mean ecosystems on land soaking up less of humanity's emissions than expected, and more rapid global heating.

Article on degrowth and Jason Hickel at the New York Times

The New York Times

INTERNATIONAL EDITION | SATURDAY-SUNDAY, SEPTEMBER 18-19, 2021

Degrowth as a savior to the planet

Spencer Bokat-Lindell

OPINION

The battle over privacy will remake the internet

SAN FRANCISCO

Marketers are alarmed by techs emerging curbs on tracking consumers

How Putin shapes Russia

MURMANSK, RUSSIA

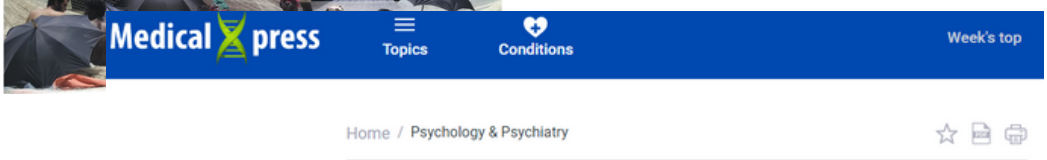
A trek across the country finds voters fed up, but also afraid of change

Pieces of news on the research carried out on happiness

SEGÚN UN ESTUDIO /

La ciencia constata que la felicidad no tiene precio

El crecimiento económico suele considerarse una forma segura de aumentar el bienestar de las personas en los países menos desarrollados. Sin embargo, un estudio dirigido por la Universidad Autónoma de Barcelona y la Universidad McGill de Canadá sugiere que existen buenas razones para cuestionar esta suposición.



Andre Colonose's research published in National Geographic

HISTORIA NATIONAL GEOGRAPHIC

PREHISTORIA AMERICANA

EL DESCENSO DEL NIVEL DEL MAR EN BRASIL HACE 2.000 AÑOS CAMBIÓ EL MODO DE VIDA

El estudio de algunos sambaquis, los montículos de conchas del sur de Brasil, sugiere que el cambio climático provocó importantes cambios en la forma de vida de las antiguas poblaciones de la región.

In Brazil, sea level changes lead to the collapse of pre-Columbian communities

Planeta

ASTRONOMIA ARQUEOLO

Arqueologia Meio Ambiente

Queda do nível do mar levou povo dos sambaquis ao declínio há 2 mil anos

Estudo no litoral sul do Brasil constatou decréscimo acentuado na frequência de sítios arqueológicos cerca de 2.200 anos atrás, época em que o recuo no nível do mar levou a uma grande reorganização dos ambientes costeiros

17/12/2021

Information on tourism as mainly responsible for marine litter on Mediterranean beaches, published in German media

Touristen hauptverantwortlich für Plastik am Strand

1. März 2021 / Niko Komin / Nachrichten

Das Mittelmeer hat eine starke Anziehungskraft. Die Länder der Region empfangen etwa ein Viertel des gesamten weltweiten Tourismus. Nicht alle der Touristinnen und Touristen reisen zum Strand, aber doch sehr viele suchen Sonne, Sand und Meer. Und wer dann so unter der Sonne im Sand am Meer sitzt, sieht vielleicht neben Sand und Steinen auch Deckel, Gabeln und Löffel, Strohhalme und Zigarettenkippen. Alle aus haltbarem Plastik, das später in immer kleinere Teile zerbrechen wird, oft ins Wasser gelangt, Schadstoffe abgibt und von Pflanzen und Tieren aufgenommen werden kann. Verantwortlich für den größten Teil des Mülls sind die Touristen, wie eine Untersuchung aus Barcelona nahe legt. Dabei ist es eigentlich nicht schwer, das zu verhindern.

Mülleimer am Strand von Can Picafort, Mallorca. Foto: Marco Verch, (CC BY 2.0)

Nations are overusing natural resources faster than they are meeting basic human needs, published in international media

European Scientist

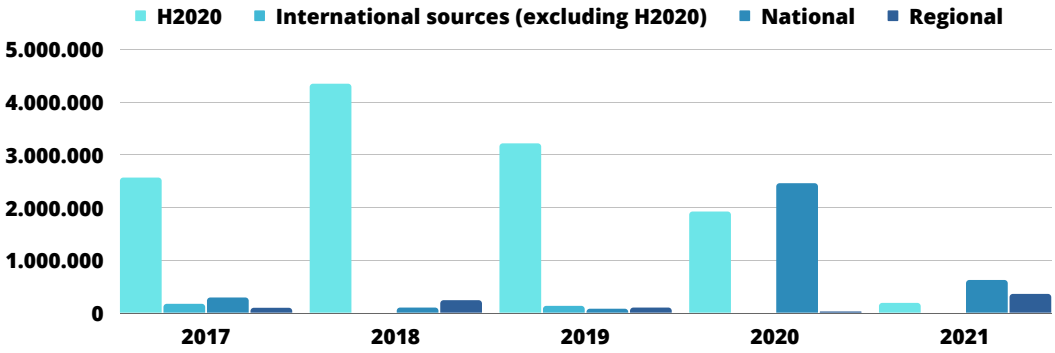
Energy | Environment | Agriculture | Big Data | Public Health | Research | Features

- Environment -

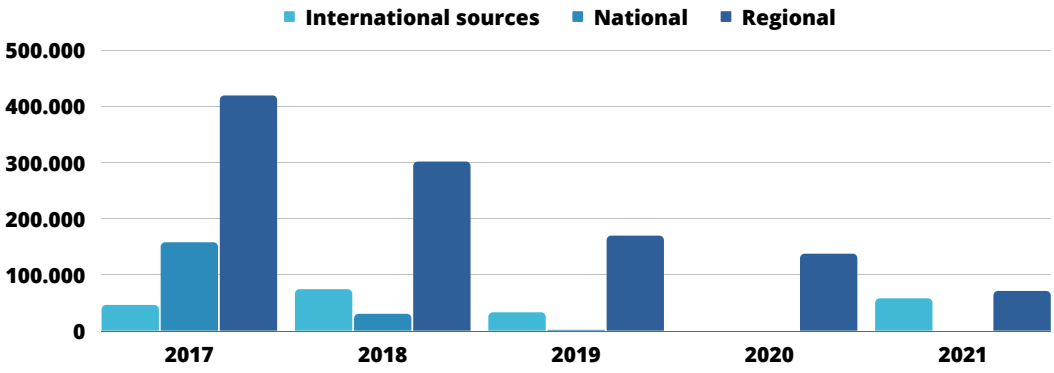
Nations overuse natural resources and still can't meet basic human needs

FINANCIAL OVERVIEW

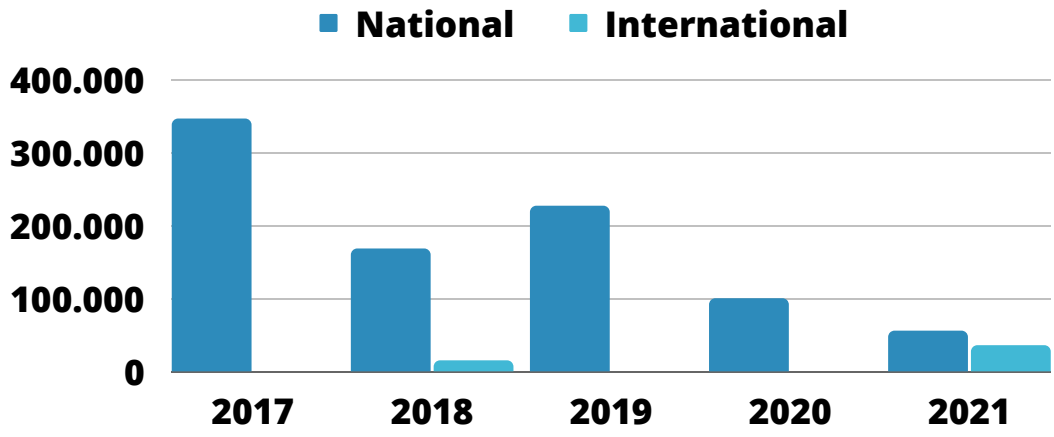
PUBLIC FUNDING (€) COMPETITIVE SOURCES



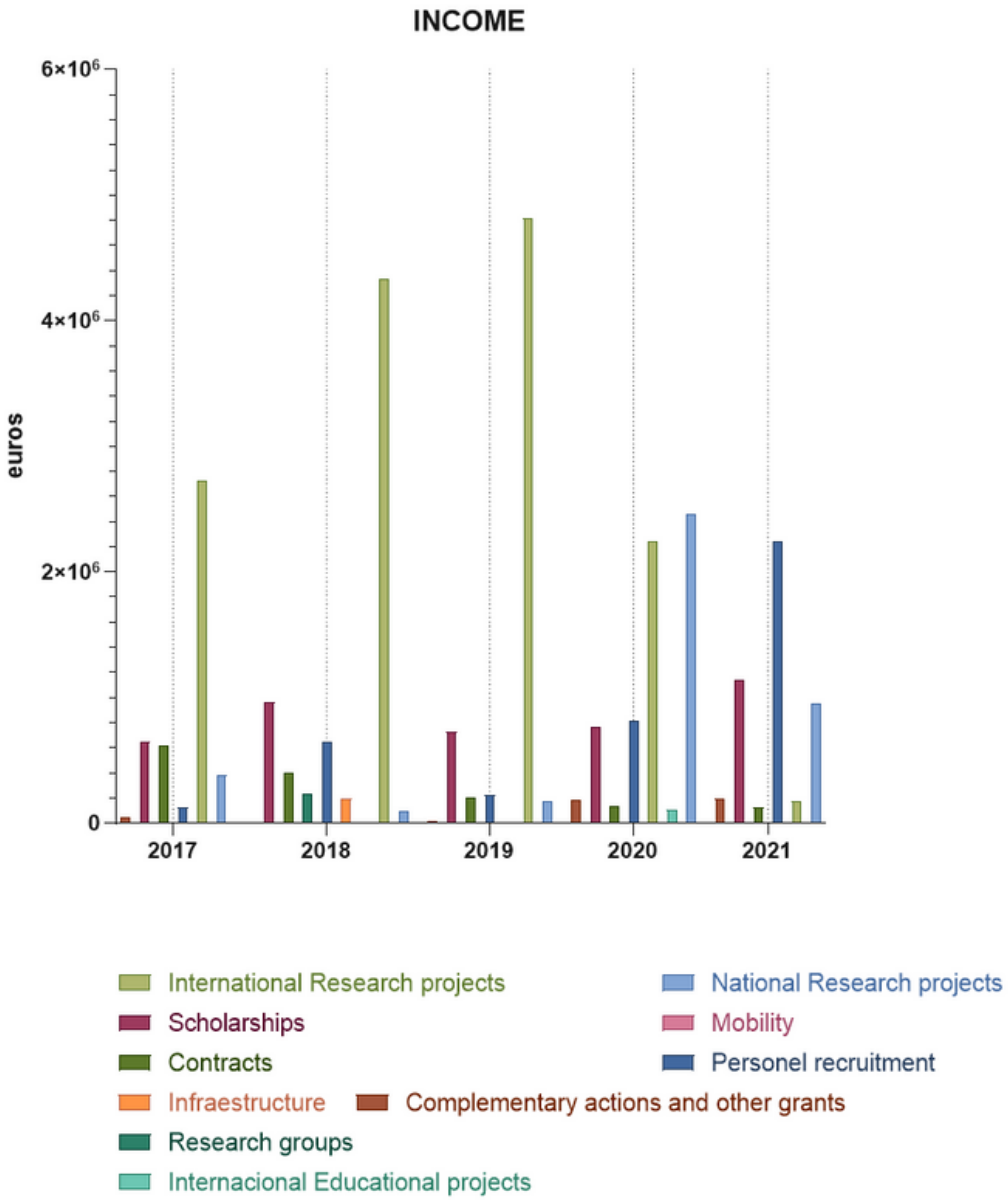
PUBLIC FUNDING (€) NON COMPETITIVE SOURCES



PRIVATE FUNDING (€)



FINANCIAL OVERVIEW



ANNEXES

PUBLICATIONS

ACTIVE PROJECTS IN 2021

DOCTORAL THESES 2021

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