

ENT

C/ Josep Llanza, 1-7, 2n 3a
08800 Vilanova i la Geltrú
+34 93 893 51 04
info@ent.cat | www.ent.cat



RESEARCH REPORT 2023





ENT evaluates a number of indicators through Annual Research Reports. Below are the results for 2023.

1 RESEARCH ARTICLES

ARTICLES PUBLISHED AND ACCEPTED IN JOURNALS WITH IMPACT FACTOR

Ansanelli, G., Fiorentino, G., Chifari, R., Meisterl, K., Leccisi, E., Zucaro, A. (2023) Sustainability Assessment of Coffee Silverskin Waste Management in the Metropolitan City of Naples (Italy): A Life Cycle Perspective. *Sustainability*, 15(23), 16281. <https://doi.org/10.3390/su152316281>

Riera, M., Campos, L. et al. (2023) Socio-Economic Assessment of Ecosystem-Based and Other Adaptation Strategies in Coastal Areas: A Systematic Review. *Marine Science Engineering*. Volume 11, Issue 2: 319. <https://doi.org/10.3390/jmse11020319>

CHAPTERS IN SCIENTIFIC BOOKS

Puig Ventosa, I. "Reconciling Waste Management and Ecological Economics", Chapter 30 in Muradian, R., Villamayor, S. (Eds.) (2023) *The Barcelona School of Ecological Economics and Political Ecology. A Companion in Honour of Joan Martínez-Alier*. SpringerNature. ISBN 978-3-031-22565-9.

Martínez-Sánchez, V., Puig Ventosa, I. "Circular economy" (p49-56), Chapter 9 in Padilla Rosa, E., Ramos-Martín, J. (2023) *Elgar Encyclopedia of Ecological Economics*. Edward Elgar.

OTHER RESEARCH PUBLICATIONS IN 2023

Martínez, V. and Tatjer, M. (2023) Working Paper on the contribution of circular economy to climate action. MedWaves, the UNEP/MAP Regional Activity Center for SCP.

Puig Ventosa, I., Sastre Sanz, S. (2023) Gastos e ingresos de las entidades locales en materia de gestión de residuos urbanos. *Revista Índice*, 91: 42-44.

Galindo, M, Puig, I. (2023) España se aleja del cumplimiento de los objetivos de reciclaje de residuos municipales. *RETEMA*, 248: 16-17.

Nohales Duarte, D., Martínez Sánchez, V., Pellicer García, P., Puig Ventosa, I. (2023) Desafíos en el ámbito local en materia de economía circular y residuos. *Equipamientos y Servicios Municipales*, 203: 18-23.

Puig, I., Llabrés, A. (2023) Elaboración de un modelo de tasa municipal sobre los residuos comerciales. *Crónica Tributaria*, 186: 79-95.

2 OWN PUBLICATIONS

OBSERVATORIO DE LA FISCALIDAD DE LOS RESIDUOS

 Observatorio de la fiscalidad de los residuos



Las tasas de residuos en España 2023

Waste charges paid by households and commercial activities in 131 municipalities have been analysed, including all the provincial capitals. This study continues previous analyses performed with data from 2015, 2018, 2019, 2020, 2021 and 2022.

[Observatorio de la Fiscalidad de los Residuos \(2023\) Las tasas de residuos en España 2023. Fundació ENT.](#)



Evolución de las tasas de residuos en España 2015-2023

The report carries out a comparative analysis of the results obtained between 2015 and 2023. To this end, the main indicators used are analyzed, both qualitatively and quantitatively, providing a record of the evolution of waste charges in Spain.

[Observatorio de la Fiscalidad de los Residuos \(2023\) Evolución de las tasas de residuos en España 2015-2023. Fundació ENT.](#)

REVISTA ECOLOGÍA POLÍTICA

 ecología Política
Cuadernos de debate internacional



66 Biodiversidad December 2023

Loss of biodiversity is a critical problem, which is interrelated with climate change and puts at risk the viability of human societies. Addressing this issue requires the collaboration of governments, social and environmental organizations, local communities, etc. However, there is no easy solution within an indefinite growth of the current economic system, nor the consequent, constant and growing human pressure on ecosystems.



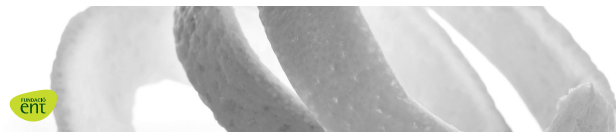
65 Transiciones energéticas June 2023

This issue of Ecología Política, entitled, “Transiciones energéticas» (Energy transitions), analyses the hegemonic consensus on energy transition; that is, those focused on defending carbon markets, disinvestment and defossilization, as well as massive investments in energy-technological alternatives. However, these proposals deepen the inequalities, pressure and violence against peoples and nature. Consequently, a socioecological transformation requires the urgent degrowth of the Global North economies, while strengthening the decision-making of peoples and communities on their own territories.

3 RESEARCH PROJECTS

ENT has carried out projects at various levels (from local to international) and for a large variety of clients (public administrations, NGOs, trade unions, universities, etc.) in different work areas. Our projects are mainly related to the development and implementation of public policies, focussed on their design, analysis and management.

Here is a summary of the 2023 highlights:



H2020 BIOCIRCULARCITIES: EXPLORING THE CIRCULAR BIOECONOMY POTENTIAL IN CITIES

Funded by BBI JU - European Commission

Project of the European Horizon 2020 research programme led by the ENT Foundation that aimed to support the development of innovative and comprehensive regulatory frameworks and roadmaps aligned with circular bioeconomy principles, centred on 'bio-based waste' and based on feedback from multi-actor participatory processes. Started in 2021 and completed in 2023.



STUDY ON URBAN MINING IN BARCELONA AND ASSOCIATED CLIMATE CHANGE MITIGATION

Commissioned by the Observatori del Deute en la Globalització

The project explored the potential of urban mining of photovoltaic panels and electric vehicle batteries in Barcelona. The City Council of Barcelona does not have powers to regulate recycling, repair and reuse processes, but it can play an important role as a large city, as a large procurer of vehicles and solar panels.



WOODCIRCLES

Funded by the European Commission

This project is an Innovation Action of the four-year Horizon Europe programme (2023-2027) led by the Danish Technological Institute. The ENT Foundation coordinates the work package on "Sustainability and impact assessment". WOODCIRCLES will develop innovative circular solutions for sustainable wood construction to help reduce Europe's dependence on non-renewable resources, cut GHG emissions, reduce waste generation, and offer long-term carbon sinks and substitution of fossil-based and carbon-intensive products. Based on identified needs and market potentials, the consortium will develop new value chains for upcycling of wood waste materials and optimized design-for-disassembly building system solutions to significantly increase recycling rates of wood in construction.



LIFE BIOBEST

Funded by the European Commission

The project aims to identify and validate the current best practices and management instruments along the bio-waste management chain that allow the production of quality compost and digestate and establish series of reference Key Performing Indicators, based on the analysis of existing databases and experiences. Through interconnected co-creation meetings with relevant expert stakeholders of the sector, solutions will be provided to overcome the identified technical, regulatory, economic and environmental barriers to widely adopt the proposed BPs. The project consortium is led by ENT Foundation and composed by Consorzio Italiano Compostatori, ACR+, European Compost Network and Zero Waste Europe. It is a 2.5-years LIFE Preparatory Project started in 2023.



H2020 SCORE: SMART CONTROL OF THE CLIMATE RESILIENCE IN EUROPEAN COASTAL CITIES

Funded by the European Commission

The objective is to study, design, develop, monitor and validate robust adaptation measures in coastal areas to protect them from increasing climate and sea level rise risks, including flooding and erosion, thereby improving their overall long-term resilience. Lasting 2 years and led by IT-Sligo, ENT leads WP7 - Socioeconomic Considerations and Adaptations and coordinates the Coastal City Living Lab of the Barcelona province.



ANALYSIS OF THE METHODOLOGICAL FEASIBILITY FOR OBTAINING A FRAMEWORK OF ANNUAL INDICATORS OF THE CIRCULAR ECONOMY FOR CATALONIA

Commissioned by IDESCAT

The project appraises the methodological feasibility for calculating Eurostat's circular economy indicators for Catalonia. The project examines whether these indicators can be calculated following the specifications of Eurostat, identifies any adaptation required and the suitable data sources.



CONTRIBUTION OF CIRCULAR ECONOMY TO CLIMATE ACTION

Commissioned by MedWaves

The report, launched at COP28 held in Dubai (December 2023), explores how circular economy and sustainable business models can have the transformative power to mitigate climate change, especially in the Mediterranean region.



REPORT FOR THE REDUCTION OR ELIMINATION OF PLASTIC IN ALL FISHING, DISTRIBUTION AND SALING CHAINS

Funded by the Barcelona City Council

This report evaluates the generation of single-use plastic at the different steps of the fish chain, from fishing to the final consumer. A first diagnostic phase analyzes the quantities and types of plastic containers used in the different phases of the chain and for the different species of fish. In a second phase, proposals are made to eliminate or reduce this type of packaging.



OPTFOR-EU - OPTIMISING FOREST MANAGEMENT DECISIONS FOR A LOW-CARBON, CLIMATE RESILIENT FUTURE IN EUROPE

Commissioned by the European Commission

This 4-year Horizon Europe project started in 2023 will build a Decision Support System (DSS) to provide forest managers and other relevant stakeholders with tailored options for optimising decarbonisation and other Forest Ecosystem Services (FES) across Europe. ENT is a partner of this consortium lead by Administratia Nationala de Meteorologie (Romania).



REPORT ON CIRCULARITY OF RENEWABLE ENERGIES IN CATALONIA

Commissioned by ACCIÓ

The objective of this study is to analyse the current state of the circularity of renewable energies (focusing on wind turbine blades and photovoltaic panels) in Catalonia and make proposals for improvement. This study will be published in the collection of the Catalan Industry Observatory, which was created as a result of the National Pact for Industry.



REFORM OF THE ENVIRONMENTAL TAX FRAMEWORK OF THE AUTONOMOUS REGION OF ANDALUSIA: CIRCULAR ECONOMY AND WASTE MANAGEMENT

Commissioned by the OECD

This project consisted of reviewing the existing ecotaxes in Andalusia, assessing their alignment with their goal to improve environmental quality while raising revenue and accounting for distribution concerns, and discussing possible additional tax interventions, with a view to identifying strategic reform options.



CALCULATION OF STATISTICS AND INDICATORS OF CIRCULAR ECONOMY AND WASTE

Commissioned by IHOBE

The project has three main axes: updating the material flow accounting for the Basque Country, calculating the Eurostat circular economy indicators for the Basque Country and reviewing the Basque Country's exercise against the waste targets.

In addition to these projects, we promote our own research projects such as:

ecologíaPolítica
Cuadernos de Debate Internacional

ECOLOGÍA POLÍTICA JOURNAL

Ecología Política – Cuadernos de Debate Internacional is a bi-annual journal that reflects debates around the influence of political power on socioecological conflicts. Within the discipline of political ecology, it focuses on aspects such as environmental conflicts, inequalities in access to resources and exposure to pollution, environmental policies, resistance networks and social movements and referents of environmental thought.

ENT assumed the secretariat of the journal in 2006. Since 2013, Ecología Política has been jointly published by ENT Foundation and Icaria editorial, and it counts with an Editorial Board and an Advisory Board. In 2022, the CLACSO Political Ecology Group joined the co-edition of the journal.

Observatorio
de la fiscalidad de los residuos

OBSERVATORY ON WASTE TAXATION

The Observatory on Waste Taxation was created in 2018 to monitor the use of taxation instruments for waste policy in Spain. Our objective is to act as a reference in this aspect and to promote a greater use of waste taxes and charges as tools to improve waste management.

4 FELLOWSHIPS AND INTERNSHIPS

FELLOWSHIPS

In 2023 ENT Foundation had 4 “Fellows”:

Dr. Santiago Gorostiza

Postdoctoral researcher at the Centre d’Histoire de Sciences Po (Paris). He is an environmental history specialist in the Spanish Civil War and the Franco regime. He made a research internship at ENT during his doctoral research in the framework of a European Marie Curie project on political ecology. He is a member of the editorial board of *Ecología Política* journal and has edited several issues of the journal. After completing his doctorate at the University of Coimbra (Portugal), he was a postdoctoral researcher at the Institute of Environmental Science and Technology (ICTA) at the UAB, where he did research on environmental history and historical climatology

Dra. Irmak Ertör

Assistant professor at the Ataturk Institute – Bogazici University. Economist and specialist researcher in political ecology and specifically in relation to fishing and aquaculture.

Dr. Gabriel Weber

Associate Professor of International Affairs and Sustainability at ESSCA, Bordeaux. He was a Marie Curie Post Doc Fellow at ENT in the field of Political Ecology. He holds a PhD in Environmental Management and Accounting from TU Dresden in Germany. His research focuses on mitigation and adaptation to climate change, environmental policy instruments, and waste management, within the fields of ecological economics and political ecology.

Dra. Marien González Hidalgo

Environmental Scientist and researcher specialized in political ecology studies with a feminist perspective and psycho-social perspective in environmental conflicts.

INTERNSHIPS

In 2023, one internship was carried out at ENT Foundation by:

Irene Castells Rey

Environmental scientist with experience as an environmental educator and disseminator. Her main area of interest is waste management. In recent years she has participated in different projects to introduce or improve the separate collection of organic waste and subsequent composting process. She supported the Observatory on Waste Taxation and the *Ecología Política* journal. She joined Fundació ENT thanks to a grant for the hiring of unemployed young people as internships offered by the Servei Públic d’Ocupació de Catalunya and financed by the European Social Fund.

5 OTHER RESEARCH ACTIVITIES

CONTRIBUTIONS IN INTERNATIONAL CONFERENCES

- 8 March | Rosaria Chifari | Biocircularcities project presentation during the first Circular Cities and Regions Initiative (CCRI) Thematic working group (TWG) on Bioeconomy. Online.
- 15 May | Karin Meisterl | Presentation "BIOCIRCULARCITIES project: Regulatory gap and opportunity analysis for a circular bioeconomy". World Conference on Recycling and Waste Management 2023. Paris.

CONTRIBUTIONS IN OTHER EVENTS

- 31 January | Maria Calaf | "Repensant el sistema de pagament de la recollida de residus. Conclusions del projecte RETHinkWaste". Jornades tècniques de la Plataforma Residus Municipals 2023. Online.
- 22 March | Pablo Pellicer | "Cómo diseñar una tasa municipal de residuos según la nueva Ley de residuos" in the session "Acelerando la economía circular a través de una nueva planificación municipal". CONAMA Local 2023. Zaragoza.
- 23 March | Ignasi Puig | "Sistema de devolución, depósito y retorno". Novo reglamento de envases e residuos de envases e a sua incidencia na xestión local de residuos municipais. Federación Galega de Municipios e Provincias. Santiago de Compostela
- 19 April | Ignasi Puig | "El nou marc de les taxes de residus i finançament local". WastelnProgress 2023. Girona.
- 31 May | Sergio Sastre | "Flujos materiales e indicadores de economía circular". Curso de Economía Circular del COAMB. Online.
- 22 June | Ignasi Puig | "La transició cap a una economia circular: experiències locals". XIV Fòrum d'actualització en dret local - Seminari de dret local Manuel Ballbé Mallol. La Pobla de Mafumet.
- 16 September | Ignasi Puig | "Problemas de la gestión de residuos en grandes municipios". Jornada técnica sobre la implantación de la tasa local sobre generación de residuos, organizada dentro del proyecto de investigación del Ministerio de Ciencia e Innovación "La reforma ambiental de las Haciendas Locales". Madrid.
- 28 September | Ignasi Puig | "Balanz de costos i instruments fiscals". "Tècnic/a de residus: Introducció a la gestió de residus municipals i industrials" Course. COAMB. Online.
- 3 October | Verónica Martínez | Presentation of the report "Estudi sobre la mineria urbana a Barcelona i la mitigació del canvi climàtic associada" | Jornada internacional sobre Minería Urbana i sobre el rol en l'emergència climàtica a Barcelona. Observatori del Deute en la Globalització and Institut universitari de recerca en Ciència i Tecnologies de la Sostenibilitat (ISST.UPC). Barcelona.
- 14 November | Sergio Sastre | "La responsabilitat ampliada del productor a examen: propostes de millora". Recuwaste 2023. Mataró.
- 14 November | Maria Calaf | "Les 5 certeses i els 5 dubtes sobre els sistemes de pagament per generació i taxa justa (360°)". Recuwaste 2023. Mataró.
- 17 November | Maria Calaf | "Tasas municipales por generación de residuos". "Sistemas de pago por generación de tasas de residuos". Hobeki. Berastegui.
- 28 November | Ignasi Puig | "Aspectos Económicos: tasas, impuesto a vertido". "La gestión de residuos sólidos urbanos de forma mancomunada y su alineamiento con las políticas comunitarias". Federación Española de Municipios y Provincias. Madrid.
- 28 November | Gemma Nohales | "Aspectos Técnicos: Prevención, sistemas de recogida, tratamiento, biorresiduos". "La gestión de residuos sólidos urbanos de forma mancomunada y su alineamiento con las políticas comunitarias". Federación Española de Municipios y Provincias. Madrid.

PENSAMENTS

PensamENTS are online sessions organized by ENT to debate around issues related to the environment. ENT invites an expert to each session, who offers a presentation and then the session opens up to questions and debate. In 2023, **7** sessions were held:

January | **Star Molteno**

EUNOMIA

EU Environmental Policy making and e-commerce

February | **Diego Marín**

European Environmental Bureau

Europe's Critical Raw Materials Act and the rise of Green Extractivism

April | **Albert Alberich**

Moda Re-

Claves para afrontar el nuevo escenario de gestión de los residuos textiles

June | **Andrew Hoyles**

NYC Department of Sanitation

The Challenges and Opportunities of Bio-Waste Management in New York City

September | **Helena O'Rourke-Potocki**

ICLEI - Europe

Circular public procurement in Europe

November | **Eusebio Martínez de la Casa**

Recircula

Los nuevos desafíos del Reglamento europeo de envases y residuos de envases

December | **Ignasi Puig, Maria Calaf and Pablo Pellicer**

ENT

Tasas de residuos: situación en 2023 y retos para los entes locales

2 Participations in international conferences
14 Participations in other events
7 PensamENTS sessions

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