

# MARIA CALAF FORN

**Member of ENT since July 2006**

**Consultant and coordinator of waste charges area**



## EDUCATION

- 2010-12. Official Master of Environmental Studies on Ecological Economics at Universitat Autònoma de Barcelona (UAB). Research project: Cap and Trade Schemes on Waste Management: the Case Study of the Landfill Allowance Trading Scheme (LATS) in England.
- 2003-04. Master in Engineering and Management of the Renewable Energies at the Catalan Institute of Technology (ICT), Barcelona.
- 2002-03. Teaching Aptitude Certificate (CAP) at the Educational Science Institute from the Universitat Autònoma de Barcelona (UAB).
- 1998-03. Environmental Science Degree. UAB, Spain. Final project at the Saxion Hogeschool IJsselland from Deventer (The Netherlands).



## PROFESSIONAL EXPERIENCE

- April 2004 – July 2006. AMBIENS, SL. Technician in waste management in local councils.
- October 2003 – March 2004. Town Council of Vilanova del Camí (Barcelona). Assistant of the Environmental Technician.
- July - September 2002- GRAM (Gestió de Recursos Ambientals) (Igualada), specialized in waste management in the local administration.



## MOST RELEVANT AREAS OF EXPERTISE

- Environmental taxation.
- Waste charges and Pay-as-you-throw systems.
- Local waste prevention.
- Improvement of local separate waste collection.
- Costs of local waste management.
- Door-to-Door waste system.



## MAIN PROJECTS

- Drafting of the regulatory ordinance, the tax ordinance and the fee associated with the waste collection service of the Esplugues de Llobregat City Council. Esplugues de Llobregat City Council | 2024.
- Training sessions on generation payment systems and/or fair rates for Hobeki. HOBEKI ELKARTEA | 2024.

- Drafting service for the draft tax ordinance number 12: fee for the provision of the municipal waste management service and similar services and preparation of the financial-economic justification study that justifies it. El Vendrell City Council | 2024.
- Study of the cost of the Tordera waste charges. Tordera City Council | 2024. [Coordination]
- Study for the reduction or elimination of plastic in all chains from fishing, distribution and sale to the public of fish. Barcelona City Council | 2023. [Coordination]
- Coverage of the waste rate and improvement of the municipal waste service ordinance of Sant Pere de Ribes. Sant Pere de Ribes City Council | 2023. [Coordination]
- Feasibility study for implementing a pay-as-you-throw system and incentivizing organic waste participation in Arenys de Munt. Arenys de Munt Town Council | 2023.
- Adaptation of the Economic Report on Public Rates and study of the Mataró Domestic Fair Tax. Mataró City Council | 2023.
- Advisory service for the implementation of a Pay As You Throw scheme in the waste charge of the municipalities of La Garrotxa. La Garrotxa Regional Council | 2022-2023. [Coordination]
- Technical assistance to AIREF for the development of the study on public spending related to urban waste management. AIREF | 2023 - 2022.
- Proposal for technical and legal advice for the application of a fair public price on commercial waste in Mataró. Mataró City Council | 2022. [Coordination]
- Diagnosis of the current system of selective waste collection and proposal to improve the municipal waste management in Manzanares el Real. Cyclos cooperativa | 2022. [Coordination]
- Training and advice of municipal entities in the creation of an Action Plan for the implementation of Fair Charge systems in waste collection, within the LIFE-RETHINKWASTE project (LIFE18 GIE/IT/000156). Catalan Waste Agency | 2022. [Coordination]
- Drafting of the Regulations for the commercial Door-to-Door Scheme in Igualada. Igualada City Council | 2021 - 2022. [Coordination]
- Technical assistance for the implementation of the local Fair Tax ordinance to the municipalities of Riudellots de la Selva, Breda and Vilobí d'Onyar. La Selva Regional Council | 2021. [Coordination]
- Revision of the Municipal Waste Ordinance of Igualada. Igualada City Council | 2021. [Coordination]
- Study to improve selective collection at the Autonomous University of Barcelona. Autonomous University of Barcelona | 2021. [Coordination]
- Study of commercial PAYT in Igualada and drafting of the tax ordinance. Igualada City Council | 2021. [Coordination]
- Technical and economic study for the design of tax ordinances with pay-as-you-throw (PAYT) in 8 municipalities in the region of Anoia and implementation of PAYT systems in 4 municipalities. Anoia Regional Council | 2021. [Coordination]
- Drafting of a waste plan for the municipality of Rivas - Vaciamadrid. RivaMadrid | 2021. [Coordination]
- Pilot test on the use of 100% compostable packaging in fish shops. MediCities | 2021.
- Consulting service to support the SUBSTRACT project. Catalan Waste Agency | 2021.

- Technical assistance for the implementation of pay as you throw or participation payment system. La Selva Regional Council | 2020 - 2021. [Coordination]
- Local environmental taxation on climate change, energy and sustainable mobility. Barcelona Provincial Council | 2020.
- BLUEFASMA project. Introducing circular economy into the Catalan fisheries sector. Interreg project. Àrea Metropolitana de Barcelona | 2020 - 2021. [Coordination]
- Estimation of the cost of the waste collection service of the proposed improvement scenarios in a hypothetical management from the City Council of Sant Pere de Ribes. Sant Pere de Ribes City Council | 2019. [Coordination]
- Improvement study of the Commercial Waste Ordinance of Sant Pere de Ribes. Sant Pere de Ribes City Council | 2019. [Coordination]
- Study on the proposed collection models for Sant Pere de Ribes and study of Easy model costs. Sant Pere de Ribes City Council | 2019. [Coordination]
- Drafting of the municipal waste ordinances and drafting of the folds for the door-to-door waste collection in Solsona. Solsona City Council | 2019-2020. [Coordination]
- Preparatory work for the implantation of door-to-door waste collection. Solsona City Council | 2019. [Coordination]
- Consultancy service for the drafting of the study on the prevention and comprehensive management of municipal waste of the Mancomunitat Penedès Garraf. Commissioned by Penedès-Garraf Commonwealth | 2018 - 2019.
- Preparation of a technical and economic report for the modification of the waste treatment tax of Palma. Commissioned by Palma City Council | 2018.
- Absorbent and hygiene products: Overview of waste management in Spain | 2018.
- Revision, selection and proposal of tax incentives on Land Stewardship to be introduced into the fiscal ordinances of the Provincial Councils. Commissioned by Xarxa de Custòdia del Territori | 2018.
- Design proposal for a waste collection tax in the municipality of Barcelona. Commissioned by Barcelona Metropolitan Area (AMB) | 2018.
- Diagnosis of the current waste collection system and improvement plan for waste management in the municipality of Sant Pere de Ribes. Commissioned by Sant Pere de Ribes City Council | 2018. [Coordination]
- Preparation of a memorandum of economic and budgetary impact of the Draft Law of waste and contaminated soil of the Balearic Islands. Commissioned by Environment Department of Balearic Islands | 2018.
- Audit and Action Plan for the improvement of the municipal waste collection service of Santa Margarida i els Monjos. Commissioned by the Santa Margarida i els Monjos Town Council. September - December 2017. [Coordination]
- Executive project for the introduction of Pay-As-You-Throw system in Tiana. Commissioned by the Tiana Town Council. January - May 2017. [Coordination]
- Study on reform scenarios of the Metropolitan Waste Treatment Rate (TMTR). Commissioned by Àrea Metropolitana de Barcelona. July - October 2017.
- Feasibility study for the implementation of a selective waste collection of organic fraction. Commissioned by the Zaragoza City Council. November - December 2016.
- Viability study of door-to-door collection in Solsona. Commissioned by Solsona Town Council. February - July 2017. [Coordination]

- Analysis of the technological possibilities of opening the containers with user identification for Igualada. Commissioned by Igualada City Council. May 2017 - June 2017. [Coordination]
- Pay as you throw modalities and potential analysis of adaptation to the system with identified containers. Particular Case of Barcelona. Commissioned by Datambient. September - October 2016.
- Technical, environmental and economic availability study for implementing a deposit and return system SDDR for Beverage Cans in Catalonia. Commissioned by the Catalan Waste Agency (ARC). April - September 2016.
- Technical, environmental and economic availability study for implementing a deposit and return system DRS. Commissioned by the Barcelona Metropolitan Area (AMB). January - April 2016.
- Drafting of a study for alternatives to Can Planas Landfill. Commissioned by the Town Council of Cerdanyola del Vallès. January 2016 - May 2016.
- Waste collection study for the Intermunicipality of Anoia: waste collection, management and reduction. Commissioned by the Diputació de Barcelona. December 2013 - November 2014.
- Improving a fee-rebate scheme and incentives to Metropolitan Waste Treatment Tax, (TMTR). Commissioned by AMB. November 2014 - May 2015.
- Study for the implementation of a Pay as you throw scheme and a bonus-malus system in the community of Urola Medio, Gipuzkoa. Commissioned by intermunicipal community of Urola Medio. September 2014 - June 2015.
- Technical Assistance on the design of economic instruments in waste management. Commissioned by IHOBE and the Environmental Department of Basque Government. July - December 2014.
- Consultant for the Pew Charitable Trust, project: "End overfishing in North Western Waters". Des de març 2014.
- "Carbon and Energy pricing reform in Europe (CEPRIE)". The Fundació Ent participates as a partner of Green Budget Europe. July 2013 - September 2015.
- Report of taxation proposals on land stewardship and conservation of natural heritage. Commissioned by the Land and Sustainability Department of the Generalitat de Catalunya (Catalan Government). November - December 2013.
- Technical Assistance for Identification of Innovative Taxation Mechanisms, Application of these Mechanisms and Definition of a Methodology for the Implementation of a System of Payment for Environmental Services in the Framework of the Project: LIFE+ 11 NAT/ES/700 : Marco de acciones prioritarias de financiación de la Red Natura 2000. Commissioned by the Foundation Biodiversidad. August 2013 - April 2014.
- "Difusió de l'impacte de la recollida selectiva porta a porta en la prevenció de residus". Realized by Fundació ENT along with the Associació de municipis catalans per a la recollida selectiva porta a porta. Financed by the Department of Territori i Sostenibilitat of Generalitat de Catalunya. July 2013 - November 2013.
- Technical study for the implementation of a door-to-door scheme in the municipality of Esterri d'Àneu) Commissioned by Esterri d'Àneu Town Council. July 2013 - October 2013. [Coordination]
- Study on incentives to waste reduction and recycling in Urola Kosta. Commissioned by Urola Kosta Intermunicipal Service. June 2013 - present.

- Redaction of 4 Waste Prevention Local Plans. Commissioned by the Àrea Metropolitana of Barcelona (AMB). April 2013 - September 2013. [Coordination]
- Action Plan for Sustainable Energy of Santa Margarida i els Monjos. Commissioned by Diputació de Barcelona. November 2012 - December 2013. [Coordination]
- Proposal of a Waste Collection Tax in Tiana. Commissioned by the Tiana Town Council. September 2012 - 2013.
- Design and drafting of a waste prevention plan for Urola Medio Intermunicipal Service. Commissioned by Urola Medio Intermunicipal Service. November 2012 - March 2013.
- Technical assistance to the expert group on environmental taxation of the Generalitat de Catalunya. Commissioned by the Territory and Sustainability Department. May - December 2012.
- Urban Mining: Landfill Resource Extraction. Financed by Foundation Mapfre. January - October 2012.
- Feasibility study for the implementation of a Pay as you throw scheme in Usurbil. Commissioned by Usurbil Town Council. September 2012 - 2013.
- Feasibility study for the implementation of a Pay as you throw scheme in Arenys de Mar. Commissioned by Arenys de Mar Town Council. October - December 2011.
- Proposals to Introduce Incentives on Land Stewardship in the Draft Act Amending the Law 49/2002, 23rd December, of Fiscal Regime for non-profit Organisations and for Tax Incentives for Patronage. Commissioned by the Catalan Land Stewardship Network. November - December 2011.
- Identification of Incentives on Land Stewardship to Include in Municipal Fiscal Ordinances. Commissioned by the Catalan Land Stewardship Network. November 2011 - February 2012.
- Local waste prevention plan in Vandellòs and Hospitalet de l'Infant. Commissioned by the Vandellòs and Hospitalet de l'Infant Town Council. August - December 2011. [Coordination]
- Update of Environmentally Related Taxes and Charges in Spain in OECD/EEA Database on Instruments Used for Environmental Policy and Natural Resources Management. Commissioned by the Organisation for Economic Co-operation and Development (OECD). September 2011 - 2014.
- Introduction of reusable nappies at household level in Donostia. Commissioned by the Municipality of Donostia. September 2011 - June 2012. [Coordination]
- Waste Expert in the Advisory Board of the BURBA project, in the FP7 Programme (Eruopean Commission - DG for Research & Innovation). January 2011 - January - 2014.
- Spanish country expert in local regulation services for the Project LO.RE.NET (Local Regulation Network of experts) launched by Fondazione per l'Ambiente (Torino, Italy). March 2011 - August 2011. [Coordination]
- Proposals to extend the use of reusable nappies at household level and measures to improve the use in nurseries from Sant Cugat del Vallès (Barcelona). Commissioned by the Municipality of Sant Cugat del Vallès. September 2008 - July 2011. [Coordination]
- Report for a pay-as-you-throw scheme of waste in Tiana. Commissioned by the Municipality of Tiana (Barcelona). April 2011 - June 2011
- Implementation of a pay-as-you-throw system in Miravet and Rasquera (Tarragona). Commissioned by the Consortium for the Municipal Waste Management of the Ribera d'Ebre, Priorat and Terra Alta. July 2010 - March 2011. [Coordination]

- Proposals of improvement for the economic and contractual regime and for the waste management tariffs of Mallorca. Commissioned by the Regional Ministry of Environment from the Consell Insular de Mallorca. July 2010 – December 2010.
- Socioeconomic analyses of waste incineration. Commissioned by Greenpeace Espanya. March 2010 – June 2010.
- Guide for the implementation of pay-as-you-throw schemes. Commissioned by the Agència de Residus de Catalunya (Catalan Waste Agency). January 2010 – June 2010.
- Implementation of a pay-as-you-throw scheme for the commercial waste of Canet de Mar (Barcelona). Commissioned by the Municipality of Canet de Mar. May 2009 – March 2010.
- Implementation of a pay-as-you-throw scheme for the municipal waste of Argentona (Barcelona). Contracted by the Municipality of Argentona. March 2009 – June 2010.
- Action Plan for Sustainable Energy of Badalona. Commissioned by the Diputació de Barcelona. January – September 2009.
- Economic benefits on buildings and monuments derived from the improvement of air quality in the Barcelona's metropolitan region. Catalan Government | 2009.



## MAIN PUBLICATIONS

- Calaf Forn, M., Llabrés Payeras, A., Puig Ventosa, I. (2019) Identificación de los usuarios en la recogida de residuos municipales en contextos de alta densidad. Equipamientos y Servicios Municipales, 188:50-54.
- Saleh, D., Salova, M., Bulbena, B., Loderus, T., Calaf, M., Puig, I. (coord.) (2019) Identificació dels usuaris en la recollida de residus municipals en contextos en alta densitat de població. ENT environment & management.
- Weber, G., Cabras, I., Calaf-Forn, M., Puig-Ventosa, I., & D'Alisa, G. (2019). Promoting Waste Degrowth and Environmental Justice at a Local Level: The Case of Unit-Pricing Schemes in Spain. Ecological Economics, 156, 306-317.
- Weber, G., Calaf-Forn, M., Cabras I., Puig-Ventosa, I., D'Alisa, G. (2017) "The role of environmental organisations on urban transformation: the case of waste management in Esporles (Mallorca)". Journal of Cleaner Production, volume 195: 1546-1557
- Puig, I., Jofra, M., Calaf, M., Sastre, S. (2015) "Estado actual de la fiscalidad ambiental en España y perspectivas de futuro" (cap. 6) a Adame Martínez, F. (director) Fiscalidad ambiental en España: situación actual y perspectivas de futuro. Aranzadi.
- Puig, I., Meyer, E., Jofra, M., Calaf, M. (2015) "Developments and opportunities for an ecological tax reform in Spain" (cap. 14, p. 208-220) a Kreiser, L., Andersen, M., Olsen, B., Speck, S., Milne, J., Ashiabor, H. (Ed.) Carbon Pricing: Design, Experiences and Issues. Critical Issues in Environmental Taxation series. Volume XV.
- Calaf Forn M., Puig Ventosa, I. (2015) La minería de vertedero: nueva estrategia de futuro complementaria al reciclaje de residuos electrónicos en origen. Residuos Profesional, junio 2015.
- Calaf-Forn, M., Puig-Ventosa, I., Roca, J. (2014). "Cap and trade schemes on waste management: A case study of the Landfill Allowance Trading Scheme (LATS) in England". Waste Management 34 (2014) 919-928.
- Calaf, M., Jofra, M., Meyer, E., Puig, I. (2014) Los impuestos energéticos en España: situación y propuestas. Fundació ENT - Green Budget Europe.

- [Calaf Forn, M. \(2013\). “El pagament per generació”. De residu a recurs. 20 anys de gestió de residus a Catalunya. Agència de Residus de Catalunya.](#)
- [Puig Ventosa, I. \(Coord.\), Jofra Sora, M., Calaf Forn, M. \(2012\). “La puerta de atrás de la incineración. Análisis económico-ambiental de la utilización de combustibles derivados de los residuos \(CDR\) en España”. Greenpeace España.](#)
- [Calaf Forn, M., Puig Ventosa, I., 2012. “A Catalan residence for elderly people tests reusable nappies”. Recueil des Interventions. 1ères Rencontres européennes de la prévention des déchets \(Recull d'intervencions. 1ª Trobada europea per la prevenció de residus\). ADEME \(Agence de l'Environnement et de la Maitrise de l'Energie\). París.](#)
- [Puig Ventosa, I., Calaf Forn, M., Jofra Sora, M. \(2011\). “Minería urbana: extracción de recursos de los vertederos”. Fundación Mapfre. Ayudas a la Investigación 2011.](#)
- [Puig Ventosa, I., Calaf Forn, M. \(2011\). “Pago por generación de residuos: el caso de Argentona”. Residuos. La revista técnica del medio ambiente. Setiembre 2011, 124: 18-28.](#)
- [Puig Ventosa, I.; Calaf Forn, M.; Font Vivanco, D. \(2011\): “Pay-as-you-throw in Spain. An update on the prospects for pay-as-you-throw waste charges in Spain”: Waste Age. July 2011: 26-30.](#)
- [Calaf Forn, M. \(2011\) Miravet y Rasquera implantan una tasa de basuras más justa con el sistema de pago por generación. Residuos, 121: 84.](#)
- [Puig Ventosa, I., Calaf Forn, M. \(2011\), “Resultados del sistema de pago por generación de residuos de Argentona \(Barcelona\)”, Equipamientos y Servicios Municipales \(Revista de Residuos y Medio Ambiente\), 153: 36-37. Gener – Febrer de 2011.](#)
- [Puig Ventosa, I.; Calaf Forn, M. \(2011\). “La implantación de un sistema de pago por generación en Miravet y Rasquera \(Tarragona\) convierte en más justa la tasa de residuos”. InfoEnviro \(Actualidad y Tecnología de la Industria Medioambiental\), 52: 56-57. Març de 2011.](#)
- [Calaf Forn, M. \(2010\), “Miravet y Rasquera \(Tarragona\) implantan una tasa de residuos más justa y ecológica”, Equipamientos y Servicios Municipales \(Revista de Residuos y Medio Ambiente\), año 27, 152: 44-45. Novembre – desembre de 2010.](#)
- [Puig Ventosa, I.; Calaf Forn, M \(2008\); “Pañales reutilizables como estrategia de prevención de residuos”; Residuos. La revista técnica del medio ambiente. Març - abril de 2008, 103: 26-36.](#)

## Books

- [Ortega, M., Calaf, M. \(2010\), “Equitat ambiental a Catalunya. Integració de les dimensions ambientals, territorials i socials a la presa de decisions”. 1-174. Editat pel CADS. Consell Assessor pel Desenvolupament Sostenible. Col·lecció “Documents de sostenibilitat” número 15.](#)
- [ENT Environment and Management and Agència de Residus de Catalunya \(ARC\). \(2010\). “Guia per a la implementació de sistemes de pagament per generació de residus municipals”. Agència de Residus de Catalunya. 1-82. 2010.](#)
- [Puig Ventosa, I., Calaf Forn, M., Mestre Montserrat, M. \(2010\). “La incineración de residuos en cifras”, Greenpeace. 1-28. 2010.](#)



## MAIN CONTRIBUTIONS IN CONFERENCES

- November 2023. Tasas municipales por generación de residus. Sistemas de pago por generación de tasas de residus. Hobeki. Euskadi .

- October 2023. Les 5 certeses i els 5 dubtes sobre els sistemes de pagament per generació i taxa justa (360°). Recuwaste. Mataró | 2023.
- April 2023. Course "Local environmental taxation on climate change: waste, energy and sustainable mobility". Barcelona Provincial Council | 2023.
- May 2022. Rethinking the waste collection payment system. RewthinkWaste project conclusions. Catalan Waste Agency.
- Training of members of the MedCities network in municipal waste management, environmental management, energy efficiency and mobility (Lot 1). MedCities | 2021.
- April 2021. Course "Local environmental taxation on climate change: waste, energy and sustainable mobility". Barcelona Provincial Council.
- February 2021. Moderator of the workshop and discussion table on waste collection individualization systems within the framework of the Waste in Progress Congress.
- April 2019. Course "Local environmental taxation on climate change: waste, energy and sustainable mobility". Barcelona Provincial Council.
- 8th October 2018: "Curs de Fiscalitat ambiental en l'àmbit local: Els Sistemes de Pagament per generació". Organized by COAMB (col·legi d'ambientòlegs de Catalunya) and ENT. Barcelona.
- 18th October 2017: "Minería urbana: extracción de recursos de los vertederos". Ponència. Jornada "Landfill Mining. Trends and Opportunities" coorganized by EIT RawMaterials, Agència de Residus de Catalunya, Consell General de Cambres de Comerç de Catalunya and WasteResource. Barcelona.
- 12th May 2017: "Curs de Fiscalitat ambiental en l'àmbit local: Els Sistemes de Pagament per generació". Organized by COAMB (col·legi d'ambientòlegs de Catalunya) and ENT. Barcelona.
- 25th April 2017: Participation as a waste management expert in "Dimarts de Diàlegs d'Igualada". Organized by Ateneu Igualadí. Igualada. <https://vimeo.com/215146985>
- 29th May 2014: "Los sistemas de pago por generación de residuos. El caso de Usurbil" (Unit pricing schemes. The case of Usurbil). Participation session to the town inhabitants previous to pay-as-you-throw implementation. Organized by Usurbilgo Udala (Town Council of Usurbil) (Gipuzkoa).
- 7th November 2013. "El PaP i la reducció de residus. Turisme de residus. On acaba el mite i comença la realitat?" (The door-to-door schemes and waste reduction. Waste tourism. Where does the myth finish and where does the reality start?). Presentation. Workshop on door-to-door waste collection and waste prevention of municipal waste in Catalonia. Organized by Associació de municipis catalans per a la recollida selectiva porta a porta and Fundació ENT. Sant Llorenç de Morunys (Barcelona).
- 18th December 2012. Co-author of "Urban waste management in European metropolitan areas", organized by CISPTEL Toscana in cooperation with ISWA and the Chamber of Commerce of Florence. Florence.
- 20th June 2012. "A Catalan residence for elderly people tests reusable nappies", ADEME (Agence de l'Environnement et de la Maitrise de l'Energie). 1ères Rencontres européennes de la prévention des déchets (1st European Meeting for Waste Prevention). Paris.
- 14th June 2011. "La problemática de los pañales desechables convencionales y sus alternativas (The problem of disposable nappies and its alternatives)"; Ategrus, Jornada técnica sobre la prevención y el reciclaje de residuos (Technical Seminar on waste prevention and recycling). Bilbao.



- 2nd-3rd July 2010. Miquel Ortega, Maria Calaf. “Environmental justice in Catalonia”. Conference on Environmental Conflicts and Justice. Barcelona
- 18th May 2009. “Paper Waste Prevention in the Municipality of Manresa”. Cluster of Experts on Paper Waste Prevention. Association of Cities and Regions for Recycling and Sustainable Resource Management and Agència de Residus de Catalunya. Brussels.