

Elisa Sainz de Murieta

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 Research networks: [ORCID](#); [Researchgate](#); [Google Scholar](#)

 Personal [website](#) at BC3



Work experience

07/2020 →	University of the Basque Country (UPV/EHU)
Occupation or position	Researcher and lecturer Department of Applied Economy I
06/2010 – 09/2021	BC3 Basque Centre for Climate Change
Occupation or position	Research Associate (09/2021 →) Research Fellow (07/2020 – 09/2021) Postdoctoral Researcher (01/2016 – 07/2020) Junior researcher (06/2010 – 12/2015)
02/2017 – 12/2019	Grantham Research Institute (London School of Economics)
Occupation or position	Visiting Fellow. Postdoctoral Fellowship grant awarded by the Basque Government
07/2005 - 05/2009	Basque Government
Occupation or position	General Director for Biodiversity and Environmental Participation
Main activities and responsibilities	Responsible for the management of human, material, and financial resources of each of the four areas of the Direction. During this time, I gained a strong background on management and policy making, running a team of 19 people and managing an annual budget of 11 million euros.
07/2002 - 07/2005	ULMA Handling Systems S. Coop.
Occupation or position	Quality and Environmental Systems
Main activities and responsibilities	Responsible for the implementation and management of EFQM and UNE Standards for quality and the environment. In charge of internal quality audits and training program.

Education and training

January 2016	PhD in Science. Topic: "Environmental and economic impacts of sea-level rise on the Basque coast". University of the Basque Country. Leioa (Basque Country, Spain).
2009 - 2010	Master in Quaternary: Environmental Changes and Human Fingerprint. University of the Basque Country. Leioa (Basque Country, Spain).
2001 - 2002	Master's in Environmental Engineering and Management. EOI Business School, Madrid.
1995 - 2001	Bachelor's degree in Sciences (Geology). University of the Basque Country. Leioa (Basque Country, Spain).

Honours and Awards

2017-2019	Postdoctoral Fellowship funded by the Basque Government's Department of Education and Research developed at the Grantham Research Institute (LSE) and the Basque Centre for Climate Change (BC3).
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Publications



Journal article



Book chapter



Book



Report

PB

Policy Brief

2021



Markanday, A., Markandya, A., **Sainz de Murieta, E.**, Galarraga, I., 2021. Accounting for the Effects of Employment, Equity, and Risk Aversion in Cost–Benefit Analysis: An Application to an Adaptation Project. *Journal of Benefit-Cost Analysis* 1–22.



Sainz de Murieta, E., Cunha, P.P., Cearreta, A., Murray, A.S., Buylaert, J.P. The Oyambre coastal terrace: a detailed sedimentary record of the Last Interglacial Stage in northern Iberia (Cantabrian coast, Spain). *Quaternary International*, 1-16.



Adelekan et al. Africa. In: *Climate Change 2021: Impacts, Adaptation and Vulnerability. The Working Group II contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Contributing author to the Report.*



Sainz de Murieta, E., Galarraga, I., Olazabal, M., 2021. How well do climate adaptation policies align with risk-based approaches? An assessment framework for cities. *Cities* 109, 103018.

2020



Abadie, L.M., Jackson, L.P., **Sainz de Murieta, E.**, Jevrejeva, S., Galarraga, I., 2020. Comparing urban coastal flood risk in 136 cities under two alternative sea-level projections: RCP 8.5 and an expert opinion-based High-end scenario. *Ocean and Coastal Management* 193, 105249.



Abadie, L.M., **Sainz de Murieta, E.**, Galarraga, I., 2020. The Costs of Sea-Level Rise: Coastal Adaptation Investments vs Inaction in Iberian Coastal Cities. *Water* 12, 1220.



Sainz de Murieta E., Galarraga I. 2020. (Eds) Adaptación al cambio climático. Aportaciones desde la economía. *Ekonimiz: Revista Vasca e Economía*. 97. (1) 7-19.



Setzer, J., **Sainz de Murieta, E.**, Galarraga, I., Rei, F., Pinho, M.M.L., 2020. Transnationalization of climate adaptation by regional governments and the RegionsAdapt initiative. *Global Sustainability* 3.



van Ginkel, K., Botzen, W.J.W., Haasnoot, M., Bachner, G., Steininger, K., Hinkel, J., Watkiss, P., Boere, E., Jeuken, A., **Sainz de Murieta, E.**, Bosello, F., 2020. Climate change induced socio-economic tipping points: review and stakeholder consultation for policy relevant research. *Environmental Research Letters*.



Sainz de Murieta, E. 2020. Ancillary benefits of adaptation: an overview. In: Buchholz, W., Markandya, M., Rübelke, D., Vögele, S. (Eds.), *Ancillary Benefits of Climate Policy*. Springer.



Abadie, L.M., **Sainz de Murieta, E.**, Galarraga, I., Markandya, A., Forthcoming. Progressive adaptation strategies in European coastal cities: a response to flood-risk under uncertainty, in: Chichilnisky, G., Rezai, A. (Eds.), *Handbook on the Economics of Climate Change*. Edward Elgar.



Sainz de Murieta, E., Olazabal, M., Sanz, E., 2020. ¿Están las ciudades españolas adaptándose al cambio climático? *Papeles de Economía Española*.



Sainz de Murieta, E., Escapa, M. 2020. Klima-aldaketari buruzko hitzaurrea: inpaktuak eta egokitzapena. *Hegoak zabalduz* 20, p. 19. ISSN: 2530-6561.



Sainz de Murieta, E., 2020. La contribución de las regiones a la política climática, in: Consejo Vasco del Movimiento Europeo, EuroBasque (Ed.), *Sostenibilidad En La Europa Del S. XXI: Económica, Ambiental y Social*. Dykinson.

2019



Markanday, A., Galarraga, I., Chiabai, A., **Sainz de Murieta, E.**, Lliso, B., Markandya, A., 2019. Determining discount rates for the evaluation of natural assets in land-use planning: An application of the Equivalency Principle. *Journal of Cleaner Production* 230, 672–684.









Abadie, L.M., Galarraga, I., Markandya, A., **Sainz de Murieta, E.**, 2019. Risk measures and the distribution of damage curves for 600 European coastal cities. *Environmental Research Letters*.



Olazabal, M., Galarraga, I., Ford, J., **Sainz de Murieta, E.**, Lesnikowski, A., 2019. Are local climate adaptation policies credible? A conceptual and operational assessment framework. *International Journal of Urban Sustainable Development*.



Sainz de Murieta, E., Setzer, J., 2019. Climate change adaptation in a multi-level governance context: a perspective from subnational governments. *Regions* 4.

	PB	Sanz, E., Olazabal, M., Sainz de Murieta, E. , 2019. Planificación de la adaptación al cambio climático en las ciudades españolas: evaluando su sostenibilidad y efectividad a largo plazo. BC3 Policy Briefing Series PB2019-01.
2018		Sainz de Murieta, E. , Abadie, L.M., Galarraga, I., 2018. Aumento del nivel del mar en la costa vasca: una aproximación probabilística. <i>Ekonomiaz: Revista vasca de economía</i> 94, 324–344.
		Galarraga, I., Sainz de Murieta, E. , Markandya, A., Abadie, L.M., 2018. Addendum to ‘Understanding risks in the light of uncertainty: low-probability, high-impact coastal events in cities.’ <i>Environmental Research Letters</i> 13, 029401.
		Sainz de Murieta, E. , Galarraga, I. and Sanz-Sanchez, M.J. COP23: Technical profile with relevant political support. <i>DYNA Ingeniería e Industria</i> , 93, 1:22-24.
2017		Abadie, L.M., Sainz de Murieta, E. and Galarraga, I. Investing in adaptation: flood risk and real option application to Bilbao. <i>Environmental Modelling and Software</i> 95, 76-89.
		Abadie, L.M., Galarraga, I. and Sainz de Murieta, E. , 2017. Understanding risks in the light of uncertainty: low-probability, high-impact coastal events in cities. <i>Environmental Research Letters</i> 12.
		Galarraga, I., Sainz de Murieta, E. , França, J., 2017. Climate policy at the sub-national level, in: Averchenkova, A., Fankhauser, S., Nachmany, M. (Eds.), <i>Trends in Climate Change Legislation</i> . Edward Elgar, Northampton, MA, pp. 143–174.
		Gonzalez-Eguino, M., Sampedro, J., Galarraga, I., Arto, I., Pizarro-Irizar, C., Sainz de Murieta, E. , 2018. La transición energética del País Vasco hacia un modelo sostenible (Informe extraordinario de la institución del Ararteko al Parlamento Vasco). Ararteko, Vitoria-Gasteiz [<i>Energy transition in the Basque Country: towards a more sustainable low-carbon model. Institution: Ararteko – Public Defender</i>].
2016		Abadie, L.M., Sainz de Murieta, E. and Galarraga, I., 2016. Climate risk assessment under uncertainty: an application to main European coastal cities. <i>Frontiers in Marine Science</i> 3, 1–13.
		Chiabai, A., Sainz de Murieta, E. Osatu – Heatwaves and health: impacts and adaptation in the Basque Country. Institution: Ihobe, Environmental Agency, Basque Government.
	PB	Olazabal, M., Sainz de Murieta, E. , Foudi, S., Chiabai, A., Galarraga, I., Balbi, S., Vogel, L., Román, M.V. y Markandya, A. 2016. Urban research at BC3: How climate change science can support urban policy making. BC3 Policy Briefing Series No. 2016-04. BC3 Basque Centre for Climate Change, Bilbao.
	PB	Olazabal, M. y Sainz de Murieta, E. 2016. Bridging science and policy to mitigate and adapt cities to climate change: challenges and opportunities in the context of the Basque Declaration. BC3 Policy Briefing Series No. 2016-03. BC3 Basque Centre for Climate Change, Bilbao.
	PB	Sainz de Murieta, E. 2016. Past, present and future of sea level in the Basque Country. BC3 Policy Briefing Series No. 2016-02. BC3 Basque Centre for Climate Change, Bilbao.
2014		Sainz de Murieta, E. , Galarraga, I. and Markandya, A. 2014. Introduction to the Economics of Adaptation. <i>Routledge Handbook of the Economics of Climate Change Adaptation</i> . 1st ed. London. Routledge. ISBN 978-0415633116.
		Markandya, A., Galarraga, I. and Sainz de Murieta, E. (eds). 2014. <i>Routledge Handbook on Economics of Adaptation to Climate Change</i> . 1st ed. London. Routledge. 464. ISBN 978-0-415-63311-6.

Research Projects

2020-2021	GOBERNADAPT - Governance of climate change adaptation and risk management. Basque Cooperation Agency. PI: Elisa Sainz de Murieta.
2020-2021	Energy Policy Tracker - Track public money for energy in recovery packages: Spain. Check progress at: energypolicytracker.org . Developed with own funds. PI: Elisa Sainz de Murieta.
2018-2021	COACCH – CO-designing the Assessment of Climate Change Costs. European Commuission H2020 research project. PI: Anil Markandya
2018	PROCESA - Evaluación del PROgreso de las Ciudades ESpañolas hacia la Adaptación [Assessing the Progress of Spanish Cities towards Adaptation]. Fundación Biodiversidad. PI: Elisa Sainz de Murieta

2017-2019	CASUS - Coastal Adaptation to climate change: opportunities and challenges for SUSTainable development in a context of high risk and uncertainty. Postdoctoral grant by the Basque Government.
2014 - 2016	Econadapt - Economics of climate change adaptation in Europe. European Commission FP7 research project. PI: Anil Markandya.

Conferences and congresses

- 2021** **Sainz de Murieta, E.** 2021. Cambio climático: ¿un punto de no retorno? Curso de Verano sobre *La ciencia de los jinetes del Apocalipsis: una aproximación científica a los riesgos existenciales de la Humanidad*. Donostia, 19 de julio de 2021.
- 2020** Abadie, L.M., **Sainz de Murieta, E.**, Galarraga, I., 2020. The Costs of Sea-Level Rise: Coastal Adaptation Investments vs Inaction in Iberian Coastal Cities. Uhinak IV Cross border conference on climate and coastal change. November 4-5, 2020, Irun.
- 2019** **Sainz de Murieta, E.** Current challenges in climate science and policy. BC3-UPV/EHU Summer School. Bilbao, 8-10 de julio de 2019. Presentación oral. Más información aquí.
- Sainz de Murieta, E.** El papel de las regiones y ciudades en la política climática. Curso de Verano sobre Sostenibilidad en la Europa del S. XXI: económica, ambiental y social. Donostia, 4-5 de julio de 2019. Presentación oral. Más información aquí.
- Sainz de Murieta, E.** Economic damages and risks of climate change on major coastal cities La Ville Littorale Durable, 01-02 de julio de 2019, Baiona (Francia). Presentación oral.
- Abadie, L.M., Galarraga, I., Markandya, A., **Sainz de Murieta, E.**, 2019. Involving stakeholders in decision-making about risks: a case for sea-level rise. 4th European Climate Change Adaptation Conference (ECCA). 28-31th May 2019. Lisbon, Portugal. Presentación oral.
- 2018** **Sainz de Murieta, E.**, Galarraga, I. and Olazabal, M. Building long-term resilience by aligning adaptation and disaster risk reduction policies in cities. 11th International Forum on Urbanism (IFoU) 2018. December 10-12, 2018.Barcelona. *Abstract accepted for oral presentation*.
- Olazabal, M. and **Sainz de Murieta, E.** Are Spanish local adaptation policies likely to be successfully implemented and sustained in the long-term? An assessment of their legitimacy, scientific, policy and economic credibility. 11th International Forum on Urbanism (IFoU) 2018. December 10-12, 2018.Barcelona. *Abstract accepted for oral presentation*.
- 2017** **Sainz de Murieta, E.**; Cearreta, A.; Cunha, P.; Buylaert, J.-P.; Murray, A. Sea-level high-stand during the last interglacial stage: sedimentary characterization and luminescence dating of the Oyambre coastal terrace (Cantabrian coast, Spain). IX Iberian Quaternary Meeting, Changes in environmental systems and their time scales. Universidade do Algarve, Faro. 19 - 23 October 2017. Oral presentation.
- Abadie, L.M., **Sainz de Murieta, E.** and Galarraga, I. Climate risk assessment under uncertainty: an application to main European coastal cities. 23rd Annual Conference of the European Association of Environmental and Resource Economists. 28 June – 1 July 2017. Athens, Greece. *Oral presentation*.
- Abadie, L.M., Galarraga, I. and **Sainz de Murieta, E.** Understanding risks in the light of uncertainty: Low-probability, high-impact coastal events in cities. 3er European Climate Change Adaptation Conference (ECCA). 5-9 June 2017. Glasgow, UK. *Oral presentation*.
- 2016** Abadie, L.M., Galarraga, I. and **Sainz de Murieta, E.** Economic approaches to support decision-making under uncertainty: an example. Science-Policy Workshop: Facing Climate Change in Argentina. 5-7 December 2016. Mar del Plata, Argentina. *Oral presentation*.
- Sainz de Murieta, E.**, Cearreta, A. and Galarraga, I. Future sea-level rise impacts on the Basque coast based on the recent geological record. Littoral 2016. 25-29 October 2016. Biarritz. *Oral presentation*.
- L.M. Abadie, **Sainz de Murieta, E.** and Galarraga, I. Investing in adaptation: flood risk and real option application to Bilbao. 8th International Congress on Environmental Modelling and Software. July 10-14, 2016. Toulouse. *Oral presentation*.

- 2015 | **Sainz de Murieta, E.**, Chiabai, A. and Zamora, J. C. Climate change impacts on the water services in Costa Rica: a production function for the hydro-energy sector. 21st Annual Conference of the European Association of Environmental and Resource Economists. 24-27 June 2015. Helsinki.

Workshops

- 2019 | **Sainz de Murieta, E.** Cambio climático y zonas costeras: una visión desde la ciencia. Gobiernos locales, costas, mares y cambio climático, 28 de noviembre de 2018, Getxo. *Keynote speaker*.
- Sainz de Murieta, E.** Kudeaketa eta Zientziaren arteko zubiak eraikiz Biosfera Erreserbetan. Iraunkortasunerako 2030 Agenda osotuz gizarte eta lurraldeen iraunkorretarantz. 1. Nazioarteko Kongresua. 13-15 noviembre 2019, Urdaibai. *Session chair*.
- Sainz de Murieta, E.** Cambio climático. Presentación en la jornada de divulgación científica Naukas Pro, 19 de septiembre de 2019, Bilbao. *Oral presentation*.
- Sainz de Murieta, E.** Klima-aldaketaren eraginak euskal kostaldean. Klima-aldaketa: Euskal Herriatik Pirinioetaraino leihoak zabalduz. Udako Euskal Unibertsitatea, UPV/EHU. Bilbao, 11 de junio de 2019. *Oral presentation*.

Training and dissemination

PhD supervision

- 2020 → | Estibaliz Treviño Gil-García. Valoración económica de los servicios de los ecosistemas para la gestión sostenible de espacios naturales protegidos: impactos y adaptación al cambio climático. PhD co-supervision together with David Hoyos (EHU). *Ongoing*.

Master student supervision

- 2020 | Andrea Palomero. EU'S External climate governance. The role of decentralised cooperation and multi-level governance in climate adaptation. Master on European Governance, from the University of Utrecht. February to June 2020.
- Ana Morales, May to September 2020. El living lab: un instrumento de innovación. Master on Instruments for Economic Analysis, University of the Basque Country. Co-supervision together with Alberto Ansuategi (EHU).
- 2019 | Gonzalo Arechavaleta, from May to September 2019. Master on Instruments for Economic Analysis, University of the Basque Country.
- 2018 | Estibaliz Treviño, from May to September 2018. Master on Instruments for Economic Analysis, University of the Basque Country.
- 2016 | Beñat Iglesias, Guest researcher at BC3 from June to September 2016. Master on Integrated Coastal Zone Management, University of Cadiz.
- 2015 | Venera Pavone, Guest researcher at BC3 from September to November 2015. Reti per l'efficienza e la sostenibilità energetica del territorio. Università degli studi di Catania, Italy.

Teaching

- 2020 | Socio-economic aspects of climate change. Module in the Erasmus Mundus Master on Marine Environment, UPV/EHU. June 2020.
- Climate Change Challenges: Adaptation and Mitigation. Invited lecturer in the International Postgraduate Course "Research in Marine Environment and Resources (RiMER20)". February 3-7, 2020. Donostia-San Sebastian, Basque Country.
- 2019 | Socio-economic aspects of climate change. Module in the Erasmus Mundus Master on Marine Environment, UPV/EHU. April 2019.
- 2018 | Main challenges of climate change: a vision from adaptation. Invited lecture in the 4th Course on Ecological Economy. Department of Applied Economy III, University of the Basque Country. 25-27 October 2017. Bilbao, Basque Country (Spain).
- Climate Change Challenges: Adaptation and Mitigation. Invited lecturer in the International Postgraduate Course "Research in Marine Environment and Resources (RiMER18)". January 29 – February 02, 2018. Donostia-San Sebastian, Basque Country (Spain).

2017	Main challenges of climate change: a vision from adaptation. Invited lecture in the 4th Course on Ecological Economy. Department of Applied Economy III, University of the Basque Country. 25-27 October 2017. Bilbao, Basque Country (Spain).
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Dissemination activities

General public	I give climate change dissemination talks, organised by local institutions or environmental associations on a regular basis.
Media	I participate in local and regional media in climate change related dissemination activities. Since 2020, I have a regular collaboration with the weekly radio programme Hágase la luz , in the regional public communication group, EiTB . Full list available in the next link .
Schools	Training Caravan. Participation in the BC3 dissemination program which aims at fostering the vocation for research among Basque students and to inform about the climate change research efforts carried out by BC3.

Languages

English	Proficient. Professional competences.
Spanish	Native
Basque	Native
French	Basic competences.

IT skills

Office tools	Microsoft Office, MacOS, OpenOffice (proficiency user)
Statistics	Stata, RStudio (basic user)
Geographic Information Systems	ArcGIS, Quantum (basic user)
Other	<ul style="list-style-type: none"> Online survey programs (e.g., SurveyMonkeys) Blog and web design apps (Wordpress) Design apps (e.g., Canva) Teaching environments (Moodle, UPV/EHU eGela, Thinkific online course platform)