

Ortzi Akizu-Gardoki



Sustainability and Energy Footprint Researcher
Technical Drawing and Graphic Design Lecturer

Contact: ortzi.akizu@ehu.eus

Languages: Basque (Mother tongue), Spanish (Mother tongue), Italian (Academic Level), English (Academic Level)

Current position:

He is currently a lecturer at the University of the Basque Country (UPV/EHU), at the Faculty of Engineering of Bilbao since 2011, at the Department of Graphic Design and Engineering Projects. His research is focused in understanding the Energy Footprint (EF) embodied in goods and services, in order to link sustainability to product design field. Currently he is collaborating with the University of New South Wales Sydney (UNSW) using the Global Multi Regional Input-Output (GMRIO) methodology, to understand the impact of outsourcing the industrial supply chains to other countries.

Academic Formation:

Doctorate: Quantification, design and methodologies for the implementation of new energy planning models for socio-economic development (16/11/2018)

- *University of the Basque Country, Spain – www.ehu.eus*

Master Degree: Renewable Energy and Distributed Generation (2009-2011)

- *University of the Basque Country, Spain – www.ehu.eus*

Master Degree: Eco-Efficient Product Design (2005-2008)

- *Polytechnic University Of Turin, Italy – www.polito.it*

Bachelor Degree: Industrial Design (2005-2008)

- *Polytechnic University Of Milan, Italy – www.polimi.it*

Bachelor Degree: Engineering in Industrial Design (2001-2005)

- *University of Mondragón, Spain – www.mondragon.edu*

Work Experience:

University Lecturer: at the University of the Basque country – UPV/EHU (2011 - now)

DEPARTMENT: Graphic Design and Engineering Projects.

LECTURING SUBJECTS: Technical Drawing, Computed Aided Design and Project Management.

www.ehu.eus

University Lecturer: at the National Distance Education University – UNED (2014 - 2016)

DEPARTMENT: Graphic Design and Engineering Projects.

LECTURING SUBJECTS: Technical Drawing and Computed Aided Design.

www.uned.es

Designer: at Zuhaitza Sustainable Design (2014 - 2018)

POSITION: President of the association and Graphic and Product Designer

www.zuhaitza.org

Project Manager: at Baltistan Foundation Non-Governmental Organization (2009 - 2012)

POSITION: Coordinator of Infrastructure Unit

www.baltistan.eus

Researcher: at Tecnalia Research Institute (2008 - 2009)

RESEARCH PROJECT: Electric vehicles connection to the grid, analysis of the national market

www.tecnalia.com

Assistant Engineer: at Ekain-Taldea Company (2008 - 2009)

POSITION: Design of Solar Photovoltaic Installations

www.ekain-taldea.com

Indexed Journal Papers:

1. Journal Paper (Impact Factor: 8.018)

A Novel Method for Estimating Emissions Reductions Caused by the Restriction of Mobility: The Case of the COVID-19 Pandemic

Francesco Pomponi, Mengyu Li, Ya-Yen Sun, Arunima Malik, Manfred Lenzen, Grigorios Fountas, Bernardino D'Amico, Ortzi Akizu-Gardoki, Maria Luque Anguita (2021)

Environ. Sci. Technol. Lett. 2021, 8, 1, 46-52

<https://doi.org/10.1021/acs.estlett.0c00764>

2. Journal Paper (Impact Factor: 7.246)

Comparative life cycle assessment of high performance lithium–sulfur battery cathodes

Sergio Lopez, Ortzi Akizu-Gardoki, Erlantz Lizundia (2021)

Journal of Cleaner Production, Volumen 282 page 124528

ISSN: 0959-6526

<https://doi.org/10.1016/j.jclepro.2020.124528>

3. Journal Paper (Impact Factor: 7.246)

Hidden energy flow indicator to reflect the outsourced energy requirements of countries

Ortzi Akizu-Gardoki, Takako Wakiyama, Thomas Wiedmann, Gorka Bueno, Iñaki Arto, Manfred Lenzen, Jose Manuel Lopez-Guede

Journal of Cleaner Production. Volume 278, 1 January 2021, 123827

<https://doi.org/10.1016/j.jclepro.2020.123827>

4. Journal Paper (Impact Factor: 3.61)

Discovery of a possible Well-being Turning Point within energy footprint accounts which may support the degrowth theory

Ortzi Akizu-Gardoki, Conrad Kunze, Anthony Coxeter, Gorka Bueno, Thomas Wiedmann, Jose Manuel Lopez-Guede (2020)

Energy for Sustainable Development. Volumen 59. Pages 22-32.

ISSN 0973-0826

<https://doi.org/10.1016/j.esd.2020.09.001>

5. Journal Paper (Impact Factor: New Journal)

How Do People Move Around? National Data on Transport Modal Shares for 131 Countries

G Fountas, YY Sun, O Akizu-Gardoki, F Pomponi (2020)

World 1 (1), 34-43

ISSN: 2673-4060

<https://doi.org/10.3390/world1010003>

6. Journal Paper (Impact Factor: 2.702)

European Cities in the Energy Transition: A Preliminary Analysis of 27 Cities

Estitxu Villamor, Ortzi Akizu-Gardoki, Olatz Azurza, Leire Urkidi, Alvaro Campos-Celador, Izaro Basurko, Iñaki Barcena Hinojal

Energies 2020, 13 (6), 1315;

ISSN: 1996-1073

<https://doi.org/10.3390/en13061315>

7. Journal Paper (Impact Factor: 5.715)

Decoupling between human development and energy consumption within footprint accounts

Akizu-Gardoki, O., Bueno, G., Wiedmann T., Arto I., López-Guede, J.M., Moran D., Hernandez P. (2018)

Journal of Cleaner Production, 202 (2018) pp 1145-1157

<https://doi.org/10.1016/j.jclepro.2018.08.235>

8. Journal Paper (Impact Factor: 2.262)

Contributions of Bottom-Up Energy Transitions in Germany: A case Study Analysis
Akizu, O., Bueno, G., Barcena, I., Kurt, E., Topaloglu, N., Lopez, J.M. (2018)
Energies 2018, 11(4), 849
<https://doi.org/10.3390/en11040849>

9. Journal Paper (Impact Factor: 4.229)

Tracing the emerging energy transitions in the Global North and the Global South.
Akizu, O., Urkidi, L., Bueno, G., Lago, R., Barcena, I., Mantxo, M., Basurko, I. Lopez, J.M.
(2017)
International Journal of Hydrogen Energy, 42/28 (2017) pp. 18045-18063
<https://doi.org/10.1016/j.ijhydene.2017.04.297>

10. Journal Paper (Impact Factor: 4.229)

Measuring global effectiveness of integrated electric energy systems.
Larrañaga, J.M., Zulueta, E., Lopez-Guede, J.M, Larrañaga, A., Akizu, O. (2017)
International Journal of Hydrogen Energy, 2017
<https://doi.org/10.1016/j.ijhydene.2017.04.057>

11. Journal Paper (Impact Factor: 0.939)

Electricity Demand under Electric Vehicle Penetration in 2030:
A Comparative Study for UK and Spain. Towards an aggregation system
Papadopoulos, P., Akizu, O., Cipcigan, L., Jenkins, N., Zabala, E. (2011)
Journal of Power and Energy, 2011, Volume: 225 issue: 5, page(s): 551-566
<https://doi.org/10.1177/0957650911406343>

Non-Indexed Journal Papers:

1. Journal Paper (Impact Factor: -)

Design optimization study of a torus type axial flux machine
Arslan, S., Kurt, E., Akizu, O., Lopez-Guede, J.M. (2018)
JOURNAL OF ENERGY SYSTEMS, Volume 2, Issue 2, Pages 43-56
ISSN: 2602-2052
<https://doi.org/10.30521/jes.408179>

2. Journal Paper (Impact Factor: -)

Bases académicas en estudios universitarios técnicos para una transición energética.
Akizu, O., Sainz de Murieta, J., Bueno, G. (2016)
Ikastorratza e-Journal on Didactics, 2016, 17 (4) pag. 45-55
ISSN: 1988-5911 - Depósito legal: BI-3615-07
http://www.ehu.eus/ikastorratza/17_alea/4.pdf

3. Journal Paper (Impact Factor: -)

Ingeniería y Desarrollo Humano: Tecnologías para el desarrollo humano (TpDH)
Sainz de Murieta, J., Akizu, O. (2016)
Ikastorratza e-Journal on Didactics, 2016, 17 (4) pag. 8-30
ISSN: 1988-5911 - Depósito legal: BI-3615-07
http://www.ehu.eus/ikastorratza/17_alea/2.pdf

4. Journal Paper (Impact Factor: -)

e-Betez: una experiencia multidisciplinar y multicampus para integrar las bases de la sostenibilidad en el grado de ingeniería
Sainz de Murieta, J., Akizu, O. (2016)
Ikastorratza e-Journal on Didactics, 2016, 17 (4) pag. 111-126
ISSN: 1988-5911 - Depósito legal: BI-3615-07

http://www.ehu.es/ikastorratza/17_alea/7.pdf

5. Journal Paper (Impact Factor: -)

“El modelo 3D como base para la documentación y difusión de los elementos patrimoniales. Aplicación al mausoleo romano denominado ‘la Sinagoga’ de Sádaba (Zaragoza, España).”
Valle Melón J.M, Pérez Vidiella P., Rodríguez Miranda A., Sánchez Velasco J., D’Anna C.M., Uceda Queiros S., Akizu Gardoki O. (2016)
Restauo Arqueologico, RA 1-2016, pag. 4-19, ISSN 1724-9686 (print) | ISSN 2465-2377 (online)
<http://dx.doi.org/10.13128/RA-19316>

6. Journal Paper (Impact Factor: -)

Transiciones energéticas para cambiar el clima
Leire Urkidi, Rosa Lago, Izaro Basurko, Martín Mantxo, Iñaki Barcena, Ortzi Akizu (2015)
VIENTO SUR, Número 142/Octubre 2015 (Pag. 83-90) - ISSN: 1133-5637 (Latindex)
http://vientosur.info/IMG/pdf/VS142_Grupo_TRADEBU_Transiciones_energeticas_para_cambiar_el_clima.pdf

7. Journal Paper (Impact Factor: -)

Transiciones energéticas ante el cambio climático: problemáticas e ideas fuerza
Leire Urkidi, Rosa Lago, Izaro Basurko, Martín Mantxo, Iñaki Barcena, Ortzi Akizu (2016)
BOLETÍN ECOS 33 (Pag. 1-9) ISSN:1989-8495 - FUHEM ECOSOCIAL
https://www.fuhem.es/media/cdv/file/biblioteca/Boletin_ECOS/33/transiciones-energeticas_L_URKIDI-et-al.pdf

Conference publications:

1. Conference Paper

Understanding the relationship between energy consumption and development during the Global Financial Crisis in Europe within Footprint accounting
Akizu, O., Bueno, G., Wiedmann T., Arto I., López-Guede, J.M. (2018)
6th Eur. Conf. Ren. Energy Sys.25-27 June 2018, Istanbul, Turkey

2. Conference Paper

Analytical and Experimental Studies on a New Linear Electromagnetic Harvester
Busra Mutlu; Erol Kurt; Jose Manuel Lopez-Guede; Ortzi Akizu Gardoki; Abdulmecit Guldaz
6th Eur. Conf. Ren. Energy Sys.25-27 June 2018, Istanbul, Turkey

3. Conference Paper

Contribution to LCA analysis accuracy through energy consumption measurement of injection molding and 3d printing
Guridi-Gregorio X., Boyano A., Akizu O., Fernandez-Gamiz U., Torre-Tojal L. (2018)
International Conference on Materials & Energy, ICOME 2018 Apr. 30 – May 04, San Sebastian, Spain

4. Conference Paper

IELab dialogue with International Energy Agency: changing the global energy consumption patterns
Akizu, O., Bueno, G., López-Guede, J.M. Wiedmann T., Arto I., (2017)
Brisbane, Stradbroke Island. IELab Conference 2017

5. Conference Paper

Hidden Energy Flows: justice and responsibility in outsourcing goods and services
Akizu, O., Bueno, G., López-Guede, J.M. (2017)
LONDON. 6th International Conference on Energy and Environment Technologies and Equipment (EEETE '17)
<http://wseas.org/cms.action?id=16035>

6. Conference Paper

Sustainability education in bachelor degrees of engineering: diagnosis and suggestions to prevent deficiencies.

Rodríguez, A., Ochoa de Eribe, I., Akizu, O. (2017)

INTERNATIONAL CONFERENCE ON ENGINEERING EDUCATION FOR THE TWENTY-FIRST CENTURY

ICEE21C 2017 - Castellón (Spain)

7. Conference Paper

e-Betez, Integrating the sustainability and open source knowledge in engineering degrees.

Sainz de Murieta, J., Akizu, O. (2017)

INTERNATIONAL CONFERENCE ON ENGINEERING EDUCATION FOR THE TWENTY-FIRST CENTURY

ICEE21C 2017 - Castellón (Spain)

8. Conference Paper

The university as a catalyst for the integration of sustainable engineering into present-day industry.

Akizu, O., Ochoa de Eribe, I., Rodríguez, A., Sainz de Murieta, J., (2017)

INTERNATIONAL CONFERENCE ON ENGINEERING EDUCATION FOR THE TWENTY-FIRST CENTURY

ICEE21C 2017 - Castellón (Spain)

9. Conference Paper

Solar panel suitability map and assessment of the location of installed panels in roofs in the municipality of Vitoria-Gasteiz (Álava, Spain)

Bastarrika, A., Ustarroz, A., Akizu, O., Artano, K., López-Guede, J.M., Martínez-Blanco, P., Mesanza, A., Torre, L. (2017)

ECRES 2017 Conference – Sarajevo - <http://www.ewres.info>

10. Conference Paper

Testing of the use of low environmental impact materials in renewable energy installations

Uriarte, J., Akizu, O., Boyano, A., González-González, A., López-Guede, J.M. (2017)

ECRES 2017 Conference – Sarajevo - <http://www.ewres.info>

11. Conference Paper

The role of international energy dependency on national welfare

Akizu, O., Kurt, E., Bueno, G., López-Guede, J.M., Arto, I. (2017)

ECRES 2017 Conference – Sarajevo - <http://www.ewres.info>

12. Conference Paper

Ascertaining emerging German bottom-up energy transitions through case study analysis

Akizu, O., Bueno, G., Barcena, I., López-Guede, J.M. (2017)

ECRES 2017 Conference – Sarajevo - <http://www.ewres.info>

13. Conference Paper

Ascertaining the arising Energy Transition in Global North and Global South

Akizu, O., Bueno, G., Urkidi, L., Lago, R., Barcena, I., Mantxo, M., Basurko, I. Lopez, J.M.(2016)

ECRES 2016 Conference – Turkey

14. Conference Paper

Overall Efficiency of an Integrated Electrical System

Larrañaga, J.M., Zulueta, E., Lopez-Guede, J.M, Larrañaga, A., Akizu, O. (2016)

ECRES 2016 Conference - Turkey

www.ewres.info/PROCEEDINGS.rar

15. Conference Paper

Assessment and impact of the storage management of grid connected electric vehicles according to a business model analysis

Madina, C., Akizu, O., Zabala, E. (2009)

European Conference: Smart Grids and Mobility, Würzburg (16-17 June 2009)

16. Conference Paper

Conocimiento ambiental y desarrollo sostenible en el ámbito de alumnos universitarios

Rodríguez, A., Río, R., Villota, N., García, V., Larrañaga J.M., Gavilanes, J.,

Gómez M., Garechana, G., Akizu, O. (2016)

XVII Encuentro Internacional Virtual Educa - 20-24 Junio 2016 - San Juan de Puerto Rico, Puerto Rico

Conference posters:

1. Conference Poster

Un aporte al logro de la ambientalización de las instituciones universitarias a través de la aplicación de metodologías activas

Rodríguez-Andara Alejandro, Río-Belver Rosa, García-Marina Vanesa, Villota Natalia, Gómez-Pérez Melchor, Larrañaga Jesús María, Garechana Gaizka, Gavilanes Javier, Akizu Ortzi, Larruscain Jaso

IX Congreso Iberoamericano de Docencia Universitaria, Murcia, 31 de marzo – 02 Abril (2016)

2. Conference Poster

Competencias medioambientales en titulaciones universitarias: una propuesta

Rodríguez-Andara Alejandro, Río-Belver Rosa, García-Marina Vanesa, Villota Natalia, Gómez-Pérez Melchor, Larrañaga Jesús María, Garechana Gaizka, Gavilanes Javier, Akizu Ortzi, Larruscain Jaso

Congreso de Investigación en Innovación Educativa – Bilbao. 24-25 Mayo (2016)

3. Conference Poster

Iniciativa Intercampus de trabajo colaborativo bajo claves de open source y electrónica ética.

Akizu, O., Sainz de Murieta, J. (2016)

III International Congress of Development Studies - June 29 until July 1, 2016

REEDES - Red Española de Estudios del Desarrollo - Universidad de Zaragoza

<http://congresoreedesiii.unizar.es>

Books:

1. Book

Research in ecological economics at the University of the Basque Country.

David Hoyos, Eneko Garmendia, Ortzi Akizu (2018)

Edited by Ekopol – www.ekopol.org (Pages: 38)

ISBN: 978-84-09-01250-3

2. Book

Catálogo de Ingeniería Sostenible 2016-2018

Akizu, O., Ochoa de Eribe, I., Gómez de Balugera, Z., Rodríguez, A.,

López de Arcaute, M., Vispo, I., Herreros, P. (2017)

Editorial Service of the UPV/EHU (Pages: 94)

ISBN: 978-84-9082-606-5

3. Book

Catálogo de Ingeniería Sostenible 2014-2016

Akizu, O., Ochoa de Eribe, I., Gómez de Balugera, Z., Rodríguez, A., López de Arcaute, M., Vispo, I., Herreros, P. (2016)
Editorial Service of the UPV/EHU (Pages: 89)
ISBN: 978-84-9082-373-6

4. Book

Energia trantsizioak: iraunkortasuna eta demokrazia energetikoa
Urkidi, L., Aurrekoetxea, R., Basurko, I., Mantxo, M., Bárcena, I., Akizu, O. (2016)
Editorial Service of the UPV/EHU (Pages: 234)
ISBN: 978-84-9082-311-8

5. Book

Transiciones energéticas. Sostenibilidad y democracia energética
Urkidi, L., Aurrekoetxea, R., Basurko, I., Mantxo, M., Bárcena, I., Akizu, O. (2015)
Editorial Service of the UPV/EHU (Pages: 232)
ISBN: 978-84-9082-204-3

6. Book

Nuevos modelos energéticos: estado del arte e interpretación de
modelos sostenibles de producción y consumo de energía y recurso
Akizu, O., Mazón J., Bueno, G. (2010)
Editorial Service of the UPV/EHU (Pages: 208)
ISBN: 978-84-9860-938-7 (<https://addi.ehu.es/handle/10810/12398>)

7. Book

El desarrollo humano y las energías renovables: integración e impacto social
de sistemas energéticos de generación distribuida en entornos rurales de
países en vías de desarrollo
Akizu, O., Cámara, T., Mazón J., Bueno, G. (2010)
Editorial Service of the UPV/EHU (Pages: 156)
ISBN: 978-84-9860-939-4 (<https://addi.ehu.es/handle/10810/12397>)

Research Projects:

1. Sustainable Digital Transformation

PROJECT TITLE: Projects for the digital transformation
CODE: 621745-EPP-1-2020-1-DE-EPPKA2-KA
FUNDER: INT-ERASMUS+
LEADER: Fachhochschule Dortmund
FUNDING: 999,315.00 €
ROLE: Researcher
TEAM LEADER: Jose Ramon Otegi Olaso

2. Safety and Sustainability

PROJECT TITLE: Cross-Domain competences for healthy and safe
work in the 21st century
CODE: 619034-EPP-1-2020-1-UA-EPPKA2-CBHE-JP
FUNDER: INT-ERASMUS+
LEADER: University of the Basque Country

FUNDING 88,744.00 €
ROLE: Researcher
TEAM LEADER: Jose Ramon Otegi Olaso

3. Ekopol

PROJECT TITLE: Ekopol Rearch Group.
<https://ekopol.eus>
CODE: IT-1365-19
FUNDER: Gobierno Vasco
LEADER University of the Basque Country
FUNDING 177,300 €
ROLE: Researcher

4. Energy Transitions Research

PROJECT TITLE: ENABLE.EU (<http://www.enable-eu.com>) Enabling the Energy Uni
through understanding the drivers of individual and collective energy
choices in Europe
CODE: Horizon 2020 research and innovation programme N° 727524
FUNDER: European Union - Horizon 2020
LEADER ISINNOVA - Istituto di Studi per l'Integrazione dei Sistemi
FUNDING 3,337,416 €
ROLE: Participation Workshops in Rome March 2019 - Brusels

5. Energy Transitions Research

PROJECT TITLE: mPOWER :
Municipal Action Public Engagement and Routes Towards Energy
Transition
CODE: H2020-EE-2017-09 - 785171
FUNDER: European Union - Horizon 2020
LEAD RESEARCHER: Joe Galloway – University of Glasgow.
TEAM LEADER Iñaki Barcena Hinojal – University of the Basque Country
FUNDING Total project: 1,999,365,25 € // Our team budget: 134.615,00 €

6. Solidarity and collaborative spaces Research

PROJECT TITLE: Nuevas solidaridades, reciprocidades y alianzas: la emergencia de
espacios colaborativos de participación política y redefinición de la
ciudadanía, SOLIDARY
CODE: CSO2017-82903-R
FUNDER: Spanish Ministry of Economy and Competitiveness, MINECO
LEAD RESEARCHER: Mari Luz Esteban Galarza
FUNDING Total: 90,750.00 €

7. Renewable Energy Systems

PROJECT TITLE: IESRES- Innovative European Studies on Renewable Energy
Systems
<http://www.ecerg.com/iesres/iesres.html>
CODE: 2015-1-TR01-KA203-021342
FUNDER: Lifelong Learning Programme – European Union – ERASMUS+ Pr
LEAD RESEARCHERS Erol Kurt / Jose Manuel Lopez-Guede

8. Energy Democracy Research

PROJECT TITLE: Transición Democracia Energética en el Sur y en el Norte:
TRADENER
CODE: PRO - 2016K3/0009
FUNDER: Basque Agency for Cooperation to Development
LEAD RESEARCHER: Iñaki Barcena Hinojal
FUNDING: 264,608.69 €

9. Energy Transitions Research

PROJECT TITLE: Cooperación para un nuevo modelo energético: La transición
democrática de la deuda ecológica al buen vivir. TRADEBU
CODE: PRO - 2013K3/0034
FUNDER: Basque Agency for Cooperation to Development
LEAD RESEARCHER: Iñaki Barcena Hinojal
FUNDING: 227.411,23 €

10. Energy Footprint Research

PROJECT TITLE: EHU Azterna. Modelización de impacts ambientales de la
UPV/EHU mediante OpenLCA y Ecoinvent.
CODE: Campus Bizia Lab 2019/20
FUNDER: University of the Basque Country.
LEAD RESEARCHER: Gorka Bueno
FUNDING: 1.800 €