

Leticia Magalar Martins de Souza

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SUMMARY STATEMENT

Leticia has a double degree in business and environmental engineering from PUC-Rio, a master's degree in energy planning from COPPE/UFRJ and she is a PhD candidate in energy planning at the same institution. Over the years, Leticia has specialized in developing scenarios for greenhouse gas mitigation in the industrial and buildings sector and currently targets her research in materials and circular economy.

EDUCATION

Ph.D. in Energy and Environmental Planning [2020 – Present]

Universidade Federal do Rio de Janeiro, Brasil
Instituto Alberto Luiz Coimbra de Pós-Graduação e Pesquisa de Engenharia, COPPE

Master in Energy and Environmental Planning [2015 – 2018]

Universidade Federal do Rio de Janeiro, Brasil
Instituto Alberto Luiz Coimbra de Pós-Graduação e Pesquisa de Engenharia, COPPE

Undergraduate in Environmental Engineering

Pontifícia Universidade Católica do Rio de Janeiro PUC-Rio [2010-2014]
University of Queensland - Australia [2012]

MBA in Environmental Management

Universidade Federal do Rio de Janeiro, Brasil [2008-2009]
Instituto Alberto Luiz Coimbra de Pós-Graduação e Pesquisa de Engenharia, COPPE

Undergraduate in Business

Escola Superior de Propaganda e Marketing [2003-2007]
IADE - Faculdade de Design, Tecnologia e Comunicação - Portugal [2005-2006]

FELLOWSHIPS

DSc Fellowship [2021-2023]

National Agency of Petroleum, Natural Gas, and Biofuels - PRH-41/ANP

Master Fellowship [2015-2018]

National Council for Scientific and Technological Development (CNPq, Brazil)

Undergraduate Fellowship [2013-2014]

National Agency of Petroleum, Natural Gas, and Biofuels - PRH-07/ANP

PUBLICATIONS

PEER-REVIEWED JOURNALS

Wiedenhofer, Dominik and Streeck, Jan and Wiese, Frauke and Verdolini, Elena and Mastrucci, Alessio and Ju, Yiyi and Boza-Kiss, Benigna and Min, Jihoon and Norman, Jonathan B. and Wieland, Hanspeter and Bento, Nuno and Godoy León, María Fernanda, **Magalar Leticia**, and Mayer, Andreas and Gingrich, Simone and Hayashi, Ayami and Jupesta, Joni and Ünlü, Gamze and Niamir, Leila and Cao, Tao and Zanon-Zotin, Marianne and Plank, Barbara and Vélez-Henao, Johan and Masanet, Eric and Krey, Volker and Akimoto, Keigo and van Ruijven, Bas and

Pauliuk, Stefan, *Industry Transformations for High Service Provisioning with Lower Energy and Material Demand: A Review of Models and Scenarios* (April 17, 2024). Available at SSRN: <https://ssrn.com/abstract=4617908> or <http://dx.doi.org/10.2139/ssrn.4617908>

Bezerra, P., da Silva, F., Cruz, T., Mistry, M., Vasquez-Arroyo, E., **Magalar, L.**, De Cian, E., Lucena, A. F. P., & Schaeffer, R. (2021). *Impacts of a warmer world on space cooling demand in Brazilian households*. *Energy and Buildings*, v. 234

Guedes, F., Szklo, A., Rochedo, P., Lantz, F., **Magalar, L.**, & Arroyo, E. M. V. (2019). *Climate-energy-water nexus in Brazilian oil refineries*. *International Journal of Greenhouse Gas Control*, 90, 102815.

Viviescas, C., Lima, L., Diuana, F. A., Vasquez, E., Ludovique, C., Silva, G. N., **Magalar, L.**, Lucena, Szklo, A., André F. P., Schaeffer, R. Paredes, J. R. (2019). *Contribution of Variable Renewable Energy to increase energy security in Latin America: Complementarity and climate change impacts on wind and solar resources*. *Renewable and Sustainable Energy Reviews*, 113.

OTHER PUBLICATIONS

Nobre, C.A. et al. (2023) *New Economy for the Brazilian Amazon*. São Paulo: WRI Brasil. Report. Available at: www.wribrasil.org.br/nova-economia-da-amazonia
<https://doi.org/10.46830/wriprt.22.00034en>

WWF 2022 – *Rotas para a produção de hidrogênio sustentável no Brasil -Análise Ambiental e Econômica*. Available at:
https://wwfbrnew.awsassets.panda.org/downloads/factsheet_hidrogeniobaixocarbofinal.pdf

Vasquez-Arroyo, E.; Gandelman, D. A.; Silva, F. Da; **Magalar, L.**; Santos, D. V.; Lucena, A. F. P. (2021). *Implications of climate change impacts for the Brazilian electricity mix*. *SUSTENTABILIDADE EM DEBATE.* , v.11, p.122 - 156.

Vasquez-Arroyo, E.; **Magalar, L.**; Silva, F. T. F.; Lucena, A. F. P. (2020). Chapter 3: IMPACTS, VULNERABILITY AND ADAPTATION TO CLIMATE CHANGE. Fourth National Communication of Brazil to the UNFCCC.

Magalar, L. *Modelagem da disponibilidade hídrica em refinarias de petróleo brasileiras: o caso da REPLAN*. Master Dissertation. Energy Planning Program/Federal University of Rio de Janeiro. 2018.

CONFERENCES

Magalar, L.; Torregiani, L. ; Verdolini, E., Szklo, A; *A Framework to Incorporate Circular Economy Policies in Integrated Assessment Models* (2023). In: Sixteenth IAMC Annual Meeting.

Magalar, L.; Gomes, L.; Baptista, L.B.; Zotin, M.Z., Szklo, A.; *Comparative analysis of copper demand in different IAMs' carbon restriction scenarios* (2021) In: Fourteenth IAMC Annual Meeting.

Zotin, M. Z.; **Magalar, L.**; Baptista, L. B.; Rochedo, P.; Szklo, A. S. (2020). *The material dimensions of carbon mitigation pathways*. In: Thirteenth IAMC Annual

Meeting. Thirteenth IAMC Annual Meeting.

Vasquez-Arroyo, E.; **Magalar, L.**; Guedes, F., Rochedo, P., Szklo, A.; Schaeffer, R.
(2016) *A disponibilidade hídrica como possível restrição ambiental para a produção de derivados de petróleo no Brasil*. Rio Oil & Gas 2016

**FINANCED
PROJECTS**

**CircEular - DEVELOPING CIRCULAR PATHWAYS FOR A EU LOW-CARBON
TRANSITION**

Funded by: European Commission

Role: Researcher on circular economy measures for industry and the application of these measures in Integrated Assessment Models

New Economy for the Amazon (NEA) [2021 – 2022]

Funded by: World Resources Institute (WRI)

Brazilian coordinator: Roberto Schaeffer

Role: Research Collaborator in Waste to Energy and Circular Economy areas

Main goal: Develop new infrastructure scenarios to tackle energy poverty, waste mismanage and logistics gaps.

**Energy Demand changes Induced by Technological and Social innovations (EDITS)
[2021 – Ongoing]**

Funded by: Ministry of Economy, Trade, and Industry (METI)

Role: Research Collaborator at Industry/materials working group

Main Goal: To strengthen the research on energy and materials demand also considering socio-technical aspects.

NAVIGATE [2020 – 2023]

Funded by: European Commission – H2020

Role: Research Collaborator in Industry/Materials sector

Brazilian coordinator: Roberto Schaeffer

Main goal: Improve the capability of Integrated Assessment Models (IAMs) to support climate policy making.

Brazil's fourth national communication to the UNFCCC [2018-2019]

Funded by: Ministry of Science, Technology and Innovation (MCTI)

Role: Research Consultant

Main goal: To analyze impacts and vulnerabilities of climate changes in the Brazilian energy sector; Develop feasibility studies for solar, wind, and hydro energy generation; Develop mitigation and adaptation plans, and energy complementarity studies.

**Contribution of Renewable Energy to Increase Energy Security in Latin America
[2016]**

Funded by: InterAmerican Development Bank (IDB)

Role: Research Collaborator

Main goal: Analyze the seasonality and variability of renewable energy resources

and possible complementarities between solar, wind, and hydraulic energy among Latin American countries

**OTHER
EXPERIENCES**

Post Degree Researcher [2023 - Ongoing]

Institute: European Institute on Economics and the Environment
collaboration with the modelling team in exploring possible ways to represent materials flows and circular economy strategies in integrated assessment models.

Researcher [2016 – 2023]

Institute: COPPE/CenergiaLab
Work on several research projects related to waste-to-energy technologies, waste management, mitigation and adaptation strategies in energy sector and the improvement of industry sector at the global integrated assessment model COFFEE.

External Senior Consultant [2022]

Company: WWF
Developed a life cycle assessment study of different technological routes for green hydrogen production in Brazil.

Sustainability and Climate Change Team Coordinator [2019 - 2020]

Institution: WayCarbon
Led projects related to greenhouse gas mitigation, development of mitigation technologies roadmap for the mining industry, carbon pricing strategies for companies, climate adaptation, vulnerability impact assessment, and mitigation and adaptation plans for cities.
Performed extensive research on environmental, social, and governance (ESG) and green bonds framework and alternatives indicators to measure physical climate risk for the financial sector.

Climate Change Consultant [2013-2015]

Institution: Ambio Soluções Ambientais
Responsible for the elaboration of GHG inventories for chemical industries and landfills. Participation in consulting projects for study feasibility of landfill biogas plant. Monitoring of environmental audits and consulting projects for implementation of the environmental management system.

Undergraduate Researcher [2012]

Institution: Queensland University
Developed product lifecycle inventories for the biofuels sector during the university's summer research program.

Consultant and speaker [2009]

Institution: Ciclos Consultoria Ambiental
Preparation and execution of workshops on environmental education to meet the requirements of the Environmental Education Project of Workers of Petrobras.

Consultant [2008-2009]

Institution: Ernst & Young
Worked on mapping risks and internal controls of energy companies following Sarbanes-Oxley law, defining action plans for inconsistencies found, and testing the effectiveness of controls created. Responsible for the external audit of

financial institutions and companies in the biotechnology sector.

Business Plan Analyst [2006-2008]

Institution: IBM

Responsible for planning incentive plans and bonus payments to US, Canadian and Latin American employees. She acted as a team coordinator and elaborated the company's values development program in incentives and commissions.

Logistics Intern [2006]

Institution: FIAT

Responsible for monitoring the logistics operation and car inventory maintenance of dealerships located in southeastern Brazil.

SKILLS ArcGIS, R, Python (Beginner), GAMS (Beginner), SimaPRO , WEAP (Water Evaluation And Planning System)
