
Founder and Director of the Center for Infrastructure Regulation (FGV CERI since 2010) and Professor at Fundação Getulio Vargas. Coordinator of the Professional Master's Program in Finance and Business Economics of the Graduate School of Economics at FGV since 2013. Former Director of the National Electric Energy Agency (ANEEL) (2005-2009). Member of the Global Future Council of the World Economic Forum (since 2014) and Global Future Council for the Future of the Energy Transition (since 2019). Independent Member of the Board of Directors of SANEPAR.

She was part of the *Innovation Council of the European Distribution System Operators* (E.DSO). She was Co-Chair of the Task Force Infrastructure Investment and Financing of T20 Italy 2021 and T20 Indonesia 2022. President of the Energy Council of the Commercial Association of Rio de Janeiro. Columnist for the Energy Broadcast of Agência Estado and Conjuntura Econômica of FGV. Member of the Board of Directors of BNDES (2021-2023)

In the first semester of 2010, she was a Guest Professor at the *Mossavar-Rahmani Center for Business and Government at Harvard Kennedy School* (Harvard University). In the first semester of 2013, she participated in the *Australian Leadership Award Fellowship Program*, an Australian government award. Editor of the Journal *Competition and Regulation in Network Industries*.

She acts as an *Expert Witness* in national and international arbitration proceedings. Coordinates Research and Development projects in the energy, water resources, and sanitation sectors, including strategic projects demanded by regulatory agencies. Coordinates projects in regulation and infrastructure of network industries (electric power, oil and gas, water, telecommunications, transportation). Coordinates projects executed with multilateral organizations (World Bank, Inter-American Development Bank, Corporación Andina de Fomento) and international agencies.

Participates in seminars and lectures in North America, Latin America, and Europe for academic audiences and professionals in the fields of expertise. She organizes seminars and conferences on energy and regulatory issues. For example, at the invitation of the U.S. Secretary of Energy, Jennifer Granholm participated in a Roundtable session with a public-private dialogue attended by about 15 participants, including six state ministers, executives, and other global leaders in clean energy. The event is part of the Global Clean Energy Action Forum (GCEAF) and aggregated the 13th Clean Energy

Ministerial and seventh Mission Innovation Ministerial (CEM13/MI-7). It occurred in Pittsburgh, Pennsylvania, from September 21-23, 2022.

Invited by Creon Butler, Director of the Global Economy and Finance Programme, at Chatham House (Royal Institute of International Affairs), she was Chair of the *Net Zero Energy Transition* session at an event on the Economics of Climate Change and Implications for Emerging Economies. Held in October 2022, the panel included Professor Michael Grubb (University College London), Dr. Narasimha Rao (Yale University), and Dr. Pablo Salas Bravo (International Finance Corporation, World Bank Group). The keynote speaker was Professor Lars Peter Hansen (Nobel Prize in Economics).

Advises regulators, government, and companies in various processes of restructuring network industries and modeling infrastructure auctions and concessions. Extensive experience in modeling infrastructure auctions (electric power, transportation, oil exploration rights). Her consulting experience includes government agencies, regulators, public and private organizations.

ACADEMIC QUALIFICATIONS

- 2013 ● Australian Leadership Award Fellowship at Queensland University, Queensland, Australia.
- 2010 ● Visiting Scholar at Harvard Kennedy School, Harvard University, United States of America.
- 2001 ● Ph.D. in Economics, Graduate School of Economics, FGV.
- 1995 ● Master in Economics, Graduate School of Economics, FGV.
- 1990 ● Bachelor in Economics, Federal University of Rio Grande do Sul.

WORK EXPERIENCE

- 2010 - ● **Founder and Director of the Center for Regulation and Infrastructure at Fundação Getúlio Vargas - FGV CERI**
 - » Leads projects and studies with multilateral organizations and public and private companies on the following topics: electricity: Dissemination of Distributed Energy Resources (DER) and its impacts on *Utilities, digitalization of electricity networks, resilience*; natural gas (sector reform, impacts on *midstream*); water resources (allocation of rights among multiple uses); sanitation (Implementation of the new framework approved in 07/2020); urban mobility - electrification of mobility; concessions in road transport and airport infrastructure; long-term financing and risk allocation; regulatory governance of *utilities*; impacts of prudential regulation of *climate risk disclosure, and resilience of critical infrastructure (since 2020)*.

- » She also provides economic advisory and consulting services to public and private organizations on regulatory issues in energy, water, and transportation. Coordinates studies on corporate governance regulation, *termination and renewal possibilities of concessions in the electricity sector*; and economic and financial sustainability of electricity distribution companies.
- » *Leads* projects in artificial intelligence and *Machine Learning* applied to operations and maintenance of electricity grids and resilience of critical infrastructures. Coordinates project to elaborate a Financing Guide for Green Hydrogen in Brazil (NIRAS for GiZ).
- » Leads relevant research projects, such as the ANEEL Strategic R&D entitled "Methodology for Elaboration of the Deficit Cost Function", following up on a study contracted by the Energy Research Company that aimed to update the basic conceptualization of the deficit cost - result of Competition (2013-2014).
- » Advisor in (re)structuring regulatory frameworks and modeling auction mechanisms used in the electricity sector reform established in 2004, modeling auctions for highway concessions, and modeling auctions for airport concessions (2011).
- » She coordinated the study of public policies and regulations for implementing Smart Grids in Brazil (Research Project for the Brazilian Association of Electricity Distributors).
- » Coordinated teams of professionals in the development of a (new) regulatory framework for water regulation, advising the National Water and Sanitation Agency (ANAS) and for the conversion (burial) of electric power distribution networks.
- » Development of (experimental) studies on mechanisms for allocating exploration and production rights for the oil and gas reserves located in the pre-salt (Petrobras).

2020 -

Member of the Board of Directors of SANEPAR

- » Representative of the minority shareholders. Chair of the Company's ASG Strategic Committee. Appointed on: November 30, 2020. End of mandate: 04/27/2024.

2021 -

Member of the Board of Directors of BNDES

2023

- » Elected at the 5th BNDES Annual General Meeting on 04/26/2021 and re-elected at the Meetings 24th BNDES Annual General Meeting, 17th BNDESPAR Annual General Meeting, and 11th FINAME Annual General Meeting held on 06/27/2022, to the position of Member of the Board of Directors of Banco Nacional de Desenvolvimento Econômico e Social - BNDES, BNDES Participações S.A. - BNDESPAR and of the Special Agency for Industrial Financing - FINAME, respectively. Member of the Board of Directors until January 23, 2023.

2005-

Director at the National Electric Energy Agency (Aneel)

2009

- » Member of the Joint Board of Directors holding office for a full term. The Agency regulates electricity generation, transmission, distribution, and commercialization. Rapporteur of more

than 2000 proceedings involving topics such as auctions of large electricity plants (Santo Antonio hydroelectric plant auction, leading case in the strategic auctions instituted in the then New Model of the Electricity Sector), auctions of transmission and generation of electricity, tariff proceedings of dozens of electricity distributors and hundreds of appeals filed in the administrative sphere. Director of the National Electrical Energy Agency (Aneel) - (2005/2009)

2001-
2015.

● **Coordinator of the Center for Experimental Economics at Fundação Getulio Vargas**

- » Experiments in Hybrid Auctions - 2004.
- » Experimental studies for auctions of oil and natural gas exploration rights in the pre-salt layer in the advent of the sharing regime.
- » Experimental studies in auctions, assisting policymakers in modeling concessions and PPPs - electricity auctions, highway and airport concessions.
- » Economic Experiments in Applied Microeconomics (Public Provision of Public Goods Mechanisms, Organizations, and Contracts).
- » Design and Implementation of Economic Experiments in Decision Making - 2001.

2002 -
now

● **Professor at Getulio Vargas Foundation (Undergraduate and Postgraduate)**

- » Microeconomics, regulation economics, game theory, economics of organizations and contracts, strategic competition, auctions, energy economics, and infrastructure economics, among other topics.

2001 -
2002

● **Regulation Analyst (National Petroleum Agency)**

- » Natural Gas Regulation Superintendence

2001 -
Present

● **Consulting for several companies in the infrastructure industry, public and private entities in Brazil and abroad.**

SELECTED PUBLICATIONS

- » Dutra, J. and Menezes, F.; "Energy Transition in the Brazilian Electric Power System", *Competition and Regulation in Network Industries*, 2022.
- » Dutra J.; J. Pacheco; and J. Seixas; "Solar Energy Policy to Boost Brazilian Power Sector," *International Journal of Climate Change Strategies and Management*, v.12, pp. 349-367, 2020.
- » Barbalho, Antonio; and Dutra, Joisa; "The convergence of business models and long-term financing in the energy transition," *Competition and Regulation in Network Industries*, v.18, issue 3-4, 2018.
- » Costa, F.J.; Dutra, Joisa. Effort Complementarity and Team Size, An Experimental Analysis of Moral Hazard in Teams. *Economics Bulletin*, v. 38, p. 20-29, 2018.
- » Castro, Luciano I, DUTRA, Joísa C.; and FIGER, V. The Economics of the Smart Grid Technological Innovation, chapter 17 of the *Edward Elgar Handbook of Energy Politics*, forthcoming, (2018).
- » Dutra, Joísa C.; Menezes, Flavio M.; Zheng, Xuemei. Price Regulation and the Incentives to Pursue Efficiency by Minimizing Network Losses. *Energy Journal*, v.37, n.4. 2016.
- » DUTRA, J. C.; SAMPAIO, P. R. P.; LOPES, E.D.G. . Twenty years of infrastructure concessions in Brazil. *Network Industries Quarterly*, v. 18, p. 3-8, 2016.
- » DUTRA, J. C.; SAMPAIO, P. R. P.; AMORIM, L.. Regulatory aspects and challenges of public lighting: controversies and recent developments. *Revista de Direito da Universidade de Brasília*, v. 2, p. 120-160, 2016.
- » Dutra, Joisa; Goncalves, E. D. L; Sampaio, P. R. P.. Twenty years of infrastructure concessions in Brazil. *Network Industries Quarterly*, v. 18, p. 3-6, 2016.
- » Dutra, Joisa; Figer, V.. The Future of Electric Utilities in Latin America. *Network Industries Quarterly*, v. 18, p. 13-16, 2016.
- » Dutra, Joísa C.; Menezes, Flavio M., 2015. "Electricity Market Design in Brazil: An Assessment of the 2004 Reform," *Discussion Papers Series 545*, School of Economics, University of Queensland, Australia.
- » De Castro, Luciano; Dutra, Joísa C.; Paying for the smart grid. *Energy Economics*, v. 40, p. S74-S84, 2013.
- » Dutra, Joísa C.; Menezes, Flavio Marques. Lessons from the Electricity Auctions in Brazil. *The Electricity Journal*, v. 18, p. 11-21, 2005.
- » Castro, Luciano I, DUTRA, Joísa C.; The Economics of the Smart Grid, *Proceedings of IEEE 49th Annual Allerton Conference on Communication, Control, and Computing*, 1294-1301, 2011.
- » Araujo, Aloisio Pessoa, CASTRO, Luciano I, DUTRA, Joísa C. and LINS, G. *Energy Auctions in Brazil, 2005 (Working Paper)*.
- » Dutra, Joísa Campanher; Menezes, Flavio Marques. "Hybrid Auctions," *Economics Letters* 77, 301-307, 2002.