2025

Marcos Vinícius Gusmão Nascimento, M.Sc.

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Born on November 28, 1960, Brazilian, Married.

Summary of Qualifications

Electrical Engineer with a Master's degree in Power Systems from COPPE/UFRJ. A professional with over 45 years of experience in the Brazilian Electric Power Sector, including 5 years in the industrial segment. Held executive positions at Braskem, Odebrecht Energia, and Andrade & Canellas, and dedicated 18 years to research activities at the Electric Power Research Center (CEPEL).

Extensive background in power generation, transmission, distribution, and regulation within the energy sector. Participated in strategic projects involving the assessment of new high-voltage energy connections, development of wind farms, acquisition of Small Hydropower Plants (SHPs), and creation of Energy Trading platforms.

Holds broad expertise in energy trading, regulation of the electricity and natural gas sectors, thermal energy, cogeneration, distributed generation, renewable energy sources, and rural electrification. One of the creators of the largest rural electrification program in history: *Luz no Campo*, now known as *Luz para Todos* ("Light for All").

EDUCATION

Graduation

Doctoral Studies
Completed all coursework and qualifying exams with highest distinction.
COPPE/UFRJ – Energy and Environmental Planning Program.
Thesis Topic: "Hydrogen and Hydropower in Brazil – The Bridge to a New Era"
Advisor: Prof. Maurício T. Tolmasquim
Thesis defense not presented.

Master's Degree
COPPE/UFRJ - Electrical Engineering Department – Power Systems
Start: March 1990 – Completion: April 1993
Thesis: "Abrupt Current Interruption During No-Load Transformer Switching"
Advisor: Prof. Carlos M. J. C. M. Portela

Bachelor's Degree

Electrical Engineering
Escola de Engenharia Veiga de Almeida - Rio de Janeiro - RJ
Início: 1979 → Término: 1983

- Recipient of the Walfrido Schmit Award for best academic performance among the 1983/2 graduating class in Electrical Engineering.

AREAS OF EXPERTISE

Planejamento Energético e Ambiental
Energy & Environmental Planning
Energy Trading
Regulation of the Electric Power and Natural Gas Sectors
Gas & Energy
Thermal Power Generation
Distributed Generation
Cogeneration
Renewable Energy Sources
Rural Electrification
Economic and Financial Analysis
Electromagnetic Transients & High Voltage and Power Testing
High Voltage and Power Transformers & Circuit Breakers

PROFESSIONAL EXPERIENCE

Neogier Energia

Since June /2013

Managing Partner and Co-Founder

Managing Partner at Neogier Energia, a company focused on adding value through innovation by providing its clients — including power generators, energy traders, industries, and the tertiary sector — with better contracts, energy efficiency, and the capability to make more rational use of electric energy.

Development of strategic services related to identifying consumption patterns for optimal contracting and opportunities in energy efficiency projects.

Providing clients with investment structuring solutions for self-generation of energy, with an emphasis on renewable energy sources — making access to these opportunities financially feasible beyond just large corporations.

Odebrecht Energia

February 2010 – May 2013

Director of Energy Trading & Regulation

Responsible for coordinating the entire regulatory agenda of the Odebrecht Group companies related to the National Regulatory Agencies ANEEL and ANP. Managed interfaces with the Energy Research Company (EPE), the Energy Trading Chamber (CCEE), the National Operator of the Interconnected Electric System (ONS), and the Ministry of Mines and Energy.

Company representative at APINE – Association of Independent Electric Power Producers, ABIAPE – Brazilian Association of Investors in Self-Generation, and ABRACEEL – Association of Electric Energy Trading Agents.

Coordinator of the Electric Energy Committee of Odebrecht Group Companies: Braskem, ETH, and Foz do Brazil, providing technical and regulatory support for strategic decisions related to the commercialization of energy from their generation assets.

Supported the Business Leader/President in investment decisions for greenfield projects and acquisition of existing assets.

Braskem

August 2006 – January 2010

Energy Director

Responsible for managing the Corporate Energy Program.

Oversaw all energy procurement for the company — one of the country's largest energy-intensive consumers, with 45 trillion BTUs per year / approximately USD 500 million (2010 basis) in electricity (~500 MW) and fuels including BPF oil, natural gas, and coal.

Responsibilities included: (i) valuation of residual process fuels: 85 trillion BTUs / USD 800 million (2007 basis); (ii) maintaining relationships with regulatory agencies, sector agents, and government; (iii) defining investment strategies for self generation; (iv) representing the company in industry associations such as ABRACE and ABIAPE; and (v) developing the annual energy matrix and defining future strategic evolution plans.

Elected as ABRACE Board Member in 2007. Served as Vice-President from 2007 to 2009, directly contributing to the professionalization of the Association and structuring its technical team. For three consecutive years, led the ABRACE Northeast Group, achieving important milestones including Article 22 of Law 11.943/2009, which allowed the renewal of contracts established with federal generators prior to the new legal framework of the electric sector.

Andrade & Canellas – Consulting & Engineering

June 2003 – July 2006

Director of New Business Development

Responsible for coordinating the work of four knowledge areas: (i) Special Projects; (ii) Oil & Gas; (iii) Transmission Lines & Substations; and (iv) Information Technology (IT).

Responsible for the Business Plan of Andrade & Canellas and providing tailored consulting services to industry associations such as ABRACE – Brazilian Association of Large Energy Consumers and Free Consumers, ABAL – Brazilian Aluminum Association, and ABRAGET – Brazilian Association of Thermal Power Generators. The consulting services for these associations covered technical, economic-financial, and regulatory issues.

Responsible for defining the company's main strategic direction to meet the energy demands of large industries in the fields of electric power, new renewables, and oil & natural gas.

Provided tailored consulting services to energy executives of major companies such as ALCOA, BRASKEM, NOVELIS, GERDAU, and CARBOCLORO, among others.

CEPEL – Electric Power Research Center
Eletrobras Group (Brazilian Electric Utilities Holding Company)

1999 – June 2003

Manager of the Research Program in Rural Electrification & Renewable Energy

Structuring a Research and Development Program in the areas of Renewable Energy and Rural Electrification. The program was created for public and private companies interested in:

- Development of rural infrastructure, including electricity and telecommunications, through innovations in simplified rural networks and decentralized generation with micro-grids.
- Development of studies on distributed generation (DG) and integration of new renewable energies into the National Interconnected System (SIN): wind farms, biomass cogeneration plants, small hydropower plants, and solar systems.

Preparation of CEPEL's Business Plan in the area of Renewable Energy.

Coordination of R&D project teams focused on energy, with emphasis on rural electrification, distributed generation, cogeneration, and applications of alternative energy sources both on-grid and off-grid.

Identification of new R&D lines with present and future market potential.

Seeking new clients in technological innovation through the formation of research groups and budget proposals.

Support to the Ministry of Mines and Energy (MME) in prioritizing political and institutional actions related to the expansion of energy infrastructure in rural areas.

Coordination in the preparation of technical proposals for high-tech services, e.g., development of polymer membrane fuel cells for decentralized generation.

Support for planning activities at Eletrobras and the Ministry of Mines and Energy (MME).

Responsible for environmental projects in the hydropower and thermal power sectors.

Delivered national and international lectures on topics related to energy and the environment.

Analysis of traditional rural electrification projects based on grid extension and installation of decentralized generation systems, including the definition of prioritization indicators for service areas.

Coordinator at CEPEL for technological activities within the framework of the National Rural Electrification Project "Luz no Campo."

1989 - 1999

Researcher – Materials & Mechanics Area

Leader of long-term projects related to distributed generation, renewable energy, thermal power generation, and advanced testing techniques for high voltage and power switching and interruption equipment. Development of project frameworks, technical and economic analysis of new thermal power plants.

1986 - 1989

High Power Laboratory Test Engineer

Supervision and execution of power tests on high voltage equipment such as transformers, reclosers, circuit breakers, fuses, high voltage switches, surge arresters, insulator strings, etc.
Development of software for data acquisition systems.
Development of maintenance programs for laboratory facilities.
Analysis of test methodologies according to international standards.

Cia. Fluminense de Tecidos – Textile Industry

Electrical Engineer (1984 – 1986)
Electrical Maintenance Manager (1982 – 1984)
Workshop Supervisor (1981 – 1982)

Technical responsibility for the electrical maintenance of an industrial plant with 5 MW capacity, including 1,000 motors, steam generators, etc.

Coordination of a technical team for maintenance of lines, substations, AC and DC motors, variable speed drive systems, medium voltage circuit breakers, power transformers, and boiler control systems.

Responsibility for demand control with impact on production lines.

Implementation of testing programs for electric motor protection systems, resulting in a dramatic reduction in failure rates.

SOME PROJECTS DEVELOPED AS A CONSULTANT

Feasibility study of wind energy use aimed at installing an electric power generation plant in the ALUMAR influence area, Maranhão State, 2003.

Preliminary analysis of cogeneration implementation costs for GERDAU plants, 2003.

Evaluation of the implementation of a cogeneration process at Latasa plants, 2003.

Diagnosis for energy contracting for the Jacareí, Águas Claras, Santa Cruz, Brasília, and Recife factories of LATASA. Energy contracting for the manufacturing unit. Analysis of options for using the Group's installed diesel-electric generation capacity for peak energy production and investigation of cogeneration strategy as an option to reduce costs and optimize energy use, 2003.

Socio-environmental feasibility analysis of the electrification project for the left bank of the Amazon River with underwater crossing, 2003.

Regulatory support regarding access to the basic grid for negotiations with ANEEL, ONS, and MME, various projects, 2003–2006.

Technical, economic-financial, and environmental feasibility analysis of using Petrobras natural gas from the Uatumã reserve in the municipality of Silves – AM, transported via waterways, to supply Mineração Rio do Norte, replacing fuel oil used for electricity and process heat generation, 2004.

Oil & Gas in Brazil, ABAL, 2004.

Analysis of the Evolution of Sector Charges in Electricity Tariffs, ABRACE, 2004.

Preliminary Technical, Economic, and Environmental Feasibility Analysis of Dedicated Transmission Line Implementation for Direct Connection of Small Hydropower Plants (PCHs) to the Factory, CIPLAN, 2004.

Critiques on the Tariff Review of the Piped Gas Concessionaire CONGÁS, ABRACE, 2004.

Regulatory Analysis of the Situation of Condominiums / Industrial Parks, EKA, GM, 2004.

Electricity Supply for a New Paper Machine Project – Energy Supply for a New Printing Paper Factory, Norske Skog Pisa, 2004.

Feasibility Analysis of Implementing a Natural Gas Cogeneration System to Supply Electrical and Thermal Loads at Guarulhos Airport, Infraero, 2004.

Initial Electro-Energy Studies for Cogeneration/Refinery/Reduction Increase, ALUMAR, 2004.

International outreach article titled "Hydropower Projects Development," ALCOA, 2004.

Analysis of Options for Utilizing Installed Diesel-Electric Generation Capacity in the LATASA Group for Peak Power Production, 2003.

Analysis of the Evolution of the CCC sector levy in Isolated Systems, ABRACE, ABVIDRO, ABIQUIM, ABAL, 2005.

Analysis of Sector Levies RGR & CDE, 2005.

Analysis of the Secondary Market for Natural Gas in Brazil as a Contribution to the Gas Law, ABRACE, ABVIDRO, ABIQUIM, ABAL, 2005.

Technical-economic feasibility analysis of using petroleum coke imported from the US Gulf to supply MRN, replacing fuel oil used for electricity and process heat generation, 2005.

Advisory services to various clients on opportunities for self-production of electric energy and strategies for corporate arrangements, 2005.

Technical-economic-environmental feasibility study of electric supply alternatives for Juruti Mining through interconnection of this project to the National Interconnected System, ALCOA, 2005.

Advisory to ABRACE in discussions with MME regarding the publication of a decree ensuring the right of access to the Basic Network of the National Interconnected System, 2005–2006.

Technical, economic, and environmental feasibility analysis of grid connection for manufacturing units of: Aços Villares, Ajinomoto, Carbocloro, Gerdau, Kinross, Yamana, Coteminas, Alcan, Alcoa, Norberto Odebrecht, Solvay, 2003–2006.

Strategic Planning for Thermoelectric Generation in Brazil, ABRAGET, 2006.

Economic and financial feasibility analysis of converting the ALCOA Poços de Caldas plant to operate with natural gas, 2006.

Energy Perspectives and Overview for Latin America, ALCOA, 2006.

Decentralized Rural Electrification Project for Environmental Compensation of Mining Projects in the Amazon, 2006.

Advisory to ABRACE in discussions with MME regarding the publication of a decree ensuring the right of access to the Basic Network of the National Interconnected System, 2005–2006.

Technical, economic, and environmental feasibility analysis of grid connection for manufacturing units of: Aços Villares, Ajinomoto, Carbocloro, Gerdau, Kinross, Yamana, Coteminas, Alcan, Alcoa, Norberto Odebrecht, Solvay, 2003–2006.

Strategic Planning for Thermoelectric Generation in Brazil, ABRAGET, 2006.
Economic and financial feasibility analysis of converting the ALCOA Poços de Caldas plant to operate with natural gas, 2006.

Energy Perspectives and Overview for Latin America, ALCOA, 2006.

Decentralized Rural Electrification Project for Environmental Compensation of Mining Projects in the Amazon, 2006.

SELECTED PUBLISHED WORKS

"The Growing Participation of Sector Charges in the Cost of Brazilian Energy," XVIII SNPTEE, Curitiba, 2005.

"Comparative Economic Analysis of Options for Uninterrupted Energy Supply to Small Communities," XVII SNPTEE, 2003.

"Energy Supply to Riverside Communities Using Photovoltaic Systems Linked to Service Fees – State of Amazonas," Collection of Articles – Solar and Wind Energy, Sergio de Salvo Brito Reference Center for Solar and Wind Energy (CRESESB), 2004.

"Support for the Universalization Program of Electric Energy Service in the Northern Region through the Application of Renewable Alternative Energy Sources," XVII SNPTEE, 2003.

Book: "Renewable Energy Sources in Brazil", Coordination and Writing of the Chapters "Wind Energy" and "Helio thermal Energy," CENERGIA, 2003.

Prospective Analysis of the Introduction of Alternative Energy Technologies in Brazil: Wind Energy – Terms of Reference. UFRJ, Center for Energy and Environmental Economics (CENERGIA), 2002.

Prospective Analysis of the Introduction of Alternative Energy Technologies in Brazil: Helio thermal Energy – Terms of Reference. UFRJ, Center for Energy and Environmental Economics (CENERGIA), 2002.

"The Rural Electrification Program 'Luz no Campo': Initial Results", 4th Meeting on Energy in Rural Areas – Agrener, 2002.

"The 'Luz no Campo' Electrification Program and Evaluation in the State of Mato Grosso/CEMAT: A Pilot Case", Brazilian Energy Congress, 2002.

"Reducing the Long-Term Cost of Solar Thermal Power Generation - State of The Art Survey". Relatório Técnico CEPEL, 2002.

"Gerahelio Project – Characterization of Potential Sites in the Brazilian Semi-Arid Region for the Implementation of a Pilot Helio thermal Electric Generation System." CEPEL Technical Report, 2002.

"Comparative Study of Generation Microsystems Based on Fuels," CEPEL Report 1165, 2001.

"Practical Evaluation of the Use of Raw Vegetable Oils as a Substitute for Diesel in Generator Sets," XVI SNPTEE, 2001.

"Comparative Cost Study Between Photovoltaic Systems and the Option of Extending the Electric Grid for Rural Electrification," CEPEL Technical Report, 2000.

Manual of Decentralized Electric Energy Generation Sources for Application in Rural Electrification Projects – Biomass. CEPEL Technical Report, 2000.

Manual of Decentralized Electric Energy Generation Sources for Application in Rural Electrification Projects – Wind Energy. CEPEL Technical Report, 2000.

Manual of Decentralized Electric Energy Generation Sources for Application in Rural Electrification Projects – Small Hydroelectric Power Plants (SHP). CEPEL Technical Report, 2000.

“Strategies For New Renewable Energy Application In Brazil - A Research Center View“, VII SEPOPE - Symposium Of Specialists in Electric Operational and Expansion Planning, 6 pág., 1999.

“Rural Electrification In Brazil And The “Luz No Campo” Program”, VII SEPOPE - Symposium of Specialists In Electric Operational and Expansion Planning, 7 pág., 1999.

“Alternative Energy Systems Applied to Isolated Systems: A Possible Solution for Subsidizing Diesel Generation in Brazil.” GTON, 1999.

“Regional Mapping for the Evaluation of Energy Alternatives for Isolated Systems in the Amazon: The State of Amapá.” Brazilian Energy Congress, 1999. – Awarded by the Brazilian Society of Energy Planning (SBPE).

“Rural Electrification in Brazil.” Technical Report Brazil at the 17th Latin American Rural Electrification Conference (XVII CLER), 1999.

“Alternatives to Diesel Generation for Isolated Systems in the Northern Region: Wind, Hydrokinetic, and Biomass.” 15th National Seminar on Power Generation and Transmission (XV SNPTE), Curitiba, 1999.

“Utilization of Urban Solid Waste in the Context of Industrial Ecology.” Mimeographed, 103 pages, PPE/COPPE/UFRJ, 1998.

“Model for Projecting Electricity Demand and Supply in Brazil for the Period 1996–2020.” Mimeographed, 105 pages, PPE/COPPE/UFRJ, 1998.

“Research in the New Institutional Environment of the Brazilian Electric Sector,” mimeographed, 42 pages, PPE/COPPE/UFRJ, 1998.

“Comparative Analysis of Environmental Impacts of Electric Energy Transmission Systems and Gas Pipelines,” mimeographed, 33 pages, PPE/COPPE/UFRJ, 1998.

“Implementation of Alternative Generation Systems in the Northern Region,” 14th National Seminar on Power Generation and Transmission (XIV SNPTE), Belém, 1997.

“Data Survey from 12 Stations in the Northern Region of Brazil,” CEPEL Technical Report, 1997.

“ANACOGE: Program for Estimating Energy Costs for Thermoelectric Plants and Cogeneration,” CEPEL Technical Report, 1997.

“Hydrokinetics: An Alternative Supply for Small Energy Blocks in Isolated Communities in the Amazon,” CEPEL Technical Report, 1996.

“Transient Recovery Voltage – A Survey of Actual Stresses in Brazilian Distribution Networks.” CIGRE Report, 1994.

“Studies of Transient Recovery Voltage (TRV) Stresses in Medium Voltage Networks – A Practical Case of TRV Measurement for Fault Fed by Transformer,” 5th ERLAC – Latin American Regional Meeting of CIGRE, Paraguay, May 1993.

“Substation Topologies with Transformer-Bus-Breaker Configuration Leading to High TRV Rates,” 11th SENDI – National Seminar on Power Distribution, Blumenau, September 1992.

“Regulation of Transient Recovery Voltage Circuits in Laboratory for Representation of Fault Interruption Conditions in Transformer Secondaries,” CEPEL Technical Report 334, 1991.

“Statistical Analysis of Failures in Equipment Subjected to Power Tests,” 11th SNPTE - National Seminar on Power Generation and Transmission, Rio de Janeiro, October 1991.

“Measurement of Transient Recovery Voltage in Distribution Systems,” 2nd Seminar on Electrical Fuses and Their Applications, São Paulo, 1991.

“Parameters Influencing the Minimum Arcing Time of SF6 Circuit Breakers in Switching Capacitive Loads,” 4th ERLAC - Latin American Regional Meeting of CIGRÉ, Argentina, August 1991.

“Relevant Aspects for Determining TRV Parameters for Interruption Tests in Distribution Fuse Switches,” 1st Seminar on Electrical Fuses and Their Applications, São Paulo, October 1990.

“Analysis of the Influence of the DC Component in the Short-Circuit Current on the Transient Recovery Voltage Waveform during Asymmetric Interruption Tests,” CEPEL Technical Report 476, 1988.

"Comments on the method proposed in IEC 56/87 regarding test sequence no. 5 of the basic series of interruption tests on medium voltage circuit breakers," CEPEL Technical Report 558, 1987.

OTHER ACTIVITIES

Delivers lectures on energy & environment, oil & gas, renewable energy, alternative gas transportation methods, and regulatory challenges in the energy sector.

Member of CIGRÉ, actively participating in working groups focused on switching transients in power systems; currently involved in the Energy Regulation and Commercialization Group.

Brazilian delegate to the Latin American Rural Electrification Conferences.

Supervised and mentored multiple undergraduate and master's students.

São Paulo, September 12, 2025

Marcos Vinícius Gusmão do Nascimento