

REQUEST FOR EXPRESSIONS OF INTEREST **CONSULTING SERVICES**

Selection # as assigned by e-Tool: BR-T1529 – P001

Selection Method: Simplified Competitive Selection

Country: Brazil

Sector: *Energy (INE/ENE)*

Funding – TC #:ATN/PI-19627-BR

Project #: BR-T1529

TC name: *Modernization of the Brazilian Power Sector*

Description of Services: *Improvement of the Brazilian energy market operations, accounting and financial settlement model*

Link to TC document: [TC Document BR-T1529](#)

The Inter-American Development Bank (IDB) is executing the above mentioned operation. For this operation, the IDB intends to contract consulting services described in this Request for Expressions of Interest. Expressions of interest must be delivered using the IDB Portal for Bank Executed Operations (<http://beo-procurement.iadb.org/home>) by: *August 9, 2023*, 5:00 P.M. (Washington D.C. Time).

To access the IDB Portal, the firms must generate a registration account, including **all** the data requested by the Portal. In the event that any of the information requested is not included, the firm will not be able to participate in this or any other Bank-executed selection process for operational work. If the firm has been previously registered, please validate that you have **all** the firm's information updated and complete before submitting an expression of interest.

The consulting services ("the Services") include *i) determine CCEE's performance in terms of the fulfillment of its current responsibilities; ii) evaluate trends and respective probabilities for the future evolution of the Brazilian electricity market, considering uncertainties regarding the process of energy transition and modernization of electricity markets, innovations in financial, technological and other relevant markets for which CCEE could or must prepare; and iii) develop a roadmap, short, medium and long term measures, to guide the adaptation process to be carried out by CCEE in order to diligently meet the responsibilities it will have to perform according with what is foreseen in item 'i'.*

The scope of this work encompasses three primary phases:

- 1) Diagnosis;*
- 2) Vision of the future; and*
- 3) Roadmap.*

Eligible consulting firms will be selected in accordance with the procedures set out in the Inter-American Development Bank: [Policy for the Selection and Contracting of Consulting firms for Bank-executed Operational Work](#) - GN-2765-4. All eligible consulting firms, as defined in the Policy may express an interest. If the Consulting Firm is presented in a Consortium, it will designate one of them as a representative, and the latter will be responsible for the communications, the registration in the portal and for submitting the corresponding documents.

The IDB now invites eligible consulting firms to indicate their interest in providing the services described above in the draft summary of the intended Terms of Reference for the assignment. Interested consulting firms must provide information establishing that they are qualified to perform the Services (brochures, description of similar assignments, experience in similar conditions, availability of appropriate skills among staff, etc.). Eligible consulting firms may associate in a form of a Joint Venture or a sub-consultancy agreement to enhance their qualifications. Such association or Joint Venture shall appoint one of the firms as the representative.

Interested eligible consulting firms may obtain further information during office hours, 09:00 AM to 05:00 PM, (Washington D.C. Time) by sending an email to: carloase@iadb.org; marthama@iadb.org

Inter-American Development Bank

Division: *INE/ENE*

Attn: *Carlos Echevarria, Regional Lead Energy Specialist*

1300 New York Ave, NW, Washington DC 20577, USA

E-mail: carloase@iadb.org

Web site: www.iadb.org

Selection process #:.....

TERMS OF REFERENCE

Improvement of the Brazilian energy market operations, accounting and financial settlement model

Country: Brazil

Project Number: BR-T1529

Technical Cooperation Number: ATN/PI-19627-BR

TC document link: [TC Document BR-T1529](#)

Technical Cooperation Name: Modernization of the Brazilian Power Sector

1. BACKGROUND AND JUSTIFICATION

- 1.1. The Energy Division (INE/ENE) is a functional division within the Infrastructure and Energy Sector Department (INE/INE) of the Inter-American Development Bank (IDB), under the Vice Presidency of Sectors and Knowledge (VPS/VPS). INE/ENE is responsible for developing technical analyzes and identifying and preparing programs, projects, technical cooperation, studies, and sectoral notes in the energy sector.
- 1.2. The primary responsibility of INE/ENE is the financing with a sovereign guarantee of energy infrastructure projects, including generation, transmission, and distribution of electrical energy, renewable energies, and bioenergy, and without a sovereign guarantee of investments in the productive sectors. The IDB has technically supported the modernization process of the electricity sector in Brazil from very early stages. As stated before, IDB contributed with the participation of technical experts in the initial discussions of the thematic working groups. In addition, in order to optimize the expansion process of the Brazilian electricity system, in 2021 the IDB supported to the Ministry of Energy and Mines to evaluate alternatives to a more effective coordination between the entry of operations of new electricity generation projects and the associated transmission works.
- 1.3. The electricity sector in Brazil is going through a transformational change to become more sustainable and low carbon. The IDB's technical cooperation BR-T1529 aims to support this ongoing transformation process, contributing to promote the modernization and development of the electricity sector, including the optimization of use of variable energy resources available, and to reduce Green House Gas (GHG) emissions.
- 1.4. The electricity matrix in Brazil is dominated by hydroelectric generation, although this dependence has been gradually reduced. While in 2000 hydroelectricity represented 83% of Brazil's installed capacity and 87% of the generated electricity, in 2023 the hydroelectric source still represented about 53% of the country's installed power. Over the years, other renewable sources have increased their share, significantly altering the composition of the Brazilian electric matrix. Currently (2023), wind power generation represents 12.5% and centralized solar generation represents 4.5% of the total Brazil's installed capacity.
- 1.5. Due to the historical prevalence of hydroelectricity generation, the rules of expansion and operation of the electricity system have been designed around the technological characteristics of this source. Currently the electricity sector is going through a transformation process because of a massive new integration of variable renewables energy, increase of Distributed Generation

resources (DG), sectoral digitalization and automatization process, sector's coupling (energy, transport, telecommunication, etc.), and the need to boost the transition to a zero-emission economy.

- 1.6. In this new scenario with a technological transformational changes, higher complexity, and greater uncertainty, it is required the Brazilian electrical system progressively adapts to this context becoming more flexible and resilient. Moreover, a more sophisticated energy market, pricing signals, and more interconnection arrangements between electricity subsystems and neighbor countries will be essential to optimize the expansion and operation of the system, considering the diversity of Brazilian's energy resources and its geographical dispersion throughout the territory.
- 1.7. At present, the electricity market has one third of its load negotiated in the Short Term Market (STM), growing by 13,56% in the number of agents in the last 12 months. In the next decade, it is expected that this market will be able to double in size, especially because of the Gob's efforts to liberalize the market. In this context, the Electric Energy Trading Chamber (CCEE) is responsible for the accounting and financial settlement of operations carried out in the STM. The Commercialization Rules and Procedures that regulate the activities carried out by the CCEE are approved by the National Electricity Energy Agency (ANEEL).¹
- 1.8. In this process of rapid transformation faced by the Brazilian electric sector, the CCEE requested greater security, robustness, flexibility, agility, increased temporal granularity of operations and scalability in the accounting and liquidation of transaction processes of the STM, and in other services provided by the Chamber to the market. Therefore, it is necessary to strengthen the capacities of CCEE to guarantee the security, robustness, and agility of its operations and transactions.
- 1.9. Nowadays, CCEE operates 11 products/markets, with emphasis on: short-term market, regulated market (ACR), reserve energy, capacity reserve, isolated systems, demand response, additional thermal generation, international energy exchange.
- 1.10. CCEE also manages a series of additional accounts and calculations, such as: system service charges, reserve energy charges, sectoral accounts (CCC², CDE³), Proinfa⁴, physical guarantee quotas, nuclear energy quotas (Angra 1 and 2), covid and hydro scarcity accounts, penalties for lack of contract, renewable energy, special energy, fuel shortage fines, anemometric fines, centralizing account for tariff flag resources and hydrological risk premium.
- 1.11. In February 2023, CCEE integrates generators, distributors, traders, and consumers. CCEE had 13,868 members, 34,697 registered assets, 54,016 energy meters connected and a monthly average of more than 93,000 contracts registered in its systems.
- 1.12. The gross volume accounted for the STM was R\$ 35 billion while the joint settlement of differences and System Service Charges (ESS) reached around R\$ 13 billion. In 2021, these values were R\$ 162 billion and 35 billion, respectively.
- 1.13. In 2022, accounting for regulated markets, which includes Reserve Energy, Angra 1 and 2 Quotas, Physical Guarantee Quotas, Surplus and Deficit Compensation Mechanism (MCSDs- Mecanismo de Compensação de Sobras e Défits) and Sales Revenue (RRV), reached around R\$ 65 billion.

¹ Agência Nacional de Energia Elétrica

⁴ Incentivo a Fontes Alternativas de Energia Elétrica - PROINFA

³ Energy Development Account - Conta de Desenvolvimento Energético

⁴ Programme of Incentives for Alternative Electricity Sources - Programa de Incentivo a Fontes Alternativas de Energia Elétrica - PROINFA

The financial settlement of these markets reached R\$ 21 billion. Note that the RRV is not settled centrally by the CCEE.

- 1.14. In the first three months of 2023, the operation and settlement of international energy exchange to Argentina and Uruguay reached around R\$ 1.5 billion. The energy exported to neighboring countries was generated by thermal and hydroelectric plants.
- 1.15. To strengthen CCEE's capacities to manage and operate the STM in the coming years, it is necessary to address an institutional modernization process that encompasses three fronts:
 - Review and development of recommendations, based on international best practices, to get a modernization of the current STM structure to support the current increase in operations;
 - Revision of the evolution of the accounting and liquidation model highlighting the weaknesses and strengths of the model. This modernization process requires a structured and consultative study, involving the market agents and Brazilian financial entities;
 - Provide improvements and a roadmap to the STM to get a mayor agility, granularity (operations in less time) and interoperability (participation of more financial entities).

2. GENERAL OBJECTIVE

- 2.1. The purpose of the consultancy, taking into account the previews working and analyses carried out by the CCEE, are to: i) determine CCEE's performance in terms of the fulfillment of its current responsibilities; ii) evaluate trends and respective probabilities for the future evolution of the Brazilian electricity market, considering trends and uncertainties regarding the process of energy transition and modernization of electricity markets, innovations in financial, technological and other relevant markets for which CCEE must prepare; and iii) develop a detailed roadmap for what was foreseen in item (i) with the indication of short, medium and long term measures, to guide the adaptation process to be carried out by CCEE to diligently fulfill the responsibilities that it will have to fulfill in accordance with what is listed in item "i".

3. SCOPE OF SERVICES

- 3.1. Taking into consideration the objectives and role of the CCEE as a benchmark energy market operator and account manager, the following questions arise:
 - 1) Are CCEE's results satisfactory in meeting the objectives and expectations of the market and society?
 - 2) What improvements can be made in terms of delivery?
 - 3) What strategies should be employed to achieve these improvements?
- 3.2. The scope of this work encompasses three primary phases:
 - 1) Diagnosis;
 - 2) Vision of the future; and
 - 3) Roadmap.
- 3.3. **The Diagnosis** involves examining the integrity, transparency, auditability, reproducibility, operability and organizational structure of CCEE's energy market operations, evaluating the achieved outcomes, identifying potential areas for improvement, and addressing any barriers that need to be overcome. The themes should be considered for this analysis:

- Diagnostic assessment of customer dissatisfaction with market operations and account administration at CCEE;
- Diagnostic evaluation of employee dissatisfaction with market operations at CCEE;
- Perspectives of CCEE directors, executives, and functional managers on market operations and account management;
- Organizational structure of CCEE for managing market operations and account administration.

Surveys or interviews with a representative group of the different stakeholders and clients may be used to gather the necessary data on their views and perspectives.

3.4. The "complexity" of the energy sector is a significant variable that greatly impacts market operations and account management. Considering this context, what would be the **future vision** for market operations and account management that would enable CCEE to fulfill its fundamental purposes and meet society's aspirations in a more streamlined, agile, and simplified manner? With this overarching objective in mind, it is expected that the future vision for energy market operations will be formulated. The following premises must be taken into consideration:

- The currently proposed model for market security;
- The currently model proposed for market opening (serving customers currently participating in the ACR and belonging to the A-High Voltage and B-Low Voltage tariff groups);
- The certification of data and results by an independent company.

Additionally, the following points need to be analyzed within the regulatory, operational, structural, and tax scope:

- Alternatives for financial operations conducted by CCEE. Currently, settlements operated by CCEE are centralized in a single financial institution. It is essential to evaluate new alternatives aiming to establish a practical financial settlement model that meets the needs of CCEE clients;
- Options to segregate accounting and settlement from the operation of the various energy markets and sectoral charges operated by CCEE;
- Alternatives to separate the operation of accounts managed by CCEE;
- Alternatives to mitigate or speed up energy market re-accounting and operationalization of court decisions in energy market accounting and settlements.
- Options to reduce the timeline of CCEE market operations. The structures of terms and frequencies of operations in the energy markets and accounts managed by the CCEE should be evaluated, with focus on improving liquidity, reducing financial guarantees, and enhancing security in market operations. The proposed enhancements must align with the goal of reducing complexity while ensuring operational excellence in services;
- Alternatives to reassessment the operations in energy markets and CCEE accounts. The following factors should be considered as motivators for reassessment: occurrences involving CCEE clients, occurrences involving CCEE itself, administrative decisions issued by Aneel and MME, occurrences involving the ONS, and court decisions.
- Options for improving the relationship between CCEE and its clients and stakeholders, encompassing customer service, results delivery, and information dissemination in a scalable manner, if required;

- Alternatives for improving the operational, organizational, and technological structure of market operations at CCEE.
 - Possibility of offering new products or services to customers.
- 3.5. Roadmap:** The CCEE's vision is to become a benchmark in energy market operations and account management by 2030. To accomplish this objective, its operations need to become more streamlined, simplified, and agile. Accordingly, the purpose of this phase is to establish a roadmap containing the best alternatives and necessary actions that CCEE must undertake to begin realizing the future vision. During this stage, the following premises should be considered:
- Evaluate the existing constraints and explore alternatives to reduce industry complexity.
 - Sequencing the actions, categorizing them as short-term, medium-term, and long-term, and creating a structured roadmap that outlines the starting point, progression, and completion, while considering any limitations.
 - What market innovations (technological, financial, new markets or business in energy, etc.) can be considered, as well as potential new services and products.
 - Recommend the frequency at which CCEE should reassess the proposed roadmap.

4. PRINCIPAL ACTIVITIES

- 4.1. Preparation of the Work Plan considering the proposed methodology.
- 4.2. Compilation of technical information and legal, regulatory, and other aspects determined as necessary by the consultant to perform the required analysis.
- 4.3. Development of the activities defined following the methodology determined by the consultant.
- 4.4. Preparation of the technical analysis reports.
- 4.5. Coordination counterparts of the consultancy.
- 4.6. Lead contacts with CCEE counselors, executives, employees, functional managers and CCEE associates and/or their representatives in each step to collect.
- 4.7. Collection of Agent Perception through Interviews.

5. RESULTS AND EXPECTED DELIVERABLES

- 5.1. Work Plan:** Within fifteen (15) days of signing the Contract, the consulting firm shall submit a proposal for carrying out each of the activities described in sections 3 and 4 of these terms of reference, including the work schedule and the proposed date of the final meeting.

5.2. Phase 1: Diagnosis

- Preliminary Report of phase 1. Within 60 calendar days after the signing of the Contract, the consulting firm shall deliver a Preliminary Report with the first analysis results.
- Final Report of phase 1. Within 75 calendar days after signing the Contract and based on the comments received.

5.3. Phase 2: Vision of the future

- Preliminary Report of phase 2. Within 180 calendar days after the signing of the Contract, the consulting firm shall deliver a Preliminary Report with the first analysis results.
- Final Report of phase 2. Within 195 calendar days after signing the Contract and based on the comments received.

5.4. Phase 3: Roadmap

- Preliminary Report of phase 3. Within 250 calendar days after the signing of the Contract, the consulting firm shall deliver a Preliminary Report with the first analysis results.
- Final Report of phase 3. Within 265 calendar days after signing the Contract and based on the comments received.

- 5.5. Is expected that at the end of the project, the consultancy will deliver a technical report in Word and PDF formats, all presentations and all documents produced in the three main phases of the project and its intermediate phases presented in items Diagnosis; Vision of the Future and Roadmap with well-established milestones and barriers to be overcome.

All products will receive comments and the final approval from IDB. At any time, at the request of one of the parties, video conferences will be held to consider specific issues that require further elaboration to prepare the required reports. **All documents, reports, and briefings will be provided in Portuguese.**

6. PROJECT SCHEDULE AND PAYMENTS

- 6.1. The consultancy shall be by deliverables and remunerated on a lump sum basis. The consulting fee shall include the consulting firm's team fees and all expenses, **including travel, per diem, taxes, and all costs necessary to complete the consulting services.** The consulting firm shall allocate the necessary resources to meet the established deliverables and schedules.
- 6.2. Form of Payment: Payments **shall be in US dollars** and shall be made according to the following schedule and against delivery of the corresponding deliverables:

Payment Schedule	
Deliverable	%
1. Work Plan	10%
2. Final report - Phase 1	25%
3. Final report - Phase 2	30%
4. Final report - Phase 3	30%
5. Executive Resume	5%
TOTAL	100%

7. COORDINATION

- 7.1. The IDB's Energy Division (INE/ENE) will be the technical unit responsible for the coordination and execution of this consultancy. The responsible specialist will be Carlos Echevarria (carlosse@iadb.org), Regional Lead Energy Specialist based in Brazil.

8. CHARACTERISTICS OF THE CONSULTANCY

- 8.1. Category of the consultancy and modality: Consulting Firm.
- 8.2. Period of the consultancy: The whole period of the Contract shall be up to nine (9) months.
- 8.3. Workplace and field visits: One travel to São Paulo to the end of the project.

9. CONSULTING REQUIREMENTS

9.1. Background of the Consulting Firm

The company should have experience in institutional modernization processes, including reviewing and developing recommendations based on international best practices, assessing the accounting and liquidation model, and proposing improvements and roadmaps for enhanced agility, granularity, and interoperability in market operations. Experience and knowledge in the Brazilian electrical market and its accounting is a requirement.

9.2. Requirements for the Consulting Firm/Consulting Team.

It is important that the consulting team is multidisciplinary, composed of professionals with complementary knowledge and previous experience in similar projects. Additionally, it is essential that they have critical analysis skills, strategic thinking, and the ability to propose innovative and viable solutions to achieve CCEE's vision for the future. The team must have knowledge of investments in and operation of Generation, Transmission, Distribution, and trading companies and energy purchase by consumers. These will allow them to understand the needs of these agents.

- A project team leader with extensive experience coordinating studies in the electricity sector. The team leader should have the ability to oversee the entire project. Possible background for this position includes energy economics, finance, engineering, or related fields, with at least 15 years of general experience and 10 years of specific study coordination experience.
- Wholesale market expert with more than 10 years of experience. Professionals with a strong in Wholesale market with knowledge in Brazilian market and international market. Possible background for this position includes energy economics, finance, engineering, or related fields, with at least 15 years of general experience and 10 years of specific study coordination experience.
- Regulatory and sector policies expert with more than 10 years of experience. Professionals familiar with the regulatory environment of the Brazilian energy sector and experience in the international best practices of trade market. Possible background for this position includes energy economics, finance, engineering, or related fields, with at least 10 years of regulatory experience.
- Finance and accounting expert. Professionals with a strong background in finance and accounting, particularly in relation to market operations and financial settlement. They will be responsible for evaluating alternatives for CCEE's financial operations, as well as proposing improvements in the financial settlement model to ensure they meet the needs of CCEE's clients. Possible background for this position is in finance, accounting, or a related field is typically with at least 10 years of experience.

Desirable knowledge of service-oriented application architecture (APIs), B2B integration, event-oriented architecture - EDA, cloud architecture. If deemed necessary, and without exceeding the suggested budget for the consultancy, the consulting firm may propose additional personnel as part of the team or negotiate the option of combining the functions of one or more of the recommended positions.

10. OTHER REQUIREMENTS

- 10.1.** It is important to point out that the project has been conceived in phases. In this sense, it is necessary that the technical proposals and the economic offers presented by the consulting firms consider independently the 3 phases in which the project is divided (Diagnosis, Vision of the Future, and Roadmap).