

## TECHNICAL SPECIFICATION

### Study on the Financial and Governance framework for the Baltic–German hybrid interconnector

#### 1. Introduction

The Baltic States possess substantial wind and solar energy potential, estimated to be over 80 GW. This capacity positions the region favorably to become exporters of green energy and its products. Despite rapid renewable capacity growth in Baltic States, in 2024, only approximately 7% of wind and solar capacity potential has been developed. Simultaneously renewable energy developers are already indicating signals for market saturation, which necessitates the establishment of additional electricity demand. To facilitate further renewable electricity development, the Baltic States must focus on comprehensive electrification, the establishment of new consumers, the acceleration of the hydrogen and power to x (P2X) industry, and the securing of robust energy export-import corridors.

This ambition aligns with Germany's ongoing transition to a climate-neutral economy, a journey that necessitates enhanced regional grid integration to manage the inherent variability of increased renewable energy generation. Consequently, Latvia, Lithuania, and Germany are actively investigating opportunities for new interconnection capacities. A crucial consideration for these nations is ensuring that such projects do not inflate final energy prices, an essential prerequisite for driving electrification, hydrogen production, and the development of energy-intensive industries.

As a strategic response, the Transmission System Operators (TSOs) of Lithuania, Latvia, and Germany have formally agreed to jointly explore the future development a hybrid cross-border electricity interconnector – the Baltic Hub (Baltic–German hybrid interconnector). This project is designed to establish a direct electricity link between the Baltic States (Latvia and Lithuania) and Germany, to be developed in coordination with crucial internal grid reinforcements across the Baltics and planned additions of renewable generation capacity or hydrogen consumers capacity. The Baltic Hub interconnector will establish its physical landing point in Germany and in only one of the Baltic States (either Lithuania or Latvia). Nevertheless, the project is being advanced with the intention that both Baltic States will utilize the infrastructure and share in its benefits.

Following initial analyses, the Baltic Hub hybrid interconnector project has been formally submitted as a common project proposal for inclusion in the upcoming Pan European Ten-Year Network Development Plan 2026 (TYNDP 2026). Preliminary estimates indicate that the development of this electricity export-import corridor will require substantial investment, estimated in the range of €6-8 billion. This significant investment necessitates comprehensive scenario analysis.

#### 2. Abbreviations

*Table No.1 Abbreviations*

No.	Abbreviation	Explanation
1	Study	The object of the procurement was carried out in accordance with the requirements listed in this technical specification and related documents.
2	Project	A hybrid cross-border electricity interconnector between the Baltic States and Germany
3	EU & European interconnectors	Interconnector that is connected to the electricity transmission network of at least one EU country.

4	Full TSO Ownership	All shareholders and decision-makers are TSOs to whose network the interconnector is connected.
5	PPP	Public Private Partnership
6	Financier	A person, company, or government that provides funding for projects or businesses.
7	Supplier	The supplier awarded the contract for the provision of Services
8	Buyer	The recipients of the Services are LITGRID AB (Lithuania), AS "Augstsprieguma tīkls" (Latvia), and 50Hertz Transmission GmbH (Germany), acting jointly under the Cooperation Agreement.
9	Additional Services	Consulting Services related to the Study, which may be requested by the Buyer at the time during the term of the Contract.

### 3. Object of the Procurement

- 3.1. The object of the procurement is the Study. The Study will analyse companies that own and operate electricity interconnectors similar to the planned Baltic–German hybrid interconnector, as well as the interconnectors themselves. It will examine multiple factors and characteristics to develop financing and governance alternatives for the Baltic–German hybrid interconnector. The goal of the Study is to identify the most suitable financial, ownership, regulatory, and governance framework for the Baltic–German hybrid interconnector.
- 3.2. The Client also intends to have a possibility to purchase up to 80 hours of Additional Services. The Buyer shall have no obligation to acquire any Additional Services; such services shall be procured solely based on actual need and the scope selected by the Buyer.

### 4. Purpose of the Study

The Study aims to develop viable financial, ownership, regulatory and governance models for the Baltic–German hybrid interconnector, focusing on ensuring financial feasibility, minimizing the impact on electricity tariffs in Germany, Latvia and Lithuania while attracting private and public investment. The analysis will evaluate possibility to involve potential public and private funding mechanisms, regulatory considerations, and governance structures required for a sustainable and bankable cross-border infrastructure project. The study assumes that an interconnector requiring an investment of 6-8 billion euro and CoD (Commercial operation Date) latest by 2040 will be built and seeks to establish the most effective way to fund, manage, and operate it.

The results of the study must provide sufficient information for project promoters to make decisions on specific, financial, ownership and governance models selection, which is feasible and legally correct to be realized and would benefit the strategic aims of all participating Parties. Additionally, study should advice on further regulatory environment developments seeking for the most favourable financing and governance model on respective national and if needed European level.

### 5. Scope and Content of the Study

The structure of the study should be proposed by the Supplier and agreed upon with the Buyer. This ensures that the study's framework aligns with the Buyer's specific needs and objectives. The provider will outline the methodology, key components, and timeline for the study, while the Buyer will review and approve these elements to ensure they meet the object of the procurement, initial purpose of the Study and guidelines for the structure of the Study proposed later in this section. Any necessary adjustments will be discussed and agreed upon by both parties to ensure a successful and effective study.

Study content shall include but not be limited to:

### 5.1. **Project Identification and Data Collection**

Identify and compile a comprehensive list of electricity interconnector projects, both completed and in various stages of development, within the EU or European projects with at least one connection point to an European electricity transmission network to enable a comparison that is sufficiently robust to draw useful insights into ownership, financing, regulatory and governance models.

For the deeper comprehensive analysis of EU and European electricity interconnector projects, the Supplier shall select and agree with the Buyer at least nine (9) interconnectors representing a variety of ownership, financing, regulatory and governance models. The Supplier shall be responsible for independently collecting and compiling all necessary information and data for these selected interconnectors.

In the case of interconnectors directly connected to the transmission networks of LITGRID, AST, or 50Hertz, the Buyer may, at its discretion, provide relevant data and information on no more than 5 interconnectors. The decision whether such interconnectors are to be additionally included in the comparative analysis rests with the Buyer. In such cases, the Supplier is not expected to undertake additional data collection efforts, and the inclusion of these interconnectors shall not be considered as an increase in the scope of work.

Selection criteria for interconnectors for in depth analysis:

- Connection to at least one European transmission system network;
- Comparable investment scale (ideally more than 1 billion euros);
- Priority for projects in commercial operation or late-stage development;
- Availability of data on ownership, governance, tariff impact, and financing;
- Inclusion in or assessment through ENTSO-E's TYNDP processes;
- Project is, or has been, eligible to receive EU financial grants or subsidies.

Gather detailed information for each identified project. The Supplier shall use publicly available data as baseline but supplement it with expert interviews, surveys, regulatory filings, or partner-disclosed sources where needed.

### 5.2. **Clear Project Classification scheme.**

Develop a robust classification framework for the collected projects. Shortly describe regulatory limitation for each of the proposed category both at the National and EU level. The following initial classification are suggested, but the Supplier is expected to propose classification framework for review and approval before proceeding with project classification:

- 5.2.1. **Full TSO Ownership:** All shareholders and decision-makers are TSOs to whose network the interconnector is connected.
- 5.2.2. **Partial TSO Ownership:** The ownership structure consists of TSOs (to whose networks the interconnector is connected) and other stakeholders (e.g., private investors, public entities).
- 5.2.3. **Fully Commercial Ownership:** No direct TSO to whose network the interconnector is attached involvement in the project's ownership structure.

### 5.3. **Detailed project overview**

Define a comprehensive set of evaluation criteria to review financial, ownership and governance models of each project within the established classes/categories. The following initial criteria are proposed examples, but the Supplier is expected to refine and expand upon these based on the data collected and experience:

- 5.3.1. **Ownership Form and Structure:** Legal structure, shareholder agreements, and governance mechanisms.
- 5.3.2. **Partnership Model:** Collaboration with other stakeholders, including public-private partnerships.
- 5.3.3. **Revenue Generation:** Mechanisms for revenue collection, including congestion charges, capacity auctions, and long-term contracts. The Supplier shall also explain the interdependencies and exclusivity of the revenue mechanisms where applicable — for example, the fact that capacity-based revenues (e.g., long-term contracts) and congestion income may not apply simultaneously to the same capacity. These relationships should be clearly illustrated in the Study report.
- 5.3.4. **Cost Allocation for Development and Operation:** Distribution of costs among stakeholders, including capital expenditures and operating expenses, along with the rationale for such distribution.
- 5.3.5. **Impact on the Price to the End Consumer:** Analysis of the project's effect on electricity tariff.
- 5.3.6. **Equity to Debt Ratio:** Assessment of the project's financing structure.
- 5.3.7. **Cost of Capital:** Evaluation of the project's financing costs.
- 5.3.8. **Name, Number, and Sum of Grants and Subsidies:** Identification and quantification of public financial support, including state-aid.
- 5.3.9. **Regulation that Affected the Project:** Analysis of the regulatory framework and its impact on project development and operation.
- 5.3.10. **Regulatory Amendments (in Lithuania, Latvia, Germany):** Assessment of the regulatory changes required in Lithuania, Latvia, and Germany to facilitate similar projects under the same conditions as the project's country of origin. This analysis will include how to amend laws, regulations, and TSO interconnection agreements.

*Table No.2 Simplified example of collected, classified and evaluated data*

	<b>Class 1 - Full TSO Ownership</b>	<b>Class 2 - Partial TSO Ownership</b>	<b>Class 3 - Full Commercial Ownership</b>
Criteria 1 - Number of projects	Project A/ Project B / Pr...	Project H	Project X
Criteria 2 - Partnership model	...	...	...
Criteria 3 - Revenue generation method	...	...	...
Criteria 4 - ...	...	...	...

#### 5.4. Best Category Selection

- **Comparative Analysis:** Conduct a comparative analysis of the project classification/categories, based on the evaluation criteria, to identify the most successful and financially viable models for the Baltic-German hybrid interconnector.
- **Justification:** Provide a clear and well-supported justification for the selection of the best category(-ies), including the chosen elements. These solutions can be a mix from different classifications and projects.

## 5.5. Recommendations to the Baltic-German hybrid interconnector:

- **"TO-BE" State Description:** Develop a detailed recommendation for the optimal model for future interconnector projects, focusing on the "TO-BE" state. This recommendation may be based on the selected best category or a combination of elements from multiple classifications.
  - **Reasoning:** Provide a comprehensive rationale for the recommendation, supported by data and analysis from the project evaluations.
- 5.6. **Actionable Steps:** List and describe actionable steps for implementing the recommended model, considering the specific context of Lithuania, Latvia, and Germany.

The Buyer expects the Supplier to have a substantial baseline knowledge about the currently existing interconnector business models in Europe. Thus, although the overview as described in section 5.1 is considered a very essential element in the study as any further classification and evaluation will be based on it, we would expect this part not to take up more than 10% of the budget and time.

## 6. Cooperation with the representatives of the Buyer

- 6.1. The Supplier is responsible for gathering, evaluating, and analysing data and information described in section 5, other relevant documents and information from reliable data sources and stakeholders.
- 6.2. The Buyer of the Study has the right to submit additional documents, legislation or other information for the assessment, analysis and preparation of conclusions at any time during the preparation of the Study.
- 6.3. The Supplier shall provide sufficient resources for the collection and analysis of the data and documents.
- 6.4. Representatives from LITGRID AB (Lithuania), AS "Augstsprieguma tīkls" (Latvia), and 50Hertz Transmission GmbH (Germany), as co-parties to the Agreement, will participate in the Steering Group formed for the Study. The Steering Group will monitor the Study's progress, review interim results, and approve final deliverables. Therefore, Supplier deliverables must meet the expectations of all Steering Group members. The Supplier should be prepared to engage with these representatives in meetings, provide clarifications as needed, and incorporate feedback as required.
- 6.5. The Supplier and the representatives of the Buyer shall have regular (online) meetings (once a week, unless otherwise agreed) organized by the Supplier to ensure a smooth Study development process and the necessary involvement from stakeholders.
- 6.6. An online kick-off meeting for the Buyer team should be organized in order to present the project plan, methods, planned involvement of different stakeholders.
- 6.7. Should there be a need for thematic working groups, conducting interviews, or ensuring alternative forms of interaction with other important stakeholders, the Supplier shall propose the composition of the working groups, the agenda, and ensure the provision of materials for the meetings.
- 6.8. The Buyer expects that a minimum of 2 strategic sessions, each with a duration of approximately 8 hours, will be organized. The Buyer will provide guidance to the Supplier in selecting the participants for the strategic sessions. The number of strategic sessions and their topics should ensure the highest quality of the Study. The concrete composition of participants will depend on the agreement with the Buyer. One strategic session will be conducted as an in-person meeting in one of the participating countries (Germany, Latvia, or Lithuania), others may be conducted as online meetings. Supplier shall ensure the organization, preparation, and moderation of the session content. The Buyer will arrange the venues and necessary equipment for the meetings. The Supplier shall finalize and share the agenda for each strategic session with the Buyer no later than 5 (five) working days prior to the session. Additional expenses related to travel (such as airplane tickets, taxi services, fuel, etc.), accommodation, meals, or other expenses incurred by the Supplier while participating in the strategic sessions will not be reimbursed.
- 6.9. At least 3 comprehensive project progress discussions (online) with the Buyer should be held. These discussions are intended as milestone-level reviews, which are broader in scope and more

comprehensive in content than regular coordination meetings. While they may be scheduled to coincide with weekly meetings described in Section 6.5, they should be treated as distinct, structured progress assessments aligned with Study deliverables and milestones.

- 6.10. The Buyer has the right to request the revision or adjustment of the conducted analysis, descriptions, and other elements, if it believes that the comments have not been fully addressed. The Supplier is obliged to adjust the material according to the Buyer's comments or provide a reasoned and comprehensive explanation in writing why the comments should not be considered.
- 6.11. Upon request from the Buyer, the Supplier commits to present prepared Study up to 5 (five) times in separate online meetings.
- 6.12. All documents and / or information received in connection with the provision of services are transmitted electronically.

## 7. Deliverables

- 7.1. A report of the Study must be provided in MS PowerPoint format (editable, using neutral visual identity template as a basis), in English, clearly structured according to the methodology and structure agreed upon with the Buyer. The report should include an analytical section based on the requirements described in Sections 5, providing a consistent narrative (storyline). The information should be presented clearly in a visually appealing manner, including extensive graphical presentation of information. Report should not exceed 50 slides.
- 7.2. Study document should provide insights but not to be limited to the following summary:

*Table No.3 Summary of study results*

Name	Requirement	Expected result (necessary minimum requirements)
<b>Case Studies and Best Practices</b>	Comparative insights from similar EU interconnectors and their applicability to the Baltic-German hybrid interconnection.	<ul style="list-style-type: none"> <li>• What are the most relevant EU &amp; European interconnector projects that provide insights for the Baltic-German hybrid interconnection?</li> <li>• What financing, revenue generation, costs (development and operational) distribution, governance, and operational methods are used in similar projects?</li> <li>• What are the key risks and challenges encountered in past interconnector projects, and how were they managed?</li> <li>• What lessons can be applied to the Baltic-German hybrid interconnection?</li> </ul>
<b>Investor - lender assessment</b>	Identification of what is deemed attractive to investors and lenders. Identification of likely investors and lenders and the criteria that would motivate them to invest (including lending) or provide grants. Lenders and investors (meeting the security requirements of Latvia, Lithuania and Germany) should be willing to invest in the Baltic region.	<ul style="list-style-type: none"> <li>• Who are the key investors (shareholders) and lender groups that could potentially finance the Baltic-German hybrid interconnector?</li> <li>• What are investor and lender risk tolerance levels, expected returns, required security measures and other requirements for financing?</li> <li>• What financing conditions and incentives, such as optimal debt-to-equity ratio, financing tenor, collateral and security requirements, repayment terms and flexibility, and funding options, would attract private and institutional investors while having a minimal impact on electricity tariffs, offering a low cost of capital, and being attractive to financiers?</li> </ul>
<b>Ownership - financial models<sup>1</sup></b>	Detailed assessment of financing options and strategy, including EU	<ul style="list-style-type: none"> <li>• What are the ownership - financing models available for interconnectors (e.g. Full TSO ownership; PPPs, fully private investment, etc.)?</li> </ul>

	<p>funding, public-private partnerships (PPPs), initial public offerings (IPOs) and fully private investment structures, with an evaluation of bankability and access to financial instruments.</p>	<ul style="list-style-type: none"> <li>• How does each ownership-financing model affect ability to attract financiers and access to financial instruments - what financial instruments can be leveraged?</li> <li>• What are the cost structures, investment timelines, risk profiles, impacts to electricity tariff of each financing model?</li> </ul>
<b>Impact on Tariffs<sup>2</sup></b>	<p>A comparative analysis of how different financing structures impact electricity tariffs for the Lithuanian, Latvian and German consumers, including cost mitigation strategies.</p>	<ul style="list-style-type: none"> <li>• How does each financing model affect electricity tariffs in Lithuania, Latvia and Germany?</li> <li>• How have other electricity interconnector developers managed tariff structures to balance investor returns and consumer affordability?</li> <li>• What strategies can be employed to minimize tariff burdens for the Lithuanian, Latvian and German consumers while maintaining financial project viability?</li> <li>• What mechanisms can be used to distribute costs equitably across Investors?</li> <li>• What kind of additional cost drivers not directly related to project infrastructure — such as policy-driven incentives (e.g. RES subsidies) — may influence consumer tariffs or financing structures?</li> </ul>
<b>Legal and Regulatory Feasibility</b>	<p>A comprehensive legal analysis of interconnector financing and governance structures under EU and national regulations, including, but not limiting to establishment of separate ISO (independent system operator) concept, regulated entity partnerships with private entities, fully private ownership.</p>	<ul style="list-style-type: none"> <li>• What legal structures govern interconnector financing and ownership in the EU?</li> <li>• Are there existing precedents or exemptions that can facilitate innovative financing models?</li> <li>• What national and EU-level regulatory adjustments are needed to implement different funding models? Evaluate the pros, cons and probability of implementation of such regulatory adjustments.</li> <li>• What legal barriers exist for Baltic States in securing non-traditional funding sources?</li> </ul>
<b>Revenue generation and Capacity Allocation</b>	<p>Evaluation of how electricity interconnector capacity can be allocated and sold under different investment models, including revenue streams and return on investment.</p>	<ul style="list-style-type: none"> <li>• What are the revenue streams available for interconnector under different ownership - financing models? e.g.: <ul style="list-style-type: none"> <li>◦ Revenue generated via capacity market (implicit, explicit)</li> <li>◦ Congestion rent;</li> <li>◦ Revenue generated via electricity tariff (RAB, WACC).</li> </ul> </li> <li>• What pricing structures and revenue mechanisms are viable for private-sector participation?</li> <li>• What are the market rules governing cross-border revenue generation / capacity allocation in the Baltic region and Central Europe?</li> <li>• What are the risks and benefits of different revenue generation / capacity allocation strategies?</li> </ul>
<b>Governance and Stakeholder Management</b>	<p>Proposal of governance structures defining stakeholder roles, decision-making processes, and long-term management strategies.</p>	<ul style="list-style-type: none"> <li>• What are the governance models for each ownership - financing model?</li> <li>• What are the roles, responsibilities, and decision-making powers of each stakeholder for each ownership - financial model to ensure efficient decision-making and risk allocation?</li> </ul>

		<ul style="list-style-type: none"> <li>• How should decision-making be structured to balance interests between governments, regulators, and investors according to each financial model?</li> </ul>
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<sup>1</sup> - A detailed, line-by-line financial model (such as an extensive Excel spreadsheet projecting costs, revenues, and cash flows over a 30-year period) is not required. The focus should be on developing a high-level financial model to support strategic, comparative assessment of different ownership and financing structures. Without limiting the Service Provider's proposed methodology, the analysis is expected to cover, at minimum:

- Approximate capital and operational cost estimates for each model;
- Potential impact on electricity tariffs for consumers in Lithuania, Latvia and Germany;
- Relevant funding instruments (e.g., EU grants, commercial loans) applicable to each model;
- Key risks and benefits associated with each approach.

As an indicative reference, the modelling may assume a Commercial Operation Date (CoD) around 2040 and assess impacts over a 20–30 year horizon. The Service Provider is expected to propose and justify the appropriate time horizon based on best practices and case study benchmarks.

<sup>2</sup> - A conceptual modelling level (using project archetypes, benchmark metrics) is considered sufficient, unless more detailed modelling is proposed by the Service Provider. While exact projections are not required, the analysis should illustrate likely impacts using comparable interconnector examples - for instance, how similar projects affected electricity tariffs and prices, cost allocation across countries, etc. The Service Provider is responsible for collecting the necessary data. The Buyer may submit relevant documents or facilitate access to information, where available.

7.3. A presentation summarizing key findings and recommendations. PPT slides (editable) in English intended for the public presentation, utilizing neutral visual identity PPT template, presented clearly and in a visually appealing manner, including graphical representation of information, ensuring clarity of the message.

7.4. During the Study development process, the Supplier is required to:

7.4.1. Provide concise meeting minutes electronically within 2 working days after each meeting.

7.4.2. Submit brief monthly progress reports (via email), indicating the project status and the percentage of completion for each Study element.

7.4.3. The Supplier and Buyer should mutually agree on the deadlines for document submission (for review) or task completion, as well as the duration of document reviews.

7.5. The result of the provision of the Services (when any documentation prepared by the Supplier is submitted to the Buyer) shall be considered to be of poor quality if it does not meet the requirements of the Technical Specification or satisfies at least one of the following criteria:

7.5.1. failure to provide all answers to the questions raised;

7.5.2. failure to take account of the comments (remarks) submitted by the Buyer or reflecting them not to the full extent;

7.5.3. inaccurate information, calculations, failure to follow applicable or generally accepted best practices / professional standards, or other deficiencies that could reasonably reduce the value of the procurement object or benefits that the Buyer could expect from the result of work of the Supplier.

7.6. During the execution of the Contract, the Buyer reserves the right to purchase up to 80 hours of Additional Services. These hours may be used for tasks that are directly related to the subject matter of the Study but fall outside the original scope described in Section 3.1. Such tasks may include, but are not limited to, further data collection, supplementary analysis, and in-depth exploration of specific issues identified during the course of the Study.

Findings and outputs resulting from the use of additional consultation hours may, where appropriate, be incorporated into the final version of the Study. The Buyer shall have no obligation to purchase all or any portion of the additional consultation hours.