



EPSO-G

Sustainability-Linked Financing Framework Second Opinion

11 May, 2022

EPSO-G is a group of energy transmission and exchange companies solely owned by Lithuania's Ministry of Energy. Its subsidiaries are Amber Grid, a gas transmission system operator (19% of 2021 revenue), and Litgrid, an electricity transmission system operator (75% of 2021 revenue). Other subsidiaries include Tetas (grid design, installation, repair and maintenance services), Energy Cells (energy storage), GET Baltic (natural gas exchange), and Baltpool (heat, biomass, timber exchange).

EPSO-G has a groupwide target to reduce its environmental impacts (incl. but not limited to GHG emissions) by 66% by 2030 from a 2019 baseline but is still in the early stages of addressing climate and sustainability risks. 68% of EPSO-G's Scope 1 and 2 emissions are from grid losses and 20% from methane leaks and venting. It has not measured Scope 3 emissions but plans to in 2024-25. EPSO-G is not yet implementing the TCFD Recommendations but shared that it is now assessing data needs to start. EPSO-G has not yet conducted physical climate risk assessments or developed a climate adaptation strategy, which is a pitfall given the grid's high exposure to physical climate risks.

A Shade of Green was assigned to 79% of EPSO-G's 2021 revenues and 86% of its 2022 planned investments. Green revenues were mainly associated with Litgrid's transmission of electricity and Tetas' installation of renewable energy sources. A Red Shading was assigned to the 19% of revenues from Amber Grid's transmission of natural gas. Red revenues also included Baltpool and GET Baltic's commodity trading activities, due to their inclusion of natural gas and lack of safeguards against direct/indirect land use change for directly and indirectly (in the form of heat) traded biomass and timber. 2% of revenues received a Yellow shading. Green capex pertained to energy storage and electricity grid investments; remaining capex was Yellow.

75 % of EPSO-G's revenue, 63% of capex, and 74% of opex in 2021 were assessed as likely aligned with the EU Taxonomy technical screening criteria for climate change mitigation. These were mostly linked to Litgrid's transmission of electricity in the interconnected European system. It was not possible to separate out non-aligned revenues and opex linked with assets connecting a natural gas power plant with the grid due to a lack of data. Energy Cells' capex for battery storage systems was also included as aligned. Note that alignment with the Taxonomy's Do No Significant Harm and social safeguards criteria was not assessed.

KPI 1 (see next page) covers Scope 1 and 2 emissions but does not address transition risks from natural gas transmission; SPT 1 thus only partially aligns with the 1.5-degree/Paris Agreement goals. Note that natural gas phase-out depends on national energy policy and is beyond EPSO-G's direct control; it is thus positive that outside the framework, EPSO-G will set targets and invest in adapting the gas grid for hydrogen, and we recommend that EPSO-G reports on progress, including the mix of gases transported. Despite lower targeted emissions reductions, SPT 1 is at least as ambitious as peer targets, provided EPSO-G works to reduce grid loss emissions with technology and minimizes reliance on renewable energy guarantees of origin and offsets. EPSO-G has not mapped a pathway for achieving SPT 1, but expects to primarily focus on reducing methane emissions.

KPI 2 is material as an operational indicator and partially material to EPSO-G's physical climate risk management due to its relevance to climate adaptation and resilience. SPT 2 is assessed as ambitious versus past performance due to reduced margin for regulatory compliance compared with prior regulatory periods. We encourage EPSO-G to more proactively and explicitly factor climate adaptation and resilience into the grid modernization investments it is planning to achieve SPT 2.

Included in the overall shading is an assessment of the governance structure of the sustainability linked financing framework.

CICERO Shades of Green finds EPSO-G's governance procedures to be **Fair**.



SUSTAINABILITY LINKED BOND AND LOAN PRINCIPLES

Based on this review, this Framework is found in alignment with the principles.



Summary of KPI / SPT Assessment

Assessment of KPIs	KPI 1: Percentage reduction of Scope 1 and 2 carbon dioxide equivalent (CO₂e) measured by a total amount in tonnes	KPI 2: Reliability of electricity transmission indicator, expressed as energy not supplied (ENS) measured in MWh in the operations of electricity transmission system operator
Materiality	The KPI addresses the material issue of climate impacts/risks but does not address impacts/risks from continued transmission of natural gas.	The KPI is partially material from a physical climate risk management perspective and material from an operational perspective.
Strategic significance	The KPI is of partial strategic significance; alignment with EPSO-G's stated commitment of ensuring Lithuania's smooth energy system transition could be improved with a more direct link to EPSO-G's mandate to prepare the grid for hydrogen and biomethane integration.	The KPI is of strategic significance in terms of alignment with EPSO-G's stated commitment of ensuring Lithuania's smooth energy system transition.
Methodology	The methodology is mostly robust and transparent: comparability over time may be impacted by fluctuation in economic activity.	The methodology is robust and transparent.
Assessment of SPTs	SPT 1: Reduce KPI 1 by 50% by 2030 from a 2019 baseline	SPT 2: Limit KPI 2 to 136.25 MWh over 2022-2026
Own past performance	Insufficient basis for assessment due to likely impact of COVID-19 on historical data.	Ambitious versus past performance due to the substantially reduced margin for compliance with regulations.
Peers	Ambition is aligned with peers, with caveats around reliance on renewable energy guarantees of origin.	Peer benchmarking not possible due to limited comparability of ENS calculation methodology across countries.
Science-based scenarios or international targets	Partially aligned with 1.5-degree and Paris targets: aligned on the basis of Scope 1 and 2 emissions, but not with regards to natural gas transmission.	Not applicable.



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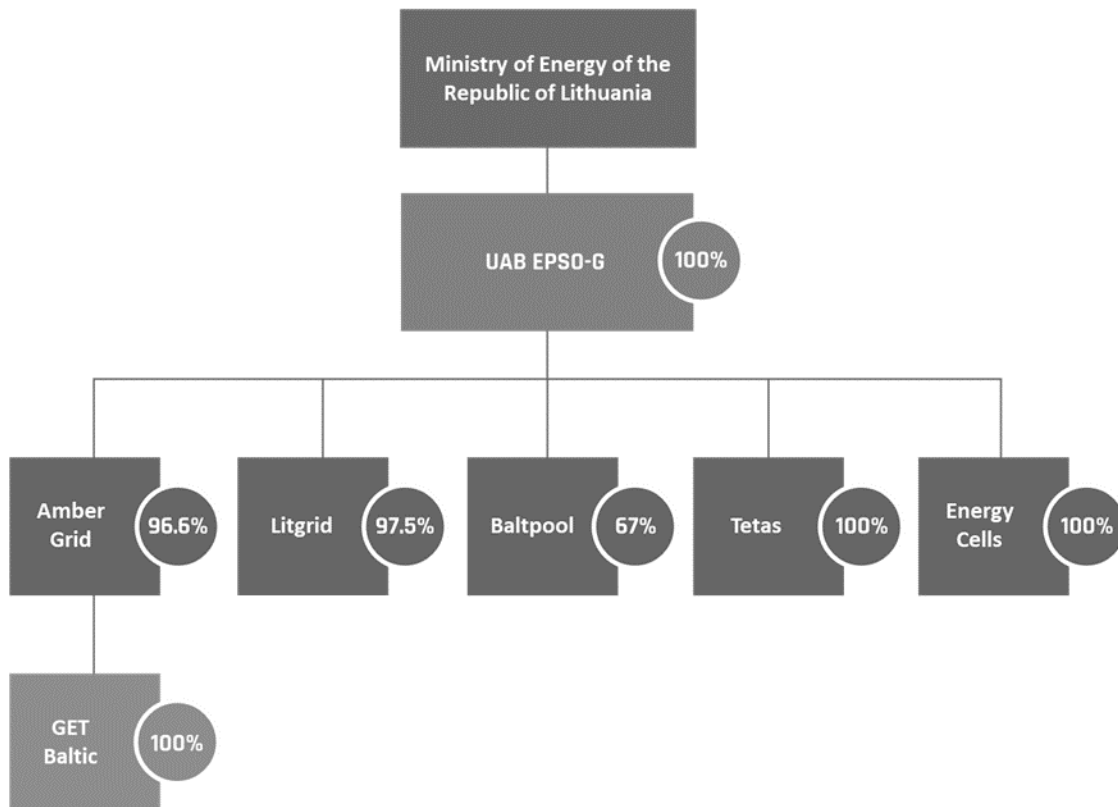
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1 Assessment of EPSO-G's activities and sustainability governance

Company Description

EPSO-G is a group of energy transmission and exchange companies solely owned by Lithuania's Ministry of Energy. EPSO-G is responsible for implementing the activities outlined in Lithuania's National Energy Independence Strategy and is regulated by the National Energy Regulatory Council. EPSO-G establishes the strategic goals and tasks of the Group and its constituent companies, supervises their implementation, identifies and manages operational risks, and implements measures to increase efficiency of the Group companies. In 2020, EPSO-G had total group revenues of EUR 270.5 million and 1,081 employees. EPSO-G's corporate structure is represented below:



EPSO-G's subsidiaries include the following (percent of 2021 group revenues):

- Amber Grid: an operator of natural gas transmission systems, including main gas pipelines, gas compression stations, gas metering, and distribution stations. Amber Grid is listed on the Vilnius Stock Exchange (19%)
- Litgrid: an electricity transmission operator that ensures reliable electricity transmission and balance within Lithuania and operates high-voltage electricity transmission networks and direct current connections to electricity markets in continental Europe via Poland ("LitPol Link) and the Nordics via Sweden (NordBalt). Litgrid is listed on the Vilnius Stock Exchange. (75%)



- Baltpool: an operator of an energy and timber trading exchange and administrator of Lithuania's public service obligations (PSO) funds. (0.3%)
- Tetas: provides design, repair and maintenance services for transformer substations and distribution stations, as well as the services of installation and operation of renewable energy power plants (6.1%)
- Energy Cells: installs energy storage devices with total power and capacity of at least 200 MW, with the goal of ensuring reliable and stable operation of the Lithuanian power system until synchronization with continental European networks. (n/a)
- GET Baltic: administrates the electronic trading system for trading spot and forward natural gas products, with delivery to markets in Lithuania, Latvia, Estonia, and Finland. GET Baltic is a 100%-owned subsidiary of Amber Grid. (0.5%)

Sector Risk Exposure



Physical climate risks: Increased frequency and severity of extreme weather, e.g. storms, flooding, fires, wind, etc. heightens the risks of losses from damage to grid and transmission infrastructure. Insurance coverage against natural disasters may become more expensive or unavailable for highly exposed assets. Failure to adapt to physical climate risks may generate liability risks, e.g. if climate-related disasters disrupt energy supply or company operations exacerbate physical risks (e.g. sparks from poorly maintained power lines may contribute to wildfires). Higher average temperatures reduce transmission capacity and increase peak load due to increased air conditioning needs.

Transition risks: The energy transition and accompany growth in renewable energy and other distributed energy resources (DERs) will require increased investment in grid infrastructure to maintain stability and reliability. Some of these investments are not in physical assets (e.g. system management, market development). As such, existing regulatory remuneration frameworks, which tend to reward physical asset investments, may not provide sufficient financing for the needed investments. Demand for grid energy may also decline, potentially forcing rate increases that incentivize end user investments in DERs and further reduce grid energy demand. Inadequate management of CO₂ and other GHG emissions, e.g. methane, sulphur hexafluoride (SF₆), increases exposure to carbon pricing and other regulatory risks. Shifts away from natural gas as a fuel present substantial risks for gas grid operators and may necessitate investments in power-to-gas solutions and hydrogen readiness.

Environmental risks: Failure to consider impacts and dependencies on nature in infrastructure investment (e.g. benefits of vegetation cover for soil stability) may increase risks of damage to infrastructure from disasters such as landslides, soil erosion, etc., as well as reduce resilience to physical climate-related risks (see above). Energy transmission infrastructure may have adverse terrestrial and marine biodiversity impacts, e.g. habitat conversion/fragmentation and thermal pollution from waste heat.



Governance Assessment

EPSO-G has recently set a groupwide target to reduce its environmental impacts by 66% by 2030 from a 2019 baseline, and the company has commissioned a groupwide life-cycle assessment to establish its baseline that it expects to complete by end of June 2022. This includes, but is not limited to, Scope 1 and 2 GHG emissions. As such, achieving this target may not necessarily translate into a 66% reduction in emissions. The company has separately completed a groupwide GHG inventory (see section below for more details on EPSO-G's emissions and targets).

As of its 2020 annual disclosures, EPSO-G had not collected emissions data and as such did not publish emissions data or targets, nor has it aligned its reporting with the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). The company informs that this year, it is analyzing the information needed to eventually align its disclosures with the recommendations, and that it plans to conduct physical and transition scenario analysis in the future.

The company has also set a range of other targets covering environmental, social and governance issues, and mapped these to SDGs 7 (affordable and clean energy), 13 (climate action), 8 (decent work and economic growth), 9 (industry, innovation and infrastructure), and 12 (responsible consumption and production). Among these, climate-relevant targets include:

- Adapt its natural gas transmission systems to transport hydrogen¹
- Favorable conditions for connecting renewable energy sources to the energy infrastructure²

EPSO-G has group sustainability and environmental policies that outline multiple sustainability objectives, including “to contribute to the transition towards a climate-neutral economy.” The policies state EPSO-G's support for Lithuania's National Energy Independence Strategy and National Climate Change Governance Agenda, the Paris Agreement, and other international sustainability objectives. EPSO-G's environmental policy further commits EPSO-G to various actions, including to monitor and reduce its GHG emissions, as well as i.a., to use certified green electricity and prioritise clean transportation and energy efficiency measures. The company has not yet conducted a materiality assessment to identify key sustainability issues but has committed to do so once every two years in its sustainability policy.

Other areas of focus within EPSO-G's environmental policies include pollution prevention and biodiversity protection and monitoring. EPSO-G also demonstrates awareness of its potential supply chain impacts, as demonstrated by two targets it has set pertaining to supply chain sustainability:

- Incorporate sustainability criteria into supplier requirements by end 2023
- 100% green procurement by 2030

According to the company, 50% of group companies' procurement has environmental requirements, with the goal of 100% by 2023. Existing green procurement criteria include, i.a., Type I eco-labeling, life-cycle cost criterion, energy efficiency, and the use of renewable energy sources. EPSO-G also shared that it is currently preparing a supplier code of conduct. This will introduce additional supplier requirements, which may eventually also include

¹ EPSO-G's framework notes that the target will be set following the preparation of Lithuania's national guidelines on hydrogen sector development. Amber Grid has a target to adapt its transmission system for transportation of gas according to new national and cross-border green gas standards. See <https://www.ambergrid.lt/uploads/documents/final%20Amber%20Grid%20strategija%20ENG.pdf>

² This means to have zero cases in which the supply of renewable electricity to transmission grids is restricted due to breaches of the terms and conditions set out in the legislation and in the connection contracts.



requirements for suppliers to disclose their emissions. EPSO-G does not yet disclose on its engagements with suppliers over sustainability issues.

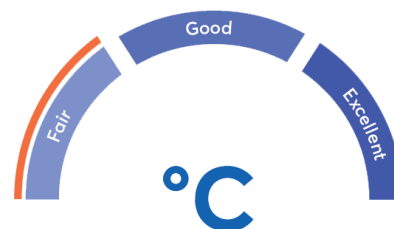
EPSO-G also demonstrates awareness of social risks, as demonstrated by its commitment to the principles of the UN Global Compact, which include, i.a., human rights, labour rights and anti-corruption.

EPSO-G does not yet disclose the specifics of oversight and lines of reporting in relation to climate change. Climate change and other sustainability issues are not explicitly referenced in EPSO-G's remuneration, performance appraisal and development policy. According to EPSO-G, its board of directors, alongside the boards of Amber Grid and Litgrid, will monitor the implementation of its target to reduce its environmental impacts and will approve the environmental impact mitigation plan that the company aims to develop this year. Implementation of environmental policies and initiatives at EPSO-G is ultimately overseen by its Head of Sustainability, who reports to EPSO-G's Director of Strategy and Development (a C-suite position) and receives reports from environmental and sustainability managers at group subsidiaries. According to EPSO-G, the achievement of annual business plans, which this year will include its environmental impact mitigation plans, is linked to variable remuneration for senior management and all persons responsible.

For 2020, EPSO-G published as part of its annual report a "Progress Report on Social Responsibility" which discusses environmental, social and governance issues. The progress report was prepared in accordance with the principles of the UN Global Compact and follows the recommendations of the GRI reporting standard.

The overall assessment of EPSO-G's governance structure and processes gives it a rating of **Fair**.

To improve its governance score, EPSO-G should start implementing the TCFD Recommendations, including setting a net zero emissions reduction target, deeper integration of climate and environmental risks into risk management and decision-making processes, and conducting climate risk assessments and scenario analysis. EPSO-G could also further develop its supply chain sustainability strategy and policies and improve its transparency and reporting on key sustainability KPIs and progress towards targets. As noted above, the company is working on several of these aspects already.



EPSO-G's Emissions and Targets

In 2021 the company conducted a GHG inventory for groupwide operations in accordance with the GHG Protocol. The company has however not measured its Scope 3 emissions, although it has shared that it plans to do so in 2024-2025.

According to its GHG inventory, the company's total Scope 1 and 2 emissions in 2021 were 257,446 tCO₂eq, which represented a 3% decrease from 2020. Of this figure, 24% were Scope 1 emissions and 76% were Scope 2 emissions. EPSO-G attributes the decline in emissions between 2021 and 2020 to use of a mobile gas compressor for maintenance works on Amber Grid's natural gas system, which minimizes methane emissions, as well as decreased grid losses due to Litgrid's more efficient management of power transmission networks.

Emissions (tCO ₂ eq)	2019	2020	2021
Scope 1	69,455	63,851	61,141
Scope 2	222,882	202,143	196,295
Total Scope 1 and 2 emissions	292,336	265,994	257,436



Amber Grid and Litgrid accounted for 24% and 76% of EPSO-G's Scope 1 and 2 emissions, respectively. The sources of EPSO-G's emissions in 2021 across Scope 1 and 2 emissions are shown in the table below. The most important source of emissions was grid losses, which accounted for 68% of EPSO-G's total Scope 1 and 2 emissions, and virtually 100% of Scope 2 emissions. The next most important source of emissions was release of natural gas into the environment during operation and repair.

Emissions by source in 2021	tCO₂eq	% of total
<i>Scope 1</i>		
Release of natural gas into the environment during operation and repair	39,063	15%
Natural gas leaks	12,309	4.8%
SF6 gas leaks into the environment	426	0.17%
Transport	2,721	1.1%
Stationary fuel combustion	6,573	2.6%
Leakage of refrigerants (freon) from cooling systems to the environment	49	0.019%
Total Scope 1	61,141	24%
<i>Scope 2</i>		
Grid losses	176,352	68%
Purchased electricity	19,919	7.7%
Centralized thermal energy consumption	24	0.0093%
Total Scope 2	196,295	76%
Total Scope 1 and 2 emissions	257,436	

Assessment of EPSO-G's Revenues

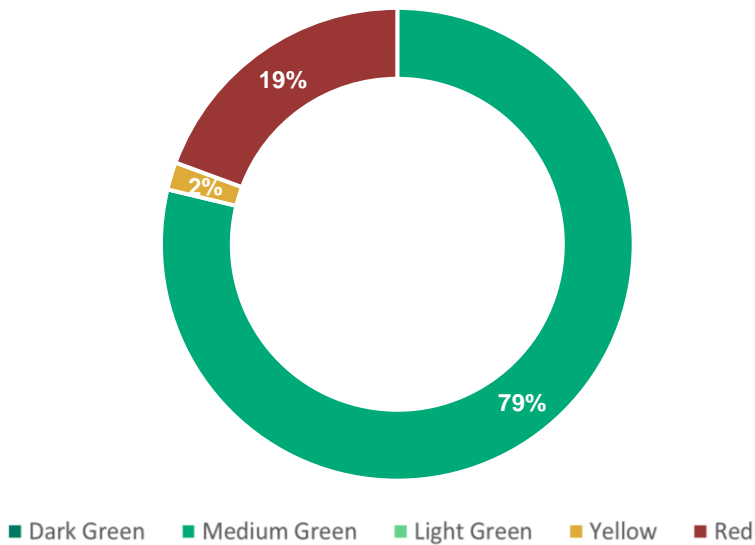
According to CICERO Green's methodology, a Shade of Green should be allocated to the issuer's revenue streams according to how these streams reflect alignment of the underlying activities towards a low carbon and climate resilient future and taking into account governance issues. (See methodology page for further details on shading).

A Shade of Green was allocated to 79% of EPSO-G's 2021 revenues, with 1.9% and 19% receiving a Yellow and Red shading, respectively. Shadings were assigned based on the extent of climate risk associated with the underlying activities.

We note that all of EPSO-G's revenues are exposed to physical climate risks, especially as the company has not yet conducted physical climate risk assessments and/or developed an approach to climate adaptation.



EPSO-G's 2021 Revenues



A Medium Green shading was allocated to 79% of revenues associated with the following activities:

- Litgrid – Transmission of electricity and other activities and services necessary for the transmission of electricity, e.g. balancing, systemic services, etc., which are critical for smooth transmission system operation. Although transmission includes electricity from fossil sources (natural gas) and biomass/biogas that may be associated with high emissions from direct or indirect land use change, the Medium Green shading reflects the importance of electrification to the low-carbon transition.³
- Baltpool – Administration of Public Service Obligations (PSOs) that are used to support production and balancing of renewable electricity and the connection of renewable energy sources to power networks.⁴ The shading reflects Lithuania’s classification of various energy sources as renewable, e.g. solar, wind, hydropower, biomass, biogas, and waste-to-energy, and some of these have greater risks of emissions than others.
- Tetas – Installation works for renewable energy sources.⁵ As with Baltpool, this shading reflects the possibility that renewable energy sources installed by Tetas could vary in nature.

A Yellow shading was allocated to 2% of revenues from Tetas’ construction works; according to EPSO-G these are atypical activities that are not core to Tetas’ business.

A Red shading was allocated to 19% of revenues. In particular, activities linked with transmission, trading and combustion of natural gas have been assigned a Red shading due to the high level of associated emissions. In addition, applying a risk-based approach, activities that may be linked with deforestation and other forms of direct

³ Note that “transmission and distribution of electricity” is an eligible activity under the EU Taxonomy provided that the grid is part of the interconnected European system, excluding dedicated connections between a power plant with life cycle emissions exceeding 100gCO₂eq/kWh.

⁴ Lithuania’s PSO budget also includes support for other goals, i.a. thermal power generation, but only PSOs relevant to renewable energy received budget allocations in 2020. See <https://www.mdpi.com/1996-1073/15/1/16>

⁵ In line with EU Taxonomy technical screening criterion 2(d) for “transmission and distribution of electricity” - construction/installation and operation of equipment and infrastructure where the main objective is an increase of the generation or use of renewable electricity generation.



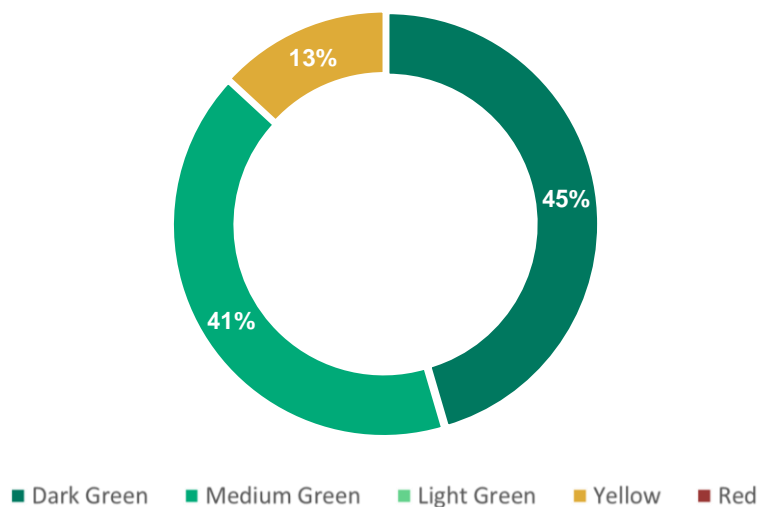
and indirect land use change also are assigned a Red shading due to the substantial emissions they may engender. Red-shaded subsidiaries/activities include:

- Amber Grid – Transmission of natural gas. According to EPSO-G, in 2020 none of the gas transmitted was non-fossil gas, e.g. biomethane or hydrogen.
- Baltpool – Trading of biomass, timber, and peat. According to EPSO-G, none of the commodities traded via Baltpool’s platform are compliant with the EU Renewable Energy Directive (RED II). Baltpool does not require minimum sustainability criteria for traded biomass and timber. As such, it is not possible to rule out the possibility that biomass and timber traded by Baltpool are linked with deforestation and other forms of direct and indirect land use change. Further, there are significant emissions associated with peat extraction and combustion. We note that a portion of traded volumes may be waste-based or otherwise sustainably produced and eligible for a shade of green, but it is not possible to separate out these volumes.
- Baltpool – Trading of heat from bioenergy (biomass, biogas, waste-to-energy, peat) and fossil fuels (natural gas and oil).⁶ Heat traded from waste-to-energy sources and certain bioenergy sources, depending on feedstock, may be eligible for a shade of green, but it is not possible to split out this portion due to lack of data.
- GET Baltic – Spot trading of natural gas. A portion of the traded gas is biogas and may be eligible for a shade of green, depending on feedstock. However, according to EPSO-G, there is no separation of gas by origin in the trading system and it is not possible to separate out these volumes.

EPSO-G’s Investment Plans

A Shade of Green was assigned to 86% of EPSO-G’s planned investments for 2022, with the remainder receiving a Yellow shading. We note EPSO-G’s high level of exposure to physical climate risks as a gas and electricity transmission system operator and that all of EPSO-G’s planned investments are exposed to physical climate risks, especially as the company has not yet conducted physical climate risk assessments and developed an approach to climate adaptation.

EPSO-G’s 2022 Planned Investments (CAPEX)



⁶ https://iea.blob.core.windows.net/assets/4d014034-0f94-409d-bb8f-193e17a81d77/Lithuania_2021_Energy_Policy_Review.pdf



45% of planned investments received a Dark Green shading and pertain to Energy Cells' planned expenditures on battery energy storage facilities with 200 MWh of capacity. This shading reflects the criticality of energy storage for facilitating greater integration of renewable energy sources into the grid.

The 41% of planned investments receiving a Medium Green shading are linked with investments by Litgrid related to the transmission and of electricity, including to support synchronization with continental European networks, grid construction and recovery, and other grid development. This shading reflects the general criticality of electrification and grid investment for enabling a low-carbon transition. As noted above, EPSO-G is unable to break down or attribute planned capex to renewable and non-renewable electricity. Given the lack of information about Lithuania's power mix in 2022, we have not attempted to provide a more granular shading of this category of capex.

A Yellow shading was assigned to 13% of planned investments. 11% reflects Amber Grid's planned grid renovations. According to EPSO-G no new natural gas pipeline projects are planned. As such, the expenditures do not necessarily contribute to growth or lock-in of emissions, but remain exposed to climate transition risks, and this is reflected in the Yellow shading. We however note that gas infrastructure may potentially be used in the future for transmission of renewable gas, e.g. biomethane and hydrogen, or support power-to-gas energy storage.

The remaining 2% of planned investments that were shaded Yellow are a mix of other investments. According to EPSO-G, these are mostly for IT systems, but may also include investments in specialized equipment that is fossil fuel dependent, e.g. digging machines.

EU Taxonomy

The mitigation (or adaptation) criteria in the EU Taxonomy include specific thresholds and do no significant harm (DNSH) criteria for the following activities that are relevant to EPSO-G and its subsidiaries: "4.9 Transmission and distribution of electricity" and "4.10 Storage of electricity." Comments on alignment are given below, and detailed thresholds and NACE-codes are given in Appendix 2. A full assessment of alignment with DNSH and social safeguards criteria is not included in the scope of this assessment.

Based on information provided by EPSO-G, in 2021 75% of revenues, 54% of capex, and 74% of opex were aligned with the Taxonomy's criterion for "transmission and distribution of electricity" specifying that transmission infrastructure and equipment should be part of the interconnected European system. Note that revenues, capex, and opex associated with direct connections or expansions of connections to power plants with life cycle emissions greater than 100 gCO₂e/kWh are not considered Taxonomy-aligned. EPSO-G shared that this is only applicable to the assets used for connecting the natural gas power plant at Elektrėnai to the transmission system. According to EPSO-G, in 2021 there were no capital expenditures associated with the connection between the Elektrėnai natural gas power plant and the transmission grid. However, according to EPSO-G, it is unable to directly estimate the proportion of revenues and opex associated with this connection due to the use of universal tariffs for all energy sources, and because there is no distinction between assets by emissions intensity or otherwise in Lithuania's regulatory framework.⁷

A further 9% of EPSO-G's 2021 capex pertained to Energy Cells' installation of battery energy storage facilities; this was aligned with the Taxonomy activity, "4.10 Storage of electricity." Other Taxonomy-aligned capex also included a non-material amount associated with Amber Grid's completion of a solar power installation for operational use.

⁷ It is possible to roughly estimate the percentages of revenues and opex associated with the connection at Elektrėnai by using the share of Litgrid's transmitted electricity that it represents to make the necessary adjustments to total revenues and capex. Using this approach, 69% of revenues and 68% of opex would be Taxonomy-aligned.



Other Taxonomy activities that are potentially relevant to EPSO-G’s subsidiaries include “4.14 Transmission and distribution networks for renewable and low-carbon gases.” EPSO-G informed us that there were no revenues, capex or opex that were aligned with the criteria for this activity in 2021.

According to EPSO-G, the percentage of Taxonomy-aligned capex reported in this assessment is not representative of its typical capex profile. This was due to Amber Grid’s implementation of the Gas Interconnection Poland-Lithuania (GIPL) pipeline project in 2020 and 2021. The company expects that its Taxonomy-aligned capex, mostly Litgrid’s grid investments, will average around 90% over 2022-27.

Based on a review of EPSO-G’s policies, there appear to be further steps that EPSO-G needs to take in order to fulfil the minimum social safeguards of the EU Taxonomy. As noted in the Governance Assessment, the company’s sustainability policy commits it to the principles of human rights, labour rights, and anti-corruption as defined by the UN Global Compact. The company assesses and manages risks related to corruption, workplace discrimination, and occupational safety and health. EPSO-G also engages in dialogue with local communities that may be impacted by project development, which may contribute to lower risks of community rights violations. However, it is unclear to what extent risks related to violation of human and labour rights are assessed and mapped prior to projects or entry into business partnerships. The company encourages employees and other stakeholders to report misconduct and is clear that it will attempt to protect whistleblowers from adverse consequences, but it is unclear to what extent a formal whistleblowing mechanism is in place. According to EPSO-G, the company is currently in the process of developing a supplier code of conduct, and so it is unclear to what extent it is focused on managing human rights risks in its supply chains.



2 EPSO-G's Sustainability-Linked Financing Framework

Description of EPSO-G's Sustainability Linked Financing Framework

Selection of Key Performance Indicators (KPIs)

Summary information about EPSO-G's two KPIs is provided in the table below. According to the framework, the selection of these KPIs supports the long-term strategic commitment of EPSO-G to ensure a smooth and reliable transition of the energy system in Lithuania.

	KPI 1: Percentage reduction of carbon dioxide equivalent (CO₂e) measured by a total amount in tonnes	KPI 2: Reliability of electricity transmission indicator, expressed as energy not supplied measured in MWh in the operations of electricity transmission system operator
Description	Total Scope 1 and 2 GHG emissions from EPSO-G, Amber Grid, Litgrid, Tetas, Baltpool, and GET Baltic	Energy not supplied (ENS): the estimated energy which would have been supplied to end-users if no interruption and no transmission restrictions had occurred
Units	tonnes CO ₂ eq	MWh

Sustainability Performance Targets (SPTs)

EPSO-G has identified one SPT for each of the two KPIs, and these SPTs are summarized below.

	KPI 1: Percentage reduction of carbon dioxide equivalent (CO₂e) measured by a total amount in tonnes	KPI 2: Reliability of electricity transmission indicator, expressed as energy not supplied measured in MWh in the operations of electricity transmission system operator
SPT	SPT 1: 50% reduction in KPI 1 by 2030	SPT2: Limit ENS to 136.25 MWh over 2022-2026
Baseline/reference value	2019 / 292,336 tonnes CO ₂ e	2016-2020 / 149.51 MWh

The KPIs/SPTs to be used for finance instruments issued under the framework will be specified in the security-specific documentation, alongside the target observation date (TOD), by which the relevant SPT(s) are to be achieved. According to EPSO-G, it will always use both KPIs/SPTs when issuing sustainability-linked financing instruments.



Should the company fail to achieve the SPTs specified, a trigger event will occur, leading to the introduction of a financial effect (see Financial Characteristics for further information).

EPSO-G has included in its framework a “most ambitious target” clause—where KPI(s)/SPT(s) are used for subsequent finance instruments after the first, the ambition level of the SPT(s) used in the newer finance instrument must be greater than or equal in ambition to previous SPTs. Further, outstanding finance instruments will have their SPTs updated to reflect the higher level of ambition. Refer to the framework for the rationale behind this clause.

Fallback Mechanisms and Exceptional Events

EPSO-G has not specified in its framework any fallback mechanisms or exceptional events that might lead to that could impact the calculation of the KPIs, baselines or SPT. However, if EPSO-G’s regulator, Lithuania’s National Energy Regulatory Council (NERC), changes the methodology for calculating ENS, this would lead to a recalculation of KPI 2 and historical data. According to the company, changes in corporate structure are highly unlikely given its status as a wholly state-owned entity. EPSO-G has clarified that it is committed to obtaining external review of the SPTs should there be any changes to the baseline.

Financial Characteristics

The framework specifies two possible adjustments to the financial characteristics of finance instruments issued under this framework:

- Coupon or interest rate step up/down
- Increase in the redemption price

EPSO-G has shared that it plans to use a coupon step up for its upcoming bond issuance and that it believes this to be aligned with market best practice. The size of the adjustments will be specified in the documentation specific to each finance instrument. EPSO-G has clarified that it will give more weight to SPT 1 when determining the size of the adjustment.

EPSO-G has confirmed that it is committed to having the size of the adjustment be meaningful and commensurate.

Reporting

Transparency, reporting, and verification of impacts are key to enable investors to follow the performance of the KPIs selected. Procedures for reporting and disclosure are also vital to build confidence that the sustainability-linked finance instruments are contributing towards a sustainable and climate-friendly future, both among investors and in society.

EPSO-G is committed to reporting annually on its performance on the KPI(s) and progress towards its SPT(s) as part of its annual “Progress Report on Social Responsibility,” in cases where it has issued sustainability-linked bonds under the framework. Annual reporting will also include information about:

- KPI calculation methodology and baselines, as well as any recalculations made to the baselines
- Updates on its sustainability strategy and their potential impact on the achievement of the SPTs
- Explanations of EPSO-G’s performance on the KPIs
- Updates on relevant changes in its regulatory environment
- Illustration of the positive sustainability impacts from KPI performance

Where loans have been issued, the company will report non-publicly to lenders and other counterparties.



Verification

EPSO-G will obtain external and independent verification by qualified external reviewers of its performance on the KPI(s) relative to the SPT(s) on an annual basis. The verification will be published as part of its reporting on progress. Failure to provide the verification report will result in a trigger event.

Assessment of EPSO-G's Sustainability-Linked Financing Framework

In this section we comment on EPSO-G's sustainability-linked financing framework alignment with the Sustainability Linked Bond Principles (SLBPs) and Sustainability-Linked Loan Principles (SLLPs). According to the SLBPs and SLLPs, the KPIs should be relevant, core and material to the issuer's overall business, and of high strategic significance to the issuer's current and/ or future operations. The SLBPs and SLLPs further recommend that three benchmarking approaches are considered during the target-setting exercise, the below table summarizes the conclusions of our review of EPSO-G's target-setting process. We also include some comments on methodology choices including benchmarks and baselines, as well as comments on bond characteristics, reporting and verification.

CICERO Green finds EPSO-G's sustainability-linked financing framework to be in alignment with the SLBPs and SLLPs.

Assessment of KPI 1: Percentage reduction of carbon dioxide equivalent (CO₂e) measured by a total amount in tonnes

Detailed comments on KPI selection

Aspect	CICERO Green Comments
Materiality	<p>The KPI addresses the material issue of climate impacts/risks but does not address impacts/risks from continued transmission of natural gas.</p> <ul style="list-style-type: none">✓ By covering 100% of EPSO-G's Scope 1 and 2 emissions, KPI 1 can be considered material in terms of addressing the company's climate risks and impacts. This is especially the case in the context of transition risks generated by Lithuania's commitment under the Paris Agreement to reduce GHG emissions by at least 55% by 2030 compared to 1990 levels, its support for the EU's goal of climate neutrality by 2050, as well as recently the proposed EU regulation on methane emissions. However, it is important to note that KPI 1 does not address the transition risks associated with Amber Grid's continued transmission of natural gas (see "Assessment of EPSO-G's Revenues").✓ KPI 1 covers all of EPSO-G's subsidiaries. However, as 20% and 68% EPSO-G's Scope 1 and 2 emissions are from methane emissions and grid losses, respectively, KPI 1 is most relevant to Amber Grid and Litgrid.
Strategic Significance	<p>The KPI is of partial strategic significance; alignment with EPSO-G's stated commitment of ensuring Lithuania's smooth energy system transition could be improved with a more direct link to EPSO-G's mandate to prepare the grid for hydrogen and biomethane integration.</p>



-
- ✓ EPSO-G’s long-term strategic commitments include ensuring a smooth and reliable transition of the energy system in Lithuania, which is also the focus of the long-term direction the company has set on for itself on the environment. Improving performance on KPI 1 necessitates EPSO-G to take a range of actions, some of which are more relevant than others to its strategic commitments. For instance, reducing grid losses, including by supporting integration of renewable electricity sources, has a more direct strategic connection than reducing methane leakage. The latter is important for climate mitigation but does not necessarily support energy transition and is the intended focus of EPSO-G – see “Initiatives and Strategy to Achieve SPT 1”).
 - ✓ Strategic significance would be improved a more direct link to EPSO-G’s mandate to prepare the grid for the integration of biomethane and hydrogen. According to EPSO-G, this is outside of its immediate control, and the company has noted the lack of clarity around future biomethane supply in Lithuania and EU regulations on hydrogen transport (see “Initiatives and Strategy to Achieve SPT 1”). We note that Amber Grid’s strategy entails transporting a mix of biomethane, hydrogen and methane in 2030, and pure hydrogen in the long run, but there are no quantified targets related to this vision.
 - ✓ According to EPSO-G, it will by end 2022 develop a plan that will include groupwide measures to improve both KPIs. This will lead to an update of investment plans that will need to be approved by EPSO-G’s regulator. The company has shared that the corresponding SPTs will be integrated into the annual business plans of EPSO-G, Litgrid and Amber Grid. Achievement of the business plans is linked to variable remuneration for senior management. KPI 1 is thus strategically significant in terms of its integration into internal decision-making and planning processes.

Methodology

The methodology is mostly robust and transparent: comparability over time may be impacted by fluctuation in economic activity

- ✓ KPI 1 is clearly defined, its scope is clear, and it can be consistently calculated due to the use of the GHG Protocol.
- ✓ As an absolute measure of emissions, KPI 1 may be affected by economic activity in Lithuania, which would increase quantities of electricity and natural gas transmitted and contribute to increased emissions from losses. This may make it difficult to distinguish the extent to which performance on KPI 1 is attributable to EPSO-G’s efforts. As such, we recommend that EPSO-G reports on absolute and percent losses for electricity and natural gas as complementary data to KPI 1.
- ✓ EPSO-G has clarified that its Scope 2 emissions are calculated using a market-based approach, which may not reflect actual emissions associated with purchased electricity. As such, it is possible to improve performance on KPI 1 by purchasing REGOs. EPSO-G has not ruled out the purchase of REGOs as a strategy for achieving the SPT but indicates in its framework that it will only do so or otherwise offset emissions if avoidance or reduction is impossible.
- ✓ Depending on the extent to which EPSO-G is purchasing renewable energy guarantees of origin (REGOs), its Scope 2 emissions may differ from emissions



reported using a location-based approach. We recommend that EPSO-G report on location-based emissions as complementary data.

- ✓ According to EPSO-G, 2019 was selected for the baseline as it is the last year before the impacts of the COVID-19 pandemic. Reduced economic activity from COVID-19 likely contributed part of the 9% reduction that occurred in KPI 1 between 2019 and 2020.
- ✓ More generally, the 2019 baseline means that EPSO-G has already achieved a 12% reduction in KPI 1, or around 24% of the emissions reductions required to achieve SPT 1, prior to the introduction of the framework and SPT 1.
- ✓ EPSO-G has not identified any benchmarks for KPI 1.
- ✓ Historical data for KPI 1 have not been externally verified.

Assessment of SPT 1: Reduce KPI 1 by 50% by 2030 from a 2019 baseline

Detailed comments on SPT ambitiousness

Benchmark	CICERO Green Comments
<i>Own performance</i>	<p>Insufficient basis for assessment due to impact of COVID-19 on historical data</p> <ul style="list-style-type: none">✓ The impact of COVID-19 on available historical data and lack of historical KPI data prior to 2019 make it difficult to compare SPT 1 against EPSO-G's historical performance on the KPI. <p>Factoring in EPSO-G's already achieved performance on KPI 1 over 2019-2021, achieving SPT 1 requires an annual average reduction in emissions of around 5% annually from 2021-2030. By comparison, EPSO-G's average annual Scope 1 and 2 emissions reductions from 2019-2021 was 6%. It reduced emissions by 9% between 2019-2020, although due to the COVID-19 pandemic, this may be less representative than the 3% reduction achieved over 2020-21, when the Lithuanian economy rebounded from the pandemic.</p> <ul style="list-style-type: none">✓ Lithuania has set a target to achieve a 45% renewable share of final energy consumption by 2030. If achieved, this would contribute to the achievement of SPT 1. EPSO-G contributes to this goal through grid modernization and ensuring the connection of renewable energy sources to the grid.
<i>Peers</i>	<p>Ambition is aligned with peers, with caveats around reliance on REGOs</p> <ul style="list-style-type: none">✓ We consider SPT 1 to be at least as ambitious as targets published by TSO peers with electricity and/or gas grid operations with similar timeframes, provided that EPSO-G achieves the target with minimized reliance on purchasing REGOs. Although several electricity TSO peer targets appear more ambitious, e.g. Energinet targets carbon neutral grid losses and energy consumption by 2030, it is unclear to



what extent these peers aim to achieve the target by purchasing REGOs to compensate for emissions from grid losses.

- ✓ Direct peers to EPSO-G, i.e. electricity and gas TSO operators within the Baltic and Nordic regions are limited to Denmark's Energinet and Estonia's Elering. Energinet aims for 1) transmission losses and energy consumption for the transmission grid to be carbon-neutral by 2030, and 2) emissions from natural gas to be carbon neutral, and SF6 gas to be phased out by 2050.⁸ Elering has published a goal of climate neutrality by 2030, but has not specified the scope of this target.⁹
- ✓ A second group of peers include other electricity TSOs and gas TSOs in the Baltic and Nordic regions. Of these, only Fingrid, Landsnet,¹⁰ and Statnett¹¹ have published emissions reduction targets with timeframes extending through 2030. Fingrid has a target for transmission losses to not cause any CO₂ emissions by 2035, though we have excluded this target from comparison as it would be achieved if Finland achieves its national target of climate-neutrality by 2035, which includes achieving nearly emissions-free electricity. The scope of Landsnet and Statnett's targets with respect to the inclusion of emissions from grid losses is unclear.
- ✓ A third group of peers include eight electricity TSOs that launched a common initiative to support carbon neutrality by 2050.¹² Of this group, only Red Electrica Espana and Elia have published targets that clearly include emissions from grid losses. The former's target is to reduce Scope 1 and 2 emissions by 55% by 2030 from a 2019 baseline,¹³ and the latter aims to establish carbon-neutral system operation by 2040.¹⁴
- ✓ Relevant gas TSO peers include Snam and Gasunie, which have published corporate-level emissions targets that have been included in their sustainability-linked frameworks. Snam aims for a 50% reduction in Scope 1 and 2 emissions by 2030 from a 2018 baseline, and Gasunie aims to reduce Scope 1 and 2 emissions by 30% compared to 2020, assuming constant transmission volumes.¹⁵

Science-based scenarios or international targets

1.5-degree and Paris-aligned on the basis of Scope 1 and 2 emissions, but not with regards to natural gas transmission.

- ✓ SPT 1 cannot be considered aligned with the 1.5-degree or Paris Agreement goals due to the eventual need to phase out natural gas usage in these scenarios, which SPT 1 does not address. However, SPT 1 compares favourably with the 2030 decarbonization milestone for European utilities under the One Earth Climate

⁸ <https://en.energinet.dk/-/media/6E726F0471E94146BB8F415466EB2A8C.pdf?la=en&hash=14227102D9A85DE575615D70518636159BFC82BA>

⁹ https://elering.ee/sites/default/files/2022-03/Elering_annualreport_2021_ENG.pdf

¹⁰ Carbon neutrality by 2030. See <https://www.landsnet.is/library?itemid=84b05805-bc55-4334-865a-92807751de18>

¹¹ Reduce greenhouse gas emissions by 50 per cent by 2030, compared with 2019, including emissions from our own operations, encroachments on nature and our contract partners. See <https://www.statnett.no/globalassets/om-statnett/strategi-og-samfunnsansvar/sustainability-report-2020.pdf>

¹² https://www.ree.es/sites/default/files/paragraph/2021/07/file/210712_PR_Common%20initiative%20TSOs_EN.pdf

¹³ Red Electrica also has a target to reduce Scope 3 emissions by 28% by 2030 from 2019. See

<https://www.ree.es/en/sustainability/decarbonisation-of-the-economy/carbon-footprint>

¹⁴ <https://www.elia.be/en/sustainability/environment/climate-change-mitigation-and-air-emissions>

¹⁵ <https://www.gasuniereport2021.nl/en/our-external-social-value-creation#what-we-are-doing-to-reduce-the-environmental-impact-of-our-gas-transmission-system-our-emission-reduction-efforts>



Model (OECM).¹⁶ As such it could be considered 1.5-degree and Paris Agreement aligned in the short to medium-term.¹⁷

- ✓ We note that natural gas phase-out depends on national energy policy and is beyond EPSO-G's direct control. Here, it is worth noting EPSO-G's corporate goal of adapting the natural gas transmission system to transport hydrogen, and that it plans to set targets and allocate investments towards this goal following the preparation of Lithuania's national guidelines on hydrogen sector development. Further, as noted before, Amber Grid's strategy entails transporting a mix of biomethane, hydrogen and methane in 2030, and pure hydrogen in the long run, but there are no quantified targets related to this vision.

Initiatives and Strategy to Achieve SPT 1

EPSO-G's framework indicates that its strategy to achieve SPT 1 will focus on reducing methane emissions. This involves increasing the use of a mobile gas compressor that allows for methane to be pumped out before grid reconstruction and maintenance and pumped back in afterwards. This prevents venting of methane that would otherwise have been necessary. We note that the mobile compressor engines used by EPSO-G are gas-powered and thus have emissions from natural gas combustion as well as engine methane slip—while avoided vented emissions likely outweigh these emissions by far, we encourage the use of electric mobile compressors if possible. EPSO-G also plans to explore and implement other technological measures, e.g. leak detection technologies and upgraded gas transmission equipment (e.g. electrification and modernization of stationary compressor stations). It is positive that according to the company, it will treat flaring of methane as a last resort. According to EPSO-G, it has not factored in the transmission of biomethane and hydrogen into the decarbonization of Amber Grid's operations due to lack of clarity around future biomethane supply in Lithuania and EU regulations on hydrogen transport.

According to EPSO-G, it has not yet mapped out a pathway for achieving SPT 1, but that it plans to develop one this year as part of its climate mitigation plan. As such, it is unclear to what extent it will rely on specific measures to achieve SPT 1. However, the company's emissions profile indicates that other measures, in particular reducing emissions from grid losses, will be necessary. In this respect, EPSO-G indicates that the largest potential for reducing grid loss emissions is to increase the share of renewable electricity in the grid, but that this is out of its immediate control. As such, we acknowledge that the company has limited options for addressing grid losses but believe it is positive that it has nevertheless included Scope 2 emissions in the scope of KPI 1 and SPT 1, and that it aims to introduce innovative technologies for reducing grid losses, given the importance of the associated emissions to its carbon footprint.

The company also indicates that purchasing REGOs to reduce emissions from grid losses or otherwise offsetting its emissions will be treated as last resort options that will only be pursued if avoidance or reduction is impossible. We believe this is positive given the lack of evidence that REGOs drive increases in renewable generation capacity,¹⁸ as well as general concerns about the credibility, timing and permanence of offsets.

¹⁶ The OECM sector pathways were commissioned by the Net Zero Asset Owner Alliance to support target-setting for its members and were developed by the Institute for Sustainable Futures at the University of Technology Sydney, with review by a multistakeholder expert panel. See <https://www.unpri.org/download?ac=12245>

¹⁷ SPT 1 entails a 50% reduction in Scope 1 and 2 emissions between 2019-2030. This compares favourably with the OECM pathway for the European utilities sector, on which Scope 1 and 2 emissions decline by 35% between 2019-2030. The OECM defines the utilities sector as that which operates and maintains power and co-generation plants, power grids (all voltage levels), and pipelines, and provides energy services such as balancing, demand-side management, and storage. As 76% of EPSO-G's emissions are from grid losses, which are in turn dependent upon power generation emissions, the inclusion of power generation activities in the definition is deemed relevant for the purposes of this analysis.

¹⁸ <https://akjournals.com/view/journals/204/41/4/article-p487.xml>



Beyond the above, EPSO-G has indicated that it will also work on reducing emissions from its own operations, e.g. through electrifying its vehicle fleet, phasing out equipment that uses SF6 gas, and searching for opportunities to procure renewable gas, e.g. biomethane for use in grid operations. We note the risks related to direct and indirect land use change associated with certain feedstock biomethane feedstocks, particular those derived from deforestation-risk commodities such as palm and soy, but also those produced from food crops. We encourage EPSO-G to implement robust sourcing policies, including requirements for biomethane and other biofuels to comply with the relevant EU Taxonomy criteria.

Summary of key factors beyond the issuers' direct control that may affect the achievement of SPT 1:

We do not perceive any significant factors that may affect the achievement of SPT 1 beyond those that EPSO-G has identified in its framework. Of those, we would highlight regulatory factors that could affect NERC approvals for increased capex and opex associated with technological solutions, as well as possible changes regulatory requirements and shareholder expectations.

Assessment of KPI 2: Reliability of electricity transmission indicator, expressed as energy not supplied measured in MWh in the operations of electricity transmission system operator

Detailed comments on KPI selection

Aspect	CICERO Green Comments
Materiality	<p>Partially material from a physical climate risk management perspective; material from an operational perspective</p> <ul style="list-style-type: none">✓ As its calculation includes ENS from climate-related events alongside other causes, KPI 2 is partially material in terms of managing physical climate risks. It is material from a regulatory and financial perspective due to its use as a regulatory metric for monitoring grid reliability.✓ According to EPSO-G, ENS is to be considered first and foremost an operational KPI that is a key aspect of regulatory compliance. According to EPSO-G, the consequence of not achieving SPT 2 is a 1% or 2% reduction in Litgrid's ROI for the next regulatory period, depending on whether the threshold is exceeded by more or less than 10%, respectively. KPI 2 is therefore highly material to EPSO-G from a regulatory and financial perspective.✓ KPI 2 is also partially material in terms of climate change adaptation and management of physical climate risks—whereas EPSO-G does not track the amount of ENS specifically related to climate-related events, it shared that ENS caused by storms and other climate-related events are included in the calculation of the KPI (see methodology) under “force majeure” and “external reasons.” Over 2017-2021, these two categories were responsible for 79% of ENS, with the remainder attributable to operator liability. EPSO-G indicated that measures to improve grid reliability, e.g. modernization of grid equipment and overhead power lines, can improve resilience to physical climate impacts.



- ✓ KPI 2 is indirectly material in terms of managing EPSO-G's climate and other environmental impacts. Investments to improve performance on KPI 2 may contribute to grid reliability (see strategic significance) and improve conditions for integration of renewable energy systems, which would then reduce EPSO-G's emissions from grid losses.
- ✓ KPI 2 is only relevant to Litgrid, which accounted for 75% of EPSO-G's revenues and 51% of assets in 2021.

Strategic
Significance

The KPI is of strategic significance in terms of alignment with EPSO-G's stated commitment of ensuring Lithuania's energy system transition

- ✓ Specific challenges from the planned growth of solar and wind power¹⁹ pertain to the volatility of power flow patterns, reactive power sufficiency, and system inertia,²⁰ which can contribute to network faults (i.e. ENS from operator liability) that have been shown to contribute to ENS in conjunction with force majeure/external factors such as storms and other extreme weather.²¹ In this respect, measures to limit ENS, regardless of interruption cause, could contribute to improved conditions for a smooth and reliable transition of the Lithuanian energy system.
- ✓ According to EPSO-G, it will by end 2022 develop a plan that will include groupwide measures to improve both KPIs. This will lead to an update of investment plans that will need to be approved by EPSO-G's regulator. The company has shared that the corresponding SPTs will be integrated into the annual business plans of EPSO-G, Litgrid and Amber Grid. Achievement of the business plans is linked to variable remuneration for senior management. KPI 2 is thus strategically significant in terms of its integration into internal decision-making and planning processes.

Methodology

The methodology is robust and transparent

- ✓ KPI 2's scope is clear, and it can be consistently calculated due to the use of the NERC's methodology for calculating ENS.
- ✓ EPSO-G has clarified that in alignment with the definition of KPI 2, the historical data provided in the framework include all transmission interruptions, i.e. all cases of interruption of electricity transmission due to failures in the transmission network, unforeseen network disconnections during repairs, defects or mistakes caused by contractors and other reasons.
- ✓ KPI 2 is a direct measure of the grid reliability and is the metric used by Lithuania's NERC and promoted by the European Network for Transmission System Operators for Electricity (ENTSO-E) for monitoring grid reliability.

¹⁹ https://ec.europa.eu/energy/sites/default/files/documents/lt_final_necp_main_en.pdf

²⁰ <https://corporatesolutions.swissre.com/dam/jcr:81569f57-635a-4450-93e3-466990694643/changing-energy-mix-and-its-impact-on-grid-stability.pdf>

²¹ <https://ieeexplore.ieee.org/document/8327538>



- ✓ KPI 2 is however not a direct measure of resilience to physical climate risks due to inclusion of other causes of interruption in its calculation, although we note that this is not EPSO-G's intended purpose for the KPI.
- ✓ According to EPSO-G, there is no correlation between ENS and transmitted electricity. Based on this, comparability of KPI 2 from year to year should not be impacted by increase in economic activity or the expansion of the grid.
- ✓ EPSO-G has not specified any benchmarks for KPI 2.
- ✓ Historical data for KPI 2 are externally verified by the NERC and reported on annually.²²

Assessment of SPT 2: Limit KPI 2 to 136.25 MWh over 2022-2026

Detailed comments on SPT ambitiousness

Benchmark	CICERO Green Comments
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<i>Own performance</i>	<p>Ambitious versus past performance due to the substantially reduced margin for compliance with regulations.</p> <ul style="list-style-type: none"> ✓ According to EPSO-G, NERC sets two targets for ENS: a minimum performance level (149.5 MWh) and a minimum performance level with improvements (136.25 MWh). SPT 2 corresponds to the latter. ✓ According to EPSO-G, SPT 2 was determined based on factors including: historical data, the number and growth prospects of remotely operated facilities, investment in the transmission network, and the aging of facilities. ✓ The historical performance of EPSO-G on KPI 2 over the previous regulatory periods (2011-2015 and 2016-2020) is presented below alongside SPT 2: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>2011-2015</th> <th>2017-2021</th> <th>SPT 2: 2022-2026</th> </tr> </thead> <tbody> <tr> <td>ENS (MWh)</td> <td>215.47</td> <td>149.51</td> <td>136.25</td> </tr> <tr> <td>% change</td> <td></td> <td>-31%</td> <td>-9%</td> </tr> <tr> <td>Regulatory limit (MWh)</td> <td>542.65</td> <td>215.45</td> <td>149.5</td> </tr> <tr> <td>% of limit reached</td> <td>40%</td> <td>69%</td> <td>91%</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ✓ Comparing the percentage decrease in ENS across regulatory periods would not suggest that SPT 2 is ambitious against past performance, as it entails a smaller percentage decline compared to what was achieved in 2017-2021 vs 2011-2015. However, we note that the margin for compliance is substantially reduced from the prior two regulatory periods. 		2011-2015	2017-2021	SPT 2: 2022-2026	ENS (MWh)	215.47	149.51	136.25	% change		-31%	-9%	Regulatory limit (MWh)	542.65	215.45	149.5	% of limit reached	40%	69%	91%
	2011-2015	2017-2021	SPT 2: 2022-2026																		
ENS (MWh)	215.47	149.51	136.25																		
% change		-31%	-9%																		
Regulatory limit (MWh)	542.65	215.45	149.5																		
% of limit reached	40%	69%	91%																		

<i>Peers</i>	Peer benchmarking not possible due to limited comparability
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²² <https://www.vert.lt/en/Pages/report-to-the-european-commission.aspx>



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- ✓ Comparability of ENS performance and targets across transmission system operators is limited due to differences in the types of interruptions that are included/excluded from the calculation, as well as their definition. For instance, not force majeure/exceptional events may be defined by countries in line with their geographies or historical experiences. The Council of European Energy Regulators has called for the harmonisation of continuity of supply indicators such as ENS and their calculation.²³

Science-based scenarios or international targets

Not applicable

- ✓ ENS is not directly relevant enough to climate mitigation and adaptation goals to allow for benchmarking against the 1.5-degree and Paris Agreement goals.

Initiatives and Strategy to Achieve SPT 2

EPSO-G's strategy for achieving SPT 2, as stated in the framework, is centered on infrastructure reconstruction and development projects, including the reconstruction of transformer substations and power transmission lines, due to the age of the transmission network.

According to the company, beyond the technical condition of the network, an important historical contributor to reductions in ENS has been the installation of remotely controlled devices that enable faster responses to disconnections, alongside training of dispatchers. The company has shared that 76% of devices in its transmission network were remotely controlled and that it plans to increase this figure to 88% by 2025. EPSO-G also shared that dispatcher competency is another factor impacting ENS from operator liability, and that it continues to organize training to address this factor.

Whereas EPSO-G has indicated that the modernization of equipment and overhead power lines will contribute to the improvement of the grid's resilience to physical climate risks, the company has not provided more specific information on how it is factoring climate adaptation needs into its planned investments. This is a pitfall, especially considering that EPSO-G has not yet conducted physical climate risk assessments nor developed a climate adaptation strategy (see Governance Assessment), despite the IPCC's findings that climate change is already contributing to increased flooding from heavy rainfall in Northern Europe, which is projected to further increase even if climate change is limited to a 1.5-degree warming scenario. Further, as EPSO-G modernizes and reconstructs its grid, there is an opportunity for it to improve climate resilience by improving its understanding of dependencies of its operated infrastructure on natural capital, in particular for ecosystem services such as climate regulation, erosion control, and flood and storm protection. This will also contribute to enhancing the focus on biodiversity protection and monitoring already included in its environmental policy.

Summary of key factors beyond the issuers' direct control that may affect the achievement of SPT 2:

We do not perceive any significant factors that may affect the achievement of SPT 2 beyond those that EPSO-G has identified in its framework. Of those, we would highlight regulatory factors that could affect NERC approvals for increased capex and opex associated with technological solutions, as well as possible changes regulatory requirements and shareholder expectations.

²³ <https://www.ceer.eu/documents/104400/-/-/d064733a-9614-e320-a068-2086ed27be7f>



Comments on Financial Characteristics, Reporting and Verification

Component	CICERO Green Comments
Financial Characteristics	<ul style="list-style-type: none">✓ CICERO Green has not reviewed to what degree the variation in the financial characteristics of an SLB or SLL is commensurate and meaningful.✓ Investors are encouraged to review the terms sheets in detail and conduct their own assessment of the financial characteristics of SLBs.
Reporting	<ul style="list-style-type: none">✓ Transparency, reporting, and verification of impacts are key to enable investors to follow the performance of the KPIs selected. Procedures for reporting and disclosure are also vital to build confidence that the SLB/SLL is contributing towards a sustainable and climate-friendly future, both among investors and in society.✓ EPSO-G is committed to transparent and regular reporting on its performance against the SPT that includes relevant contextual information.✓ Due to the characteristics of KPI 1 (see notes on methodology), we recommend that EPSO-G report complementary data to allow investors to distinguish between improvements in KPI 1 from wider economic factors and EPSO-G's own efforts.✓ Further, given the transition risks associated with operation of the natural gas grid, we also recommend that EPSO-G report on the efforts and progress it is making towards adapting the grid for hydrogen and biomethane integration, including the proportion of these gases in the mix of gas transported.
Verification	<ul style="list-style-type: none">✓ Both KPIs are externally verifiable and EPSO-G has committed to obtaining external and independent verification on its performance against the KPIs. A verification report will be included in EPSO-G's Progress Report for its KPIs/SPTs.













3 Terms and methodology

This note provides CICERO Shades of Green’s (CICERO Green) second opinion of the client’s framework dated April 2022. This second opinion remains relevant to all sustainability linked bonds and/or loans issued under this framework for the duration of three years from publication of this second opinion, as long as the framework remains unchanged. Any amendments or updates to the framework require a revised second opinion. CICERO Green encourages the client to make this second opinion publicly available. If any part of the second opinion is quoted, the full report must be made available.

This assessment is based on a review of documentation of the client’s policies and processes, as well as information provided to us by the client during meetings, teleconferences and email correspondence. In our review we have relied on the correctness and completeness of the information made available to us by the company.

The structure of Sustainability Linked Bonds (SLBs) and Sustainability Linked Loans (SLLs) linking financial returns with environmental performance can provide security around environmental impacts. However, SLBs and SLLs can vary widely in terms of robustness depending on what KPIs are selected and how they are measured. We provide transparency on 1) the relevance, materiality and reliability of selected KPIs, 2) the rationale and level of ambition of the proposed Sustainability Performance Targets, 3) the relevance of selected benchmarks and baselines, as well as transparency on how well the strategy outlined to achieve them fits with a low carbon and climate resilient future. By considering these factors, we provide context to consider the ambition level of the SLB and SLL. Please note that CICERO Green does not evaluate any financial aspects of transaction, including to what degree the variation in the financial characteristics of an SLB and SLL is commensurate and meaningful.

Incorporated into the sustainability-linked finance assessment is our company climate risk assessment approach. We allocate a shade of green, yellow or red (see figure below) to revenues or portfolio value which reflect alignment of the underlying activities to a low carbon and climate resilient future and taking into account governance issues.

Shading	Examples
 Dark Green is allocated to projects and solutions that correspond to the long-term vision of a low-carbon and climate resilient future.	 Solar power plants
 Medium Green is allocated to projects and solutions that represent significant steps towards the long-term vision but are not quite there yet.	 Energy efficient buildings
 Light Green is allocated to transition activities that do not lock in emissions. These projects reduce emissions or have other environmental benefits in the near term rather than representing low carbon and climate resilient long-term solutions.	 Hybrid road vehicles
 Yellow is allocated to projects and solutions that do not explicitly contribute to the transition to a low carbon and climate resilient future. This category also includes activities with too little information to assess.	 Healthcare services
 Red is allocated to projects and solutions that have no role to play in a low-carbon and climate resilient future. These are the heaviest emitting assets, with the most potential for lock in of emissions and highest risk of stranded assets.	 New oil exploration



In addition to shading from dark green to red, CICERO Shades of Green also includes a governance score to show the robustness of the company's sustainability governance structure. When assessing the governance of the company, CICERO Green looks at five elements: 1) strategy, policies and governance structure; 2) lifecycle considerations including supply chain policies and environmental considerations towards customers; 3) the integration of climate considerations into their business and the handling of resilience issues; 4) the awareness of social risks and the management of these; and 5) reporting. Based on these aspects, an overall grading is given on governance strength falling into one of three classes: Fair, Good or Excellent. Please note this is not a substitute for a full evaluation of the governance of the issuing institution, and does not cover, e.g., corruption.



Appendix 1: Background on Emissions, Energy and Gas Transmission in Lithuania

Lithuania's emissions in 2018 were 20.3 MtCO₂eq (excluding net withdrawals from land use, land use change and forestry), of which 59% were energy-related, 21% were from agriculture, 16% from industry processes, and 5% from waste. The country's emissions have remained largely stable over the last two decades, while the country's economy has continued to grow, corresponding to a 49% decrease in GDP carbon intensity since 2000. As such, the IEA considers that Lithuania has largely decoupled GHG emissions from growth.

Lithuania has ratified the Paris Agreement, and aligning with the goals of the EU, set a national target of climate neutrality by 2050. This is accompanied by the short-term target of reducing emissions by at least 55% by 2030 compared to 1990 levels and a medium-term target of reducing emissions by 80% by 2040 from 1990 levels. Within the energy sector, Lithuania has set the target of achieving a 45% renewable share in final energy consumption by 2030, which entails raising the share of renewable energy in electricity consumption and district heating to 45% and 90%, respectively. In comparison, the 2019 share of renewables (primarily biomass) in final energy consumption was 34%, the share in electricity consumption was 18%, and the share in district heating was 70%. Natural gas comprised the remaining source of energy for electricity and district heating.

At present, 76% of electricity generation in Lithuania is renewable, with around half of that amount from wind power and the remainder from hydropower and biomass. Consequently, the country's grid has a relatively low estimated emissions intensity of around 117gCO₂e/kWh. Hydropower and biomass offer system benefits to the grid, as they are dispatchable and a source of flexibility for balancing. Projected increases in wind power to 70% of generation by 2030, alongside smaller increases in solar power, will necessitate adaptive investments by Litgrid to ensure that grid stability remains unimpacted. Under the IEA's Net Zero by 2050 (NZE) scenario, total grid investment globally needs to increase to USD 820 billion by 2030 and USD 1 trillion by 2050, of which around 20% will be driven by the need to integrate renewable electricity, and 60-70% in response to greater demand for electricity. The NZE also emphasizes the importance of grid resilience due to the expected pressure from climate change on electricity systems, e.g. from more frequent droughts that impact hydropower and thermal power generation.

Given the need to transition away from natural gas, the NZE entails that low-carbon gases, including biomethane, synthetic methane, and hydrogen, will need to increase from near-zero today to 35% of global demand for gas supplied through networks by 2035. In light of its climate targets, Lithuania has started laying the groundwork for scaling up biomethane and hydrogen production. Lithuania's 2021-2030 National Energy and Climate Action Plan (NECP) outlines several related measures, including investment support to secure 81.5 ktoe of biomethane annually over 2020-2030, measures to reorient existing biogas facilities away from combined heat and power generation to allow for biogas treatment and supply into gas networks. The NECP also identifies hydrogen as a promising area in energy innovation, noting for instance its potential, alongside biomethane, for supporting energy storage solutions, e.g. via power-to-gas technologies. NECP policy measures to promote market integration of energy storage facilities and services creates opportunities for the natural gas grid to support the energy transition.



Appendix 2: EU Taxonomy criteria and alignment

Complete details of the EU taxonomy criteria are given in https://ec.europa.eu/finance/docs/level-2-measures/taxonomy-regulation-da-2020-annex-1_en.pdf

Transmission and distribution of electricity

Taxonomy activity	4.9 Transmission and distribution of electricity (NACE Code D.35.12, D.35.13)		
	EU Technical screening criteria	Comments on alignment	Alignment with technical screening criteria ²⁴
Mitigation criteria	<ul style="list-style-type: none"> Substantial contribution to climate change mitigation <p>Transmission and distribution infrastructure or equipment meeting at least one of the following requirements are considered to meet the criteria:</p> <ul style="list-style-type: none"> The transmission and distribution infrastructure or equipment in the system is the interconnected European system. The transmission and distribution infrastructure or equipment is in a system where more than 67% of newly connected generation capacity is below the generation threshold value of 100 gCO₂e/kWh over a rolling five-year period; An average system grid emission factor is below the threshold value of 100 gCO₂e/kWh measured on a life cycle basis over a rolling five-year average period; <p>The following activities are also considered to meet the criteria:</p> <ul style="list-style-type: none"> construction and operation of direct connection, or expansion of existing direct connection, of low carbon electricity generation below the threshold of 100 gCO₂e/kWh measured on a life cycle basis to a substation or network; construction and operation of electric vehicle (EV) charging stations and supporting electric infrastructure for the electrification of transport, subject to compliance with the technical screening criteria under the transport Section of this Annex; 	<p>Based on the core business activities of EPSO-G's subsidiaries, this category is potentially relevant to Litgrid, Tetas, and Energy Cells.</p> <p>100% of Litgrid's transmission and distribution infrastructure is part of the interconnected European system, and associated revenues, capex and opex are considered Taxonomy aligned.</p> <p>Direct connections or expansions of connections to power plants with life cycle emissions greater than 100 gCO₂e/kWh are not Taxonomy aligned.</p> <p>EPSO-G shared that the lattermost exclusionary criterion is only applicable to the assets that are used for connecting the natural gas power plant at Elektrėnai to the transmission grid. According to EPSO-G, in 2021 there were no capital expenditures associated with the connection between the Elektrėnai natural gas power plant and the transmission grid. However, according to EPSO-G, it is unable to directly estimate the proportion of revenues and opex associated with this connection due to the use of universal tariffs for all energy sources, and because there is no distinction between assets by emissions intensity or otherwise in its regulatory framework.</p>	<p>75% of revenues 54% of capex 74% of opex</p>

²⁴ Alignment with Do No Significant Harm and social safeguards criteria has not been assessed.



	<ul style="list-style-type: none"> • installation of transmission and distribution transformers that comply with the Tier 2 (1 July 2021) requirements set out in Annex I to the Commission Regulation (EU) No 548/2014178 and, for medium power transformers with highest voltage for equipment not exceeding 36 kV, with AAA0 level requirements on no-load losses set out in standard EN 50588-1 • construction/installation and operation of equipment and infrastructure where the main objective is an increase of the generation or use of renewable electricity generation; • installation of equipment to increase the controllability and observability of the electricity system and to enable the development and integration of renewable energy sources, including: <ul style="list-style-type: none"> ○ sensors and measurement tools (including meteorological sensors for forecasting renewable production); ○ communication and control (including advanced software and control rooms, automation of substations or feeders, and voltage control capabilities to adapt to more decentralised renewable infeed). • installation of equipment such as, but not limited to future smart metering systems or those replacing smart metering systems in line with Article 19(6) of Directive (EU) 2019/944 of the European Parliament and of the Council180, which meet the requirements of Article 20 of Directive (EU) 2019/944, able to carry information to users for remotely acting on consumption, including customer data hubs; • construction/installation of equipment to allow for exchange of specifically renewable electricity between users; • construction and operation of interconnectors between transmission systems, provided that one of the systems is compliant. <p>Transmission and distribution infrastructure or equipment meeting any of the following requirements are non-compliant:</p> <ul style="list-style-type: none"> • The transmission and distribution infrastructure or equipment is dedicated to creating a direct connection, or expanding an existing direct connection to a power production plant that is more CO₂ intensive than 100 gCO₂e/kWh, measured on a life cycle basis. • Installation of metering infrastructure that does not meet the requirements of smart metering systems of Article 20 of Directive (EU) 2019/944. 	<p>It is possible to roughly estimate the percentages of revenues and opex associated with the connection at Elektrėnai by using the share of Litgrid’s transmitted electricity that it represents to make the necessary adjustments to total revenues and capex. Using this approach, 69% of revenues and 68% of opex would be Taxonomy-aligned.</p> <p>According to EPSO-G, Amber Grid completed a solar power installation for operational use; capex associated with this project is considered Taxonomy-aligned under the criterion, “construction/installation and operation of equipment and infrastructure where the main objective is an increase of the generation or use of renewable electricity generation.”</p>	
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Storage of electricity

Taxonomy activity	4.10 Storage of electricity (no dedicated NACE Code)		
	EU Technical mitigation criteria	Comments on alignment	Alignment with technical screening criteria ²⁵
Mitigation criteria	<ul style="list-style-type: none"> Substantial contribution to climate change mitigation <p>Eligible activities include any of the following:</p> <ul style="list-style-type: none"> Construction and operation of electricity storage including pumped hydropower storage. Where chemical energy storage is involved, the medium of storage (such as hydrogen or ammonia) complies with the criteria for manufacturing of the corresponding product specified in Sections 3.7 to 3.17 of Annex I. In case of using hydrogen as electricity storage, where hydrogen meets the technical screening criteria specified in Section 3.10 of Annex I, re-electrification of hydrogen is also considered part of the activity. 	<p>Based on the core business activities of EPSO-G's subsidiaries, this category is potentially relevant to Litgrid, Energy Cells and Amber Grid.</p> <p>According to EPSO-G, Energy Cells does not currently generate any revenue from construction and operation of energy storage but has a target to install 200 MW of storage by end 2022/early 2023. Energy Cells had capex of approximately 9.1 million Euros in 2021 that was associated with this project.</p>	<p>9% of capex No aligned revenues or opex</p>

Transmission and distribution networks for renewable and low-carbon gases

Taxonomy activity	4.14 Transmission and distribution networks for renewable and low-carbon gases (NACE Code D35.22, F42.21, H49.50)		
	EU Technical mitigation criteria	Comments on alignment	Alignment with technical screening criteria ²⁶
Mitigation criteria	<ul style="list-style-type: none"> Substantial contribution to climate change mitigation <p>The following activities are considered to meet the criteria:</p> <ul style="list-style-type: none"> Construction or operation of new transmission and distribution networks dedicated to hydrogen or other low-carbon gases; Conversion/repurposing of existing natural gas networks to 100% hydrogen; 	<p>Among EPSO-G's subsidiaries, this category is only relevant to Amber Grid.</p> <p>According to EPSO-G, Amber Grid currently does not derive any revenues from construction or operation of networks dedicated to hydrogen or other low-carbon gases, nor does it have any associated capex or opex.</p>	<p>No aligned revenues, capex or opex.</p>

²⁵ Alignment with Do No Significant Harm and social safeguards criteria has not been assessed.

²⁶ Alignment with Do No Significant Harm and social safeguards criteria has not been assessed.



	<ul style="list-style-type: none">• Retrofit of gas transmission and distribution networks that enables the integration of hydrogen and other low-carbon gases in the network, including any gas transmission or distribution network activity that enables the increase of the blend of hydrogen or other low carbon gasses in the gas system;• Leak detection and repair of existing gas pipelines and other network elements to reduce methane leakage		
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Appendix 3: Referenced Documents List

Document Number	Document Name	Description
1	EPSO-G Sustainability-Linked Finance Framework (April 2022)	
2	EPSO-G Consolidated Annual Report (2020)	
3	GHG Emissions of EPSO-G Group (2019-2021)	Non-public
4	EPSO-G Sustainability Policy (Jan 2022)	
5	EPSO-G Environmental Policy (Dec 2021)	
6	EPSO-G Remuneration, Performance Appraisal, and Development Policy	
7	EPSO-G Occupational Safety and Health Policy	
8	EPSO-G Equal Opportunities Policy (Jan 2022)	
9	EPSO-G Code of Ethics (Dec 2018)	



Appendix 4: About CICERO Shades of Green

CICERO Green is a subsidiary of the climate research institute CICERO. CICERO is Norway's foremost institute for interdisciplinary climate research. We deliver new insight that helps solve the climate challenge and strengthen international cooperation. CICERO has garnered attention for its work on the effects of manmade emissions on the climate and has played an active role in the UN's IPCC since 1995. CICERO staff provide quality control and methodological development for CICERO Green.

CICERO Green provides second opinions on institutions' frameworks and guidance for assessing and selecting eligible projects for green bond investments. CICERO Green is internationally recognized as a leading provider of independent reviews of green bonds, since the market's inception in 2008. CICERO Green is independent of the entity issuing the bond, its directors, senior management and advisers, and is remunerated in a way that prevents any conflicts of interests arising as a result of the fee structure. CICERO Green operates independently from the financial sector and other stakeholders to preserve the unbiased nature and high quality of second opinions.

We work with both international and domestic issuers, drawing on the global expertise of the Expert Network on Second Opinions (ENSO). Led by CICERO Green, ENSO contributes expertise to the second opinions, and is comprised of a network of trusted, independent research institutions and reputable experts on climate change and other environmental issues, including the Basque Center for Climate Change (BC3), the Stockholm Environment Institute, the Institute of Energy, Environment and Economy at Tsinghua University, the International Institute for Sustainable Development (IISD) and the School for Environment and Sustainability (SEAS) at the University of Michigan.



- ★ **2020 External Assessment Provider Of The Year**, Environmental Finance Green Bond Awards
- ★ **2020 Largest External Review Provider In Number Of Deals**, Climate Bonds Initiative Awards
- ★ **2019 External Assessment Provider Of The Year**, Environmental Finance Green Bond Awards
- ★ **2019 Largest Green Bond SPO Provider**, Climate Bonds Initiative Awards
- ★ **2018 External Assessment Provider Of The Year**, Environmental Finance Green Bond Awards
- ★ **2018 Largest External Reviewer**, Climate Bonds Initiative Awards
- ★ **2017 Best External Assessment Provider**, Environmental Finance Green Bond Awards
- ★ **2016 Most Second Opinions**, Climate Bonds Initiative Awards