



# EP Infrastructure Green Finance Second Opinion

19 July 2023

## Executive Summary

**EP Infrastructure (“EPIF”) is a Czech Republic-based energy infrastructure group, operating across four business segments: gas transmission, gas and electricity distribution, gas storage, and heat generation and distribution.** In respect of EPIF’s generation activities, which in 2022 accounted for 16% of revenues, respectively around 85% and 88% of power and heat produced in 2022 derived from lignite coal. EPIF’s principal operations are in the Czech Republic and Slovakia, though it also has some presence in Germany.

**Under its framework, EPIF will finance or refinance investments relating to its gas transmission and distribution, heat generation and distribution, and electricity distribution infrastructure.** EPIF expects a majority (63%) of assets under the framework by value to relate to increasing the preparedness of its gas distribution network for hydrogen and low carbon gases. A smaller share (23%) relates to electricity distribution assets. The remainder relates to heat generation and distribution and includes the conversion of lignite coal powered district heating / cogeneration plants to natural gas (11%), and investments in district heating networks distributing heat from, among other sources, lignite coal (4%).

We rate the framework **Light Green** and give it a governance score of **Good**. Overall, EPIF has a transparent strategy for decarbonizing its operations, seeking to convert its three, lignite coal powered district heating / cogeneration plants to combined cycle gas turbines, biomass, and waste to energy in line with its 2030 coal phase out target, and to ensure the preparedness of its gas transmission, storage, and distribution infrastructure for hydrogen, renewable, or low carbon gases.

## The Light Green shading primarily reflects two analytical considerations:

Firstly, in respect of EPIF’s investments in its gas distribution network, it reflects the importance of ensuring gas distribution networks are ready for renewable and low carbon gases in a 1.5-degree aligned future. At the same time, these are investments in infrastructure that is currently fossil fuel-based and remain exposed to significant transition risk until they distribute renewable or low carbon gases. The occurrence and timing of this transition is not certain: while EPIF has an important role to play through ensuring the preparedness of its storage, transmission, and distribution assets for renewable or low carbon gases, the transition will be largely driven by the supply of such gases, over which EPIF has more peripheral influence.

Secondly, in the Czech context, the conversion of EPIF’s lignite coal powered district heating / cogeneration plants to natural gas are transitional investments. While this conversion reduces emissions compared to lignite coal,

## SHADES OF GREEN



CICERO  
Light Green

## GOVERNANCE ASSESSMENT



## GREEN BOND AND LOAN PRINCIPLES

Based on this review, this framework is found to be aligned with the principles.



natural gas is a high emitting fossil fuel, which must subsequently be replaced with renewable and/or low carbon gases to ensure an emissions trajectory towards a 1.5-degree aligned future. To this end, it is crucial to the shading that the turbines to be financed can combust such gases, and that the eligibility criteria require EPIF to commit to combusting only such gases by 31 December 2035, though fulfilling such commitment is dependent on external factors, such as availability.

### *Strengths*

**EPIF's transparency on its transition plans represents a strength.** On the whole, we consider EPIF to have adopted a transparent approach to its transition. Such an approach is critical, given its operations and emissions, and the climate risks related to its sectors more broadly and EPIF's transition choices more specifically.

**EPIF commits to obtaining independent verification that it has fulfilled the eligibility criteria for the cogeneration of heat/cool and power, or the production of heat/cool, from natural gas.** These criteria contain several quantitative thresholds, for example emission intensity must be less than 270 gCO<sub>2</sub>/kWh, and the investments must lead to a 55% reduction in emissions per kWh of output energy. According to calculations provided by EPIF, its proposed investments satisfy these criteria, though in some cases not by a great margin. As such, we welcome that the eligibility criteria require independent verification, and encourage EPIF to be transparent on its calculations (e.g. in respect of margins of error).

### *Weaknesses*

**EPIF's framework includes significant investments in, and exposure to, fossil fuel-based assets and infrastructure.** Firstly, proceeds will finance investments into the readiness of EPIF's gas distribution network for hydrogen and low carbon gases. Until the network distributes renewable or low carbon gases, it will be exposed to significant transition risk, from the distribution of natural gas and also hydrogen produced from natural gas. Secondly, proceeds will finance the conversion of lignite coal powered district heating / cogeneration plants to natural gas, a high emitting fossil fuel exposed to significant transition risk. Finally, proceeds can be invested into district heating networks that can distribute heat from lignite coal until EPIF's coal phase out in 2030, and from natural gas until EPIF's phase in of renewable and/or low carbon gases.

**EPIF's framework would be improved if certain targets/plans were in place.** Per the eligibility criteria, EPIF can only use proceeds for the cogeneration of heat/cool and power, or the production of heat/cool, from natural gas if its management board has approved a commitment and plan to switch to renewable and/or low-carbon gases by 31 December 2035. This plan and target are not currently in place, which, given the importance of using natural gas only as a transitional fuel, constitutes a weakness. EPIF also does not currently have a Scope 3 emissions target in place, though it commits to setting one in the first half of 2025. A Scope 3 emissions target is crucial, given EPIF estimates that emissions from the use of the gas it transmitted, distributed, and stored in 2022 are at least 20 times larger than its (significant) Scope 1 and 2 emissions.

### *Pitfalls*

**A significant element of EPIF's decarbonization strategy relies on the transition to renewable or low carbon gases.** More specifically, reduction of emissions from the transmission, storage, and distribution of natural gas, depends on the availability of renewable or low carbon gases, as does the transition of its combined cycle gas turbine plants to such gases. Nonetheless, while such gases are seen as crucial in the 2050 future, there are risks and uncertainty relating to their increased production and use. If there is insufficient supply of and demand for these gases, EPIF's gas distribution network and combined cycle gas turbine plants will, respectively, continue to distribute and use natural gas. While EPIF is involved in certain projects to promote demand and supply of such gases, their development is, to a large extent, beyond its control.



**The use of natural gas as a transitional energy source should only be considered if renewable alternatives are unfeasible in EPIF's geographical context in the short-term.** This is reflected in the eligibility criteria, which, furthermore, require EPIF to undertake a comparative assessment of renewable alternatives, to publish this, and make it subject to stakeholder consultation. This has not yet occurred, however, and the exact details about the process are unknown. According to EPIF, it has considered the feasibility of biomass, heat pumps, and geothermal as alternatives to combined cycle gas turbine plants. It considers that biomass cannot be scaled sufficiently to ensure its sustainability (i.e. locally sourced, waste based, and certified), while, in the medium term, it considers heat pumps unrealistic given difficulties in meeting the needs for reserved capacity, and geothermal as cost ineffective. It is crucial that the comparative assessment is of sufficient rigor, and that its findings, including any contributions through the stakeholder engagement, are considered in concluding on the feasibility of renewable alternatives.

**In respect of electricity distribution, EPIF does not exclude using proceeds to finance connections to potential high-emitting end users or end users associated with fossil fuel activities.** Such connections can be beneficial, if they entail electrification which contributes to the end users' transitions, and particularly where the electricity supplied is low emission. Nor does the EU Taxonomy require their exclusion. Nonetheless, given the end users' activities, such investments can remain exposed to transition and lock-in risk, particularly if the connections finance business as usual power supply rather than transition-orientated electrification of operations.

**While waste to energy investments cannot be financed under the framework, these play a part in EPIF's decarbonization strategy.** Waste to energy can be an environmentally sound solution for the disposal of waste, though this depends on the strict management of environmental and climate risks, for example adherence to the waste hierarchy, minimization of fossil fuel-based waste (including plastics), and high performance in respect of air pollutants. Most importantly, the incineration of waste generates and locks in often substantial emissions. Given that EPIF predicts that around 10% of its output will derive from waste to energy in 2030, associated emissions may be significant, especially considering EPIF's 2040 climate neutrality target.

**EPIF's approach to physical climate risk could be formalized and improved.** Screenings are not undertaken for all assets - for example, EPIF has not screened its underground pipes, which it considers low risk - and climate scenarios or projections are not used. Screening should extend to EPIF's supply chain. According to EPIF, it aims to formalize its physical climate risk assessment process as part of its implementation of the Corporate Sustainability Reporting Directive, which will apply to EPIF from 2024.

### *EU Taxonomy*

**Shades of Green has carried out a full EU Taxonomy assessment.** This entails an assessment of the financed activities against the technical screening criteria for mitigation and 'Do No Significant Harm', as well as the minimum safeguards.

**The financed activities are considered likely aligned with the relevant substantial contribution to climate change mitigation criteria.** The key gap in respect of the Do No Significant Harm criteria relates to climate change adaptation. Here, the financed activities are considered likely not aligned, given EPIF has not substantiated that a climate risk and vulnerability assessment in line with the criteria is performed. EPIF appears to likely fulfill the minimum safeguards.



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# 1 EP Infrastructure's environmental management and green finance framework

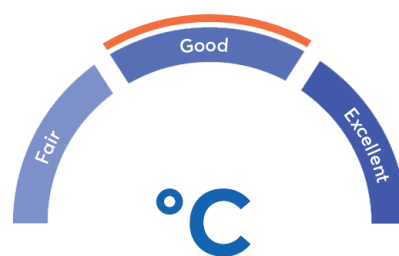
## Company description

EP Infrastructure ("EPIF") is a Czech Republic-based energy infrastructure group, operating across four business segments: gas transmission and distribution, gas storage, electricity distribution, and heat generation and distribution. In respect of generation activities, which in 2022 accounted for 16% of revenues, respectively around 85% and 88% of power and heat produced in 2022 derived from lignite coal. EPIF's principal operations are in the Czech Republic and Slovakia, though it also has some presence in Germany, and, for the 2022 financial year, it reported revenues of around EUR 4 billion. Through its control of the Eustream gas transmission pipeline, EPIF transmits gas from Russia.

EPIF is owned by energy group EPH (69%) and CEI Investments SARL (31%).<sup>1</sup> EPIF's Chairman of the Board of Directors, Daniel Křetínský, owns at least 50% of EPH,<sup>2</sup> and, according to EPIF's 2022 sustainability report, EPH holds management control over EPIF. Through subsidiaries, EPH is widely involved in the fossil fuel sector, owning, for example, Mibrag (a German lignite mining company, among other things) and EP Resources CZ (a trader of solid fuels, especially lignite coal).<sup>3</sup> According to EPIF, proceeds under the framework cannot be upstreamed to EPH or otherwise utilized by EPH's subsidiaries (e.g. via repayment of intercompany loans).

## Governance assessment

In respect of Scope 1 and 2 emissions, EPIF has a target of climate neutrality by 2040 and net-zero by 2050. With offsets only envisaged for residual emissions, the key to achieving these targets is the transition from lignite-based district heating / combined heat and power infrastructure, and a reduction in methane leakage in its gas transmission, distribution, and storage segments. Relevant interim targets for 2030 are in place, namely a 60% reduction in Scope 1 and 2 emissions (2022 baseline), a coal phase out, and a 30% methane emission reduction. EPIF will convert its lignite coal powered plants in line with its 2030 coal phase out target, to be replaced by combined cycle gas turbine (CCGT) plants, biomass units, and municipal waste incinerators. The CCGT plants will initially primarily combust natural gas - to achieve the 2040 target, the plants will need to transition to renewable gases. At present, EPIF does not have interim targets for the phase in of such gases, though, for these investments to satisfy the eligibility criteria, EPIF will need to switch to renewable and/or other low carbon gases by 31 December 2035.



EPIF does not currently measure or report on Scope 3 emissions or have a Scope 3 emissions reduction target, though it commits to these in the first half of 2025. EPIF estimates that emissions from the use of the gas it transmitted, distributed, and stored in 2022 are around 20 times larger than its Scope 1 and 2 emissions. In respect of its Scope 3 emissions, EPIF is focusing on ensuring its gas distribution and transmission infrastructure can deliver hydrogen, renewable or low carbon gases, and the ability for its storage segment to store such gases.

<sup>1</sup> CEI Investments SARL is ultimately held by a Macquarie Infrastructure and Real Assets (MIRA) managed consortium.

<sup>2</sup> [EPH - Shareholder Structure](#)

<sup>3</sup> [EPH - Subsidiaries](#)



EPIF's approach to physical climate risk could be formalized and improved. Screenings are not undertaken for all assets - for example, EPIF has not screened its underground pipes, which it considers low risk - and climate scenarios or projections are not used. Screening should extend to EPIF's supply chain. According to EPIF, it aims to formalize its physical climate risk assessment process as part of its implementation of the Corporate Sustainability Reporting Directive, which will apply to EPIF from 2024.

EPIF's selection process is sound, with environmental competence on the green finance committee and consensus decision making. The framework expressly requires the green finance committee to monitor internal processes to identify known material risks of negative social and/or environmental impacts associated with eligible projects, and to ensure that the characteristics of the eligible project portfolio have not materially changed, particularly in respect of transition and lock-in risk.

EPIF's reporting commitments are also sound, for example to align its reporting with the most recent version of ICMA's Handbook – Harmonized Framework for Impact Reporting on a best effort basis, and to obtain limited assurance on both allocation and impacts from an external auditor.

The overall assessment of EP Infrastructure's governance structure and processes gives it a rating of **Good**.

### Sector risk exposure

**Physical climate risks.** All assets are at risk from changing and more volatile weather patterns, while insurance coverage against natural disasters may become more expensive or unavailable for highly exposed assets. Disruptions in upstream gas operations are becoming more frequent, and midstream transportation infrastructure can also be exposed, particularly over-land piping. Electricity transmission and distribution lines are often exposed, while biomass production is also vulnerable. Failure to adapt to physical climate risks may generate liability risks, for example if climate-related disasters disrupt energy supply or operations exacerbate physical risks (e.g. sparks from poorly maintained power lines may contribute to wildfires).

**Transition risks.** The use of fossil fuels in power generation is highly exposed to transition risk, given all fossil fuels need to be phased out in a 2050 future. Among others, transition risks arise from tightening climate policies, less availability of capital, and increased development and penetration of alternatives. Simultaneously, risk arises from the transition to alternative sources, for example from technological limitations or availability. Requirements around the sustainability of biomass are expected to tighten, while electricity transmission and distribution networks are expected to require increased investment in grid infrastructure to maintain stability and reliability.

**Environmental risks.** Power and heat production can entail a wide range of environmental risks, including in respect of air pollution, and water usage and discharge, while the transmission and distribution of gas and electricity entails land use and biodiversity risks, among others.

**Social risks.** Energy infrastructure projects can elicit local opposition, for example if their construction or operation disrupts local communities. Social risks are linked to working conditions, particularly health and safety, for a company's own employees, its subcontractors, and workers in the supply chain.



## Environmental strategies and policies

In 2022, EPIF's Scope 1 and 2 emissions totaled around 3.65 million tCO<sub>2</sub>e. Scope 1 emissions arise primarily from the combustion of lignite coal and municipal waste in heating plants and gas in compressor stations, and methane emissions from leaks, venting, or incomplete combustion. Scope 2 emissions are comparatively small, arising from purchased electricity to, for example, cover network losses in its power distribution network, and power electric compressors and other technology in its midstream and downstream gas infrastructure.

EPIF does not currently measure or report its Scope 3 emissions. It estimates, however, that emissions from the end use of the gas it transmitted, stored, and distributed in 2022 amount to around 70 million tCO<sub>2</sub>e, and expects other Scope 3 sources to be relatively limited. EPIF commits to report on and set a timebound target for Scope 3 emissions in the first half of 2025.

EPIF has overarching targets for Scope 1 and 2 emissions of climate neutrality by 2040 and achieving net zero by 2050. EPIF does not have any targets relating to Scope 3 emissions. Additional targets are:

- Reduce Scope 1 and 2 emissions by 60% by 2030 (2022 baseline),
- Phase out coal by 2030, and
- Reduce methane emissions in line with the Global Methane Pledge (i.e. reducing methane emissions by 30% by 2030 from a 2020 baseline).

EPIF projects 152 and 91 tCO<sub>2</sub>e of residual emissions by 2040 and 2050 respectively and acknowledges there may be a need to use offsets or carbon removal, capture or storage in respect of these.<sup>4</sup> According to EPIF, it currently has no divestment plans to achieve its targets.

According to EPIF, its targets are supported by emission reduction pathways developed for each segment within the group, which outline specific measures to achieve them. The framework describes key elements of EPIF's decarbonization strategy - particularly its transition from lignite coal and its emphasis on increasing the readiness of its midstream and downstream gas infrastructure for hydrogen - and how each segment will contribute to achieving its climate targets, as summarized below:

### **District heating**

In 2022, lignite coal comprised around 86% of fuel used in EPIF's district heating infrastructure, supplemented by biomass and municipal waste. The share of biomass and municipal waste has increased from 8% in 2018 to 14% in 2022. EPIF will convert its three, lignite coal powered plants in line with its 2030 coal phase out target, to be replaced by combined cycle gas turbine (CCGT) units, biomass units, and municipal waste incinerators (EPIF currently projects 75% of output from CCGT units, 15% from biomass, and 10% from municipal waste incineration in 2030).

Initially, the CCGT plants will use primarily natural gas, though will be equipped to combust a proportion of renewable gases,<sup>5</sup> and according to the framework, can be fully transitioned to renewable gas combustion with only relatively limited adjustments. According to EPIF, to ensure it achieves its 2040 climate neutrality target, its district heating infrastructure will need to have transitioned from natural gas to renewable gases by that date.

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<sup>4</sup> According to EPIF, the use of offsets or carbon removal, capture or storage is not currently envisaged for non-residual emissions.

<sup>5</sup> More specifically, according to EPIF, the turbines can combust up to 15% hydrogen (by volume) at commencement, with the option to increase this to between 30 and 70%. The remaining 30% is expected to come from bio-methane.



In respect of its biomass units, EPIF refers to its policies and approaches to ensure its sustainability. For example, according to EPIF, for its current units, sourcing is waste based (forest residues and agricultural waste, and no use of energy crops), local (reducing transportation distances, couples with a preference for transport using rail) and land use risk is considered. EPIF moreover uses suppliers whose biomass is certified according to schemes approved by European Commission which, among other things, requires compliance with the sustainability criteria in the Renewable Energy Directive.<sup>6</sup> EPIF has provided some information on its municipal waste units, for example that the unit its subsidiary United Energy is developing will use Best Available Technology and will not utilize ancillary fossil fuels.

### **Gas distribution**

In this segment, EPIF is focusing on i) reducing methane leakage, and ii) preparing the network for the distribution of renewable or low carbon gases. Example actions set out in the framework include the reinforcement of its leak detection and repair program, replacement of steel pipes with polyethylene pipes (suitable for hydrogen distribution and, when distributing natural gas, preventing methane leakage), and testing lower blends of hydrogen in existing infrastructure. According to the framework, a substantial portion of its gas-distributor subsidiary's future CAPEX will relate to the feasibility of full hydrogen adoption.

### **Gas midstream: transit and storage**

EPIF controls the Eustream gas transmission pipeline, and it aims for this to be prepared to accept gas flows with a 5% hydrogen blend by the second half of 2025. Though it has costed conversion of one of Eustream's four pipes for 100% hydrogen transmission, according to EPIF such projects will wait until there is a sufficient business need (i.e. availability of hydrogen, renewable or low carbon gases at sufficient scale).

Its gas storage subsidiary intends to initiate a project with the objective of identifying suitable sites for the storage of hydrogen blended with natural gases and to determine the maximum achievable concentration that can be stored within a porous geological structure, and evaluates possibilities for storing alternative gases within its current gas storage facilities.

### **Power distribution**

EPIF operates the electricity distribution network in central Slovakia, where, according to EPIF, 88% of newly connected capacity has been renewable energy sources, predominantly from solar.

EPIF has undertaken physical risk screenings of certain, though not all, assets, and climate scenarios or projections are not used. According to EPIF, it considers its district heating and gas distribution and transmission assets to be at low risk (e.g. because a large amount of the piping is underground). In respect of its electricity transmission segment, it acknowledges the potential impacts of more extreme weather events, and notes that resilience is a primary consideration, for example it prefers to replace overhead lines with underground lines in the most vulnerable areas identified. According to EPIF, it aims to formalize its physical climate risk assessment process as part of its implementation of the Corporate Sustainability Reporting Directive, which will apply to EPIF from 2024.

EPIF has an ESG Master Policy in place. In respect of environmental protection, among other things, this requires it to 'minimize the environmental impact of its operations', 'take a preventative approach to reduce the environmental impact of its operations', and to 'ensure the implementation and monitoring of the appropriate environmental standards and certifications (if required by law)'. Its Environmental Policy states that EPIF 'aims

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<sup>6</sup> [EU - Voluntary Biomass Schemes](#)





to decrease negative impacts and to improve positive imprint on the environment'. In respect of biodiversity, this entails monitoring risks in planning and operation and monitoring or compensation of potential negative impacts. The policy also states that EPIF strives to avoid new operations to avoid potential impact on local flora and fauna. According to EPIF, EIAs are undertaken as standard for its projects which, given its geographical scope, are in accordance with European Union requirements.

EPIF reports in accordance with GRI standards. EPIF does not currently report in accordance with the TCFD recommendations, though it plans to do so (potentially as early as 2023, according to EPIF, when it intends to report to a large extent, with the European Sustainability Reporting Standards). According to EPIF, an element of its Chief Executive Officer's salary is linked to ESG and safety performance.

### **Green finance framework**

Based on this review, this framework is found to be aligned with the Green Bond Principles and Green Loan Principles. For details on the issuer's framework, please refer to the green bond framework dated July 2023.

#### *Use of proceeds*

For a description of the framework's use of proceeds criteria, and an assessment of the categories' environmental impacts and risks, please refer to section 2.

#### *Selection*

EPIF has established a green finance committee to evaluate and select projects under the framework. This consists of representatives from treasury/financing, sustainability, investor relations and other parties to be nominated as subject matter experts. The committee will meet at least on an annual basis and voting will be via consensus decision making.

The framework includes a list of the committee's responsibilities additional to evaluating and selecting projects for financing under the framework. This includes monitoring internal processes to identify known material risks of negative social and/or environmental impacts associated with eligible projects, and ensuring that the characteristics of the eligible project portfolio have not materially changed, particularly in respect of transition and lock-in risk.

#### *Management of proceeds*

EPIF intends to allocate an amount equivalent to the net proceeds under the framework to an eligible project portfolio and will strive to achieve a level of allocation to the portfolio that matches the balance of outstanding proceeds. If there are unallocated proceeds, these will be held in cash and/or investment in other short-term liquid instruments (investments in shares are not eligible, according to EPIF).

#### *Reporting*

EPIF intends to publish an annual report on the allocation and impacts of investments under the framework, at least until full allocation. It intends to report at a project category level and on an aggregated basis. On a best effort basis, it will align its reporting with the most recent version of ICMA's Handbook – Harmonized Framework for Impact Reporting.

In respect of allocation, the report will provide:

- Total amount of assets, investments, and expenditures in the eligible project portfolio, per eligible category,
- The amount of percentage of new and existing projects (financing v refinancing),
- The balance of unallocated proceeds,



- The geographic location of the projects, where feasible,
- The percentage and amount of EU Taxonomy eligible and EU Taxonomy aligned activities.

In respect of impacts, reporting will provide:

- Estimated annual avoided greenhouse gas emissions (tCO<sub>2</sub>e),
- Installed capacity of low emission sources replacing lignite units (MW/year),
- Length of gas distribution infrastructure adapted to hydrogen (km/year),
- Connection of the renewable generation capacity to the power distribution network (MW/year),
- Smart grid components installed in the power distribution network, e.g. smart meters.

According to the framework, the report will include a description of the methodologies and assumptions used to calculate impacts.

EPIF will obtain a limited assurance report on the allocation of proceeds and reported impacts from an external auditor.



## 2 Assessment of EP Infrastructure’s green finance framework

The eligible projects under EP Infrastructure’s green finance framework are shaded based on their environmental impacts and risks, based on the “Shades of Green” methodology.

### Shading of eligible projects under EP Infrastructure’s green finance framework

- Proceeds can finance and refinance assets, CAPEX and OPEX, with no lookback period applied. According to EPIF, OPEX will likely constitute only a minor share - for example repair and maintenance expenses once the financed plants are operational - and will not be used to finance the purchase of fossil fuels. According to EPIF, the entirety of its first issuance under the framework will be used for refinancing.
- According to EPIF, it expects around 63% of assets under the framework by value to relate to gas distribution infrastructure, 23% relate to electricity distribution, 11% relate to the development of natural gas district heating / cogeneration plants, and 4% relate to district heating / cogeneration distribution networks.
- Geographically, investments in the electricity distribution infrastructure and gas distribution infrastructure project categories are limited to Slovakia, and investments in the district heating project category are limited to the Czech Republic.
- The framework contains no express exclusions.

Category	Eligible project types	Green Shading and considerations
Renewable energy / Electricity distribution infrastructure	Assets, Investments, CAPEX and OPEX relating to electricity distribution infrastructure and equipment that meets one of the following criteria: a) The system is the interconnected European system, i.e. the interconnected control areas of Member States, Norway, Switzerland and the United Kingdom, and its subordinated systems b) Over 67% of newly connected generation assets comply with the 100gCO <sub>2</sub> /kWh threshold (over a rolling 5-year period), or c) The grid’s average emissions factor is less than 100gCO <sub>2</sub> /kWh	<b>Light Green - Medium Green</b>  ✓ The project category receives a Light Green - Medium Green given the importance of well-functioning and reliable grids for electrification, and the characteristics of the Slovakian grid. At the same time, it reflects that EPIF does not exclude using proceeds to finance connections to potential high-emitting end users or those associated with fossil fuel activities.  ✓ The project category relates to EPIF’s electricity distribution activities in Slovakia. Slovakia is a part of the interconnected European system and, according to European



but excluding any grid connections of power plants that are more CO<sub>2</sub> intensive than 100gCO<sub>2</sub>/kWh (as a proxy for this threshold any direct grid connections of power plants other than wind, solar or hydro energy will be excluded).



Connections to hydro will only be eligible if aligned with the substantial contribution criteria to climate change mitigation of the Climate Delegated Act.

Union, Slovakia's grid factor in 2021 was 113 gCO<sub>2</sub>/kWh.<sup>7</sup> Around 56% of electricity generated in Slovakia in 2021 was generated from nuclear, followed by hydropower (16%), and natural gas (15%).<sup>8</sup> Moreover, according to EPIF, over the past five years, 88% of newly connected capacity has been renewable sources.

- ✓ EPIF does not exclude using proceeds to finance connections to potential high-emitting end users or end users associated with fossil fuel activities. Such connections can be beneficial, if they entail electrification which contributes to the end users' transitions, and particularly where the electricity supplied is low emission. Nor does the EU Taxonomy require their exclusion. Nonetheless, given the end users' activities, such investments can remain exposed to transition and lock-in risk, particularly if the connections finance business as usual power supply rather than transition-orientated electrification of operations..
- ✓ Investments can include both overground and underground lines, which can give rise to biodiversity and ecosystem risk. According to EPIF, environmental impact assessments are undertaken as standard, and it points to its work in respect of preventing injuries from its distribution network to birds as an example of its approach to minimizing such risks.

Renewable energy / Gas distribution infrastructure

Assets, Investments, CAPEX and OPEX relating to renewable and low-carbon gas distribution infrastructure and equipment:

**Light Green**

- 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
- 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

- ✓ The project category receives a Light Green because of the importance of the readiness of distribution and transmission networks in enabling the use of renewable and low carbon gases in a 2050 future, while the infrastructure is currently fossil fuel based and remains exposed to significant transition risk until they distribute such gases.



<sup>7</sup> [EU - Grid emission factors data](#)

<sup>8</sup> [IEA - Slovakia](#)



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network activity that enables the increase of the blend of hydrogen or other low carbon gasses in the gas system

- ✓ The project category relates to EPIF's gas transmission and distribution activities in Slovakia. According to EPIF, investments under the project category will focus on the retrofitting of EPIF's gas distribution network to enable the increase of hydrogen and low carbon gases in the system. Such investments include the replacement of steel piping with polyethylene piping in low and medium pressure networks, the use of higher-grade steel piping in the high-pressure network, and the replacement and retrofitting of certain components at pressure reduction stations.<sup>9</sup>
- ✓ Such investments seek to reduce the transition risk to which gas distribution networks distributing natural gas are exposed. Nonetheless, these investments remain exposed to significant transition risk until they distribute renewable or low carbon gases, from the distribution of natural gas or hydrogen produced from natural gas. While renewable and low carbon gases are seen as crucial in the 2050 future,<sup>10</sup> there are risks and uncertainty relating to their increased production and use (and therefore their distribution).
- ✓ According to EPIF, it cannot control the type of gas it distributes, and cannot therefore set targets for the levels of hydrogen or other low carbon gases it distributes. On the other hand, the readiness of distribution networks to distribute hydrogen and other low carbon gases is itself crucial in their production and use. Importantly, EPIF is also engaged in certain projects across its value chain relating to the development of these sectors.<sup>11</sup>

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<sup>9</sup> According to EPIF, the gas distribution network reaches approximately 94% of Slovakia's population, with CAPEX for expansion expected to be negligible.

<sup>10</sup> For example, in the IEA's Net Zero by 2050 scenario, there is an increase in hydrogen use from less than 90 Mt in 2020, to more than 200 MT in 2030 (of which 70% is low-carbon), while the supply of low-emission gases (e.g. hydrogen, synthetic methane and biomethane) rises from 2 EJ in 2020, to 17 EJ in 2030 and 50 EJ in 2050 (see [IEA - Net Zero by 2050](#)). Relatedly, according to the IPCC, net zero energy systems will share common characteristics, including the use of alternative energy carriers such as hydrogen to substitute for fossil fuels in sectors less amenable to electrification (see [IPCC - AR6 - WG3 - Chapter 6](#)).

<sup>11</sup> EPIF is, for example, a partner in the H2EU+Store project, which seeks to produce green hydrogen in Ukraine, transported to Austria and Germany via Eustream pipelines, and a project exploring the production of blue hydrogen in Slovakia. See [Eustream - H2EU+Store](#) and [MoU - Blue hydrogen in Slovakia](#). Further examples include its membership of the HyUsPre and HYSTORIES projects, studying the porous underground storage of hydrogen. See [Nafta - Innovation and development](#).



- ✓ EPIF has confirmed that investments into methane leak detection and repair are included in other investments under the project category. According to EPIF, as well as its compatibility with distributing hydrogen and other low carbon gases, polyethylene piping almost eliminates methane leakage compared to steel piping.

Energy

efficiency /

District heating networks



Assets, Investments, CAPEX and OPEX relating to:

**Light Green**

- Pipelines and associated infrastructure for distribution of heating and cooling produced using at least 50 % renewable energy, 50 % waste heat, 75 % cogenerated heat or 50 % of a combination of such energy and heat

- Construction and operation
- Refurbishment
- Modification to lower temperature regimes;
- Advanced pilot systems (control and energy management systems, Internet of Things)

- Co-generation of heat/cool and power from bioenergy, per the substantial contribution criteria to climate change mitigation of the Climate Delegated Act (Annex I) under 4.20
- High efficiency co-generation of heat/cool and power from fossil gaseous fuels as per the substantial contribution criteria to climate change mitigation of the

- ✓ The project category receives a Light Green because its largest investments relate to EPIF’s conversion of lignite coal powered district heating / cogeneration plants to natural gas, which can be considered transitional investments given the eligibility criteria and the Czech context. Natural gas investments are not aligned with a 1.5-degree future - it is therefore crucial to the shading that the turbines to be financed can combust renewable and/or low carbon gases, and that the eligibility criteria require EPIF to commit to combusting only such gases by 31 December 2035.
- ✓ The Czech context is important in evaluating the investments. In 2021, coal accounted for around 41% of electricity generation and around 57% of heat generation in Czech Republic, while in 2020, electricity and heat accounted for around 47% of total emissions.<sup>12</sup> Around 40% of households are supplied with heat from district heating plants, while is estimated that over 300,000 households rely on boilers using solid fuels (mainly coal).<sup>13</sup> Moreover, in 2021, the Czech Republic had the fourth highest greenhouse emissions per capita of the European Union Member States.<sup>14</sup>
- ✓ The project category relates to EPIF’s district heating / heat and power cogeneration activities in Czech Republic. According to EPIF, investments under the project category will focus on the transition of existing lignite coal generation assets to

<sup>12</sup> <https://www.iea.org/countries/czech-republic>

<sup>13</sup> [IEA – Czech Republic \(2021\)](#)

<sup>14</sup> [EEA - EU27 GHG emissions data](#)



Complementary Climate Delegated Act on gas energy activities (Annex I) under 4.30

- Production of heat/cool from fossil gaseous fuels in an efficient district heating and cooling system as per the substantial contribution criteria to climate change mitigation of the Complementary Climate Delegated Act on gas energy activities (Annex I) under 4.31

combined cycle gas turbine (CCGT) plants, with a smaller share to the distribution networks themselves.

#### Distribution of heat and cool

- ✓ This element of the project category relates to EPIF's existing district heating distribution networks, distributing heat from EPIF's cogeneration assets. EPIF has confirmed that, under this criterion, proceeds can only finance distribution, rather than generation, of heat.
- ✓ Networks financed under this criterion can distribute heat from lignite coal until EPIF's coal phase out in 2030, and from natural gas until EPIF's phase in of renewable or low carbon gases. Notwithstanding the comparative efficiencies of cogeneration, such investments are associated with high emitting fossil fuels and therefore exposed to transition risks. EPIF has confirmed that nothing financed under this criterion is unique to, or otherwise locks in, generation from lignite coal or natural gas.
- ✓ According to EPIF, proceeds could be used to connect new developments (e.g. blocks of flats) to existing networks. If this necessitates an increase in output, there is a risk of indirectly increasing fossil fuel use.

#### Cogeneration of heat/cool and power from bioenergy

- ✓ The cogeneration of heat/cool and power from biomass can have climate mitigation benefits, particularly, as is the case for EPIF, if replacing cogeneration from lignite coal. This depends, however, on factors such as feedstock type, origin, and source, and consideration of risks such as direct and indirect land use change. The eligibility criteria require compliance with sustainability criteria contained in the revised Renewable Energy Directive, which we consider an adequate safeguard. Moreover, there is a requirement that the greenhouse gas emissions savings from the use of



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biomass are at least 80% in relation to greenhouse gas emission saving methodology and fossil fuel comparator set out in the revised Renewable Energy Directive. According to EPIF, its suppliers provide the relevant data (transportation distance and biomass type) to calculate this.

Cogeneration of heat/cool and power, or the production of heat/cool, from fossil gaseous fuels

- ✓ This element of the project category relates to EPIF's intention to convert its three existing lignite coal powered plants to combined cycle gas turbine (CCGT) plants, consisting of at least seven units that will run on natural gas until transitioned to renewable and/or low carbon gases.
- ✓ The eligibility criteria require that the activity replaces a high emitting heat/cool generation or heat/cool and power cogeneration activity, and that the capacity of each facility is not increased. According to EPIF, the CCGT plants are a direct replacement of lignite coal powered production and, according to figures provided by EPIF, the capacity of each CCGT plant is lower than its lignite coal powered equivalent.
- ✓ The eligibility criteria require that the activity leads to a reduction in emissions of at least 55% and direct emissions of the activity must be lower than 270 gCO<sub>2</sub>/kWh. Per figures provided by EPIF,<sup>15</sup> the use of natural gas in its plants will reduce emission intensity by at least 55% compared to lignite coal. More specifically, EPIF calculates the emission intensity of its existing lignite coal plants in the range of 600-900 gCO<sub>2</sub>/kWh (depending on cogeneration share and condensation

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<sup>15</sup> Shades of Green has not verified EPIF's calculations and does not provide an opinion on their correctness or accurateness.





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production), while it calculates that the use of natural gas results in emission intensity of 264 gCO<sub>2</sub>/kWh.<sup>16,17</sup>

- ✓ Notwithstanding comparatively lower emissions compared to lignite coal, natural gas is a high emitting, fossil fuel. The climate impact of these investments therefore also depends on transitional use, rather than relying on natural gas beyond 2035. According to EPIF, lock-in is avoided through the readiness of the turbines for hydrogen and low carbon gases: its supplier guarantees that the turbines will be able to combust 15% hydrogen from the outset, with the option to increase this to 30% and then 70%, with EPIF expecting the remaining 30% to be biomethane.<sup>18</sup> Moreover, the eligibility criteria requires EPIF's management board to approve a commitment and plan to switch to renewable and/or low-carbon gases by 31 December 2035.<sup>19</sup> This is currently not in place. While these elements reduce the risk of lock-in of natural gas use, the availability of such gases is not certain.
- ✓ As a high emitting, fossil energy source, the investments are exposed to significant transition risk. EPIF seeks to mitigate these risks through the readiness of its turbines to combust hydrogen, renewable or low carbon gases, and its commitment to switch to renewable and/or low carbon gases by 31 December 2035 (see bullet above).

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<sup>16</sup> According to EPIF, this calculation uses an emissions factor of 200 gCO<sub>2</sub>/kWh for natural gas, and assumes a production efficiency of 75%, as planned by EPIF, and the sole combustion of natural gas.

<sup>17</sup> According to EPIF, the calculation of the emission intensity from natural gas reflects the typical projected operating pattern of the plants (e.g. in respect of the shares of heat and power produced), though it notes that the emission intensity would increase in cases where a different operating pattern had to be adopted. EPIF has not at this stage committed to any sourcing criteria for biomethane, the climate mitigation benefits of which depends on several factors.

<sup>18</sup> While the same turbines will be used, the combustion of 100% hydrogen or other low carbon gases will require EPIF to replace the gas burners.

<sup>19</sup> According to EPIF, it aims to abide to market practice and guidance to the EU Taxonomy (which presently does not provide explicit definitions) as to what constitutes renewable or low carbon gases. It currently envisages renewable gases to constitute those produced from non-fossil sources (e.g. green hydrogen, biomethane or synthetic methane from green hydrogen) and low carbon gases to constitute gases from fossil origins where the lifecycle greenhouse gas emissions are largely eliminated through carbon capture and storage or other forms of abatement. It does not consider 'grey' hydrogen to be renewable or low carbon.



- ✓ The eligibility criteria require that the heat/cool or heat/cool and power that is being replaced cannot be generated from renewable energy. This is important, given the use of natural gas for the cogeneration of heat/cool and power, or the production of heat/cool, should only be considered if renewable alternatives are unfeasible, and the risk that such investments carry the risk of impeding the development of renewable sources. Moreover, the eligibility criteria require EPIF to prepare a comparative assessment with the most cost-effective and technically feasible renewable alternatives for the same capacity, to publish this, and to subject it to a stakeholder consultation. This has not yet occurred.
- ✓ For cogeneration of heat/cool and power from natural gas, the eligibility criteria require primary energy savings of at least 10% compared with separate heat and electricity production. According to EPIF, its plants will lead to savings of around 13%. For the production of heat/cool from natural gas, the eligibility criteria require that the thermal energy generated by the activity is used in an efficient district heating and cooling system as defined in EU Directive 2012/27/EU. According to EPIF, the plants will satisfy this because the district heating systems at all times use at least 75% cogenerated heat/cool.
- ✓ Under the eligibility criteria, EPIF will have to obtain independent verification of its alignment with the other elements of the criteria.

Table 1. Eligible project categories



## EU Taxonomy

The EU Taxonomy Regulation is a classification system setting criteria for economic activities to be defined as environmentally sustainable.<sup>20</sup> The regulation defines six environmental objectives. To be considered sustainable, an activity must substantially contribute to at least one of the six environmental objectives without harming the other objectives (“Do No Significant Harm”), while complying with minimum social safeguards.<sup>21,22</sup>

Shades of Green considers the following EU Taxonomy activities to relate to EPIF’s framework:

- 4.9 – Transmission and distribution of electricity
- 4.14 – Transmission and distribution networks for renewable and low-carbon gases
- 4.15 – District heating/cooling distribution
- 4.20 – Cogeneration of heat/cool from bioenergy
- 4.30 – High-efficiency cogeneration of heat/cool and power from fossil gaseous fuels
- 4.31 – Production of heat/cool from fossil gaseous fuels in an efficient district heating and cooling system

Certain gaps in alignment are discussed below. For a more detailed review, see Appendix 2.

### Main gaps

The financed activities are considered likely aligned with the relevant substantial contribution to climate change mitigation criteria. In respect of the Do No Significant Harm criteria, the key gap is in respect of climate change adaptation. Here, EPIF is considered likely not aligned because EPIF has not substantiated that a climate risks and vulnerability assessment in line with EU Taxonomy criteria is performed.

### Minimum safeguards

To qualify as a sustainable activity under the EU Taxonomy Regulation certain minimum safeguards must be complied with. Shades of Green has assessed the company’s social safeguards with a focus on human and labor rights. We take the sectoral, regional, and judicial context into account and focus on the risks likely to be the most material social risks.

EPIF appears to likely fulfill the minimum safeguards.

EPIF does not seem to conduct a thorough assessment of its *entire* operations to identify its most material risks, though it is planning to do so in the future. It emphasizes that health and safety for its employees is a prioritized area.

EPIF reports on its management of social risks in its 2022 sustainability report. EPIF reports that, since 2021, it has progressed toward the implementation of policies, including anticorruption and antibribery, across the group. It has different internal bodies such as a health, safety, and environmental committee to ensure internal compliance with policies, trains employees on its policies, and has an established whistleblower channel. This work is overseen by EPIF’s ESG officer. Note that EPIF bases its policies and measures on the UN Global Compact and not on the

<sup>20</sup> Regulation EU 2020/852 <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R0852&from=EN>

<sup>21</sup> The six environmental objectives as defined in the proposed Regulation are: (1) climate change mitigation; (2) climate change adaptation; (3) sustainable use and protection of water and marine resources; (4) transition to a circular economy, waste prevention and recycling; (5) pollution prevention and control; (6) protection of healthy ecosystems.

<sup>22</sup> Alignment with the OECD Guidelines for Multinational Enterprises and UN Guiding Principles on Business and Human Rights, including the International Labour Organisation’s (“ILO”) declaration on Fundamental Rights and Principles at Work, the eight ILO core conventions and the International Bill of Human Rights.



OECD Guidelines or UN Guiding Principles as required under the minimum safeguards. EPIF has however described how it applies the methodology prescribed in the latter and appears to cover the main elements of it.

EPIF reports that it focuses on protecting its employees' rights by maintaining a good standing relationship with its trade and labor unions and has implemented non-discriminatory guidelines. To minimize risks, EPIF screen its potential suppliers. This covers their commitments to laws and regulations, ethical business conduct, human rights and working conditions, health and safety, and environmental protection.







## 3 Terms and methodology

This note provides Shades of Green’s second opinion of the client’s framework dated July 2023. This second opinion remains relevant to all green 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. Shades of 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.

The second opinion is based on a review of the framework and documentation of the client’s policies and processes, as well as information gathered during meetings, teleconferences and email correspondence.

### ‘Shades of Green’ methodology

Shades of Green second opinions are graded dark green, medium green or light green, reflecting a broad, qualitative review of the climate and environmental risks and ambitions. The shading methodology aims to provide transparency to investors that seek to understand and act upon potential exposure to climate risks and impacts. Investments in all shades of green projects are necessary in order to successfully implement the ambition of the Paris agreement. The shades are intended to communicate the following:

Shading	Examples
 <b>Dark Green</b> is allocated to projects and solutions that correspond to the long-term vision of a low-carbon and climate resilient future.	 Solar power plants
 <b>Medium Green</b> is allocated to projects and solutions that represent significant steps towards the long-term vision but are not quite there yet.	 Energy efficient buildings
 <b>Light Green</b> 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

The “Shades of Green” methodology considers the strengths, weaknesses and pitfalls of the project categories and their criteria. The strengths of an investment framework with respect to environmental impact are areas where it clearly supports low-carbon projects; weaknesses are typically areas that are unclear or too general. Pitfalls are also raised, including potential macro-level impacts of investment projects.

Sound governance and transparency processes facilitate delivery of the client’s climate and environmental ambitions laid out in the framework. Hence, key governance aspects that can influence the implementation of the green bond are carefully considered and reflected in the overall shading. Shades of Green considers four factors in its review of the client’s governance processes: 1) the policies and goals of relevance to the green bond framework; 2) the selection process used to identify and approve eligible projects under the framework, 3) the management of proceeds and 4) the reporting on the projects to investors. Based on these factors, we assign an overall governance grade: 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.



### *Assessment of alignment with Green Bond Principles*

Shades of Green assesses alignment with the International Capital Markets' Association's (ICMA) Green Bond Principles. We review whether the framework is in line with the four core components of the GBP (use of proceeds, selection, management of proceeds and reporting). We assess whether project categories have clear environmental benefits with defined eligibility criteria. The Green Bonds Principles (GBP) state that the "overall environmental profile" of a project should be assessed. The selection process is a key governance factor to consider in Shades of Green's assessment. Shades of Green typically looks at how climate and environmental considerations are considered when evaluating whether projects can qualify for green finance funding. The broader the project categories, the more importance Shades of Green places on the selection process. Shades of Green assesses whether net proceeds or an equivalent amount are tracked by the issuer in an appropriate manner and provides transparency on the intended types of temporary placement for unallocated proceeds. Transparency, reporting, and verification of impacts are key to enable investors to follow the implementation of green finance programs.

### *EU Taxonomy assessment*

Shades of Green has assessed the activities against the EU Taxonomy's technical screening criteria, including the do-no-significant-harm (DNSH) criteria. In addition, we have assessed alignment with the minimum safeguards, as described in article 18 of the EU taxonomy. To assess activities' taxonomy alignment, Green has reviewed the issuer's green bond framework, other supporting documents provided by the issuer, and written responses to questions on each asset's taxonomy alignment.



# Appendix 1: Referenced Documents List

Document Number	Document Name	Description
1	Green Finance Framework (July 2023)	
2	Sustainability Report (2023)	
3	Sustainability Report (2022)	
4	Environmental Policy	
5	ESG Master Policy	
6	Cogeneration CCGT – EU Taxonomy assessment	
7	Various calculations in respect of EU Taxonomy alignment	
8	Various Modernization Fund applications	



# Appendix 2: EU Taxonomy criteria and alignment

Complete details of the EU taxonomy criteria are given in [taxonomy-regulation-delegated-act-2021-2800-annex-1\\_en.pdf \(europa.eu\)](#) and <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022R1214> (delegated regulation on nuclear and gas)

## Transmission and distribution of electricity

Framework activity	Renewable energy / electricity distribution infrastructure		
Taxonomy activity	4.9 – Transmission and distribution of electricity (NACE codes D35.12 and D35.13)		
	EU Technical mitigation criteria	Comments on alignment	Shades of Green comments on alignment
Mitigation criteria	<p>The activity complies with one of the following criteria:</p> <p>1. The transmission and distribution infrastructure or equipment is in an electricity system that complies with at least one of the following criteria:</p> <ul style="list-style-type: none"> <li>(a) the system is the interconnected European system, i.e. the interconnected control areas of Member States, Norway, Switzerland and the United Kingdom, and its subordinated systems;</li> <li>(b) more than 67% of newly enabled generation capacity in the system is below the generation threshold value of 100 gCO<sub>2</sub>e/kWh measured on a life cycle basis in accordance with electricity generation criteria, over a rolling five-year period;</li> <li>(c) the average system grid emissions factor, calculated as the total annual emissions from power generation connected to the system, divided by the total annual net electricity production in that system, is below the threshold value of 100 gCO<sub>2</sub>e/kWh measured on a life cycle basis in accordance</li> </ul>	<p><b><u>Relevant contextual information</u></b></p> <p>The EU’s electricity grid is the most interconnected continental power network in the world, facilitated by large interconnections between neighboring countries. The Slovakian transmission and distribution system is part of the interconnected European system.</p> <p><b><u>Information provided by the issuer</u></b></p> <p>The operation of SSD’s (EPIF’s Slovakian subsidiary) electricity distribution network – criteria 1 a) namely that “the system is the interconnected European system, i.e., the interconnected control areas of Member States, Norway, Switzerland and the United Kingdom, and its subordinated systems”.</p> <p>Over the past five years, 88% of the newly connected capacity have been renewable energy sources, predominantly solar. The remaining connected technologies mainly consist of gas-fired plants.</p>	<p><b>Likely aligned</b></p> <p>The Slovakian electricity grid is part of the European interconnected system.</p>





	<p>with electricity generation criteria, over a rolling five-year period;</p> <p>Infrastructure dedicated to creating a direct connection or expanding an existing direct connection between a substation or network and a power production plant that is more greenhouse gas intensive than 100 gCO<sub>2</sub>e/kWh measured on a life cycle basis is not compliant.</p> <p>Installation of metering infrastructure that does not meet the requirements of smart metering systems of Article 20 of Directive (EU) 2019/944 is not compliant.</p> <p>2. The activity is one of the following:</p> <ul style="list-style-type: none"><li>(a) construction and operation of direct connection, or expansion of existing direct connection, of low carbon electricity generation below the threshold of 100 gCO<sub>2</sub>e/kWh measured on a life cycle basis to a substation or network;</li><li>(b) 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;</li><li>(c) 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.</li><li>(d) construction/installation and operation of equipment and infrastructure where the main objective is an increase of the generation or use of renewable electricity generation;</li><li>(e) 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"><li>i) sensors and measurement tools (including meteorological sensors for forecasting renewable production);</li><li>ii) communication and control (including advanced software and control rooms, automation of substations or feeders, and voltage control</li></ul></li></ul>		
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	<p>capabilities to adapt to more decentralised renewable infeed).</p> <ul style="list-style-type: none"> <li>(f) 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 Council, 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;</li> <li>(g) construction/installation of equipment to allow for exchange of specifically renewable electricity between users;</li> <li>(h) construction and operation of interconnectors between transmission systems, provided that one of the systems is compliant.</li> </ul> <p>For the purposes of this Section, the following specifications apply:</p> <ul style="list-style-type: none"> <li>(a) the rolling five-year period used in determining compliance with the thresholds is based on five consecutive historical years, including the year for which the most recent data are available;</li> <li>(b) a ‘system’ means the power control area of the transmission or distribution network where the infrastructure or equipment is installed;</li> <li>(c) transmission systems may include generation capacity connected to subordinated distribution systems;</li> <li>(d) distribution systems subordinated to a transmission system that is deemed to be on a trajectory to full decarbonisation may also be deemed to be on a trajectory to full decarbonisation;</li> <li>(e) to determine compliance, it is possible to consider a system covering multiple control areas which are interconnected and with significant energy exchanges between them, in which case the weighted average emissions factor across all included control areas is used, and individual subordinated transmission or distribution systems within that system is not required to demonstrate compliance separately;</li> <li>(f) it is possible for a system to become non-compliant after having previously been compliant. In systems that become non-compliant, no new transmission and distribution activities are compliant from that moment onward, until the system complies again with the threshold (except for those activities that are always compliant, see above). Activities in</li> </ul>		
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	<p>subordinated systems may still be compliant, where those subordinated systems meet the criteria of this Section;</p> <p>(g) a direct connection or expansion of an existing direct connection to production plants includes infrastructure that is indispensable to carry the associated electricity from the power generating facility to a substation or to the network.</p>		
	<b>EU Taxonomy DNSH-criteria</b>	<b>Comments on alignment</b>	<b>Alignment</b>
Climate change adaptation	<p>The physical climate risks that are material to the activity have been identified (chronic and acute, related to temperature, wind, water, and soil) by performing a robust climate risk and vulnerability assessment with the following steps:</p> <ul style="list-style-type: none"> <li>a) screening of the activity to identify which physical climate risks from the list in Section II of this Appendix may affect the performance of the economic activity during its expected lifetime;</li> <li>b) where the activity is assessed to be exposed to physical climate risks, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;</li> <li>c) an assessment of adaptation solutions that can reduce the identified physical climate risk.</li> </ul> <p>The climate risk and vulnerability assessment is proportionate to the scale of the activity and its expected lifespan, such that:</p> <ul style="list-style-type: none"> <li>(a) for activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using climate projections at the smallest appropriate scale;</li> <li>(b) for all other activities, the assessment is performed using the highest available resolution, state-of-the-art climate projections across the existing range of future scenarios consistent with the expected lifetime of the activity, including, at least, 10 to 30 year climate projections scenarios for major investments.</li> </ul> <p>The climate projections and assessment of impacts are based on best practice and available guidance and take into account the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports, scientific peer-reviewed publications, and open source or paying models.</p>	<p><b><u>Information provided by the issuer</u></b></p> <p>SSD (EPIF's Slovakian subsidiary) recognizes the potential adverse impacts of more extreme weather events (storms, winds, wildfires) induced by changing climate on its infrastructure. SSD performs regular monitoring of adjacent areas to identify potential risks, mainly in forest areas. SSD identifies the most vulnerable locations where it preferentially replaces overhead lines with underground cables. When expanding the network into new areas, resilience to weather impacts is a primary factor considered and the technical solution is designed accordingly.</p>	<p><b>Likely not aligned</b></p> <p>While resilience to weather impacts and other climate related risks are considered for the financed infrastructure, EPIF has not substantiated that a climate risk and vulnerability assessment in line with EU Taxonomy criteria is performed.</p>



	<p>For existing activities and new activities using existing physical assets, the economic operator implements physical and non-physical solutions ('adaptation solutions'), over a period of time of up to five years, that reduce the most important identified physical climate risks that are material to that activity. An adaptation plan for the implementation of those solutions is drawn up accordingly.</p> <p>For new activities and existing activities using newly built physical assets, the economic operator integrates the adaptation solutions that reduce the most important identified physical climate risks that are material to that activity at the time of design and construction and has implemented them before the start of operations.</p> <p>The adaptation solutions implemented do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities; are consistent with local, sectoral, regional or national adaptation strategies and plans; and consider the use of nature-based solutions or rely on blue or green infrastructure to the extent possible.</p>		
Transition to a circular economy	A waste management plan is in place and ensures maximal reuse or recycling at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, reflection in financial projections or official project documentation.	<p><b><u>Information provided by the issuer</u></b></p> <p>SSD (EPIF's Slovakian subsidiary) adheres to the laws and regulations in Slovakia which are harmonized with EU regulation. SSD has dedicated internal guidelines in place on treatment of hazardous and non-hazardous waste. The produced waste results largely from maintenance and reconstruction works at the distribution network which is vital to ensure reliable operation and security of supply. It includes construction waste (concrete, soil), ferrous and non-ferrous metals, and hazardous waste such as electrical waste or oil-polluted parts. In line with internal directives, SSD always follows the waste hierarchy, preferring recycling over landfilling where it is safe and possible. In 2022, 81% of the non-hazardous waste produced by SSD was recycled. Disposal of hazardous waste is performed through certified third parties.</p>	<b>Likely aligned</b>
Pollution prevention & control	<p>Overground high voltage lines:</p> <p>(a) for construction site activities, activities follow the principles of the IFC General Environmental, Health, and Safety Guidelines.</p>	<p><b><u>Information provided by the issuer</u></b></p> <p>Robustness of environmental protection is demonstrated by the environmental management system ("EMS") which is certified to ISO 14001. The EMS is subject to annual</p>	<b>Likely partially aligned</b>  Activity meets the requirement not to use PCBs, but sufficient



	<p>(b) activities respect applicable norms and regulations to limit impact of electromagnetic radiation on human health, including for activities carried out in the Union, the Council recommendation on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz) and for activities carried out in third countries, the 1998 Guidelines of International Commission on Non-Ionizing Radiation Protection (ICNIRP).</p> <p>Activities do not use PCBs polychlorinated biphenyls.</p>	<p>external audit, where no misalignment of SSD's (EPIF's Slovakian subsidiary) system with ISO 14001 has been identified to date. SSD's internal policies are also aligned with EPIF group-wide Environmental Policy. In line with the EU regulation, SSD has replaced all technology which was contaminated with polychlorinated biphenyls ("PCBs") which were widely used within the industry as coolants in electrical equipment.</p>	<p>information has not been provided on adhering to the IFC General Environmental Health and Safety Guidelines, nor on the limitation of the exposure of the general public to electromagnetic fields.</p>
<p>Protection and restoration of biodiversity and ecosystems</p>	<ul style="list-style-type: none"> <li>An Environmental Impact Assessment (EIA) or screening has been completed in accordance with Directive 2011/92/EU, or in accordance with national provisions.</li> <li>Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented.</li> </ul> <p>For sites/operations located in or near biodiversity-sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented.</p>	<p><b><u>Relevant contextual information:</u></b></p> <p>Slovakian legislation on EIAs is aligned with the relevant EU Directive.</p> <p><b><u>Information provided by the issuer</u></b></p> <p>The distribution network operated by SSD (EPIF's Slovakian subsidiary) might pose a danger for wildlife, especially birds as the network cannot entirely avoid areas with higher prevalence of vulnerable species. In cooperation with the State Nature Conservation of the Slovak Republic, SSD regularly takes part in activities that help assess and prevent serious bird injuries that often occur along distribution networks. As a result, SSD installed protective and diverting elements to reduce exposure to high-voltage power lines. Additionally, in cooperation with both the nature conservation and municipal authorities, SSD was able to relocate stork nests within our distribution network to areas within southern Slovakia. As an unofficial partner of the LIFE Energy project, SSD took part in the installation of 154 pieces of diverters throughout the protected bird area of Poiplie, spanning a length of five kilometers. In 2021, the LIFE Energy project won the LIFE Award within the nature protection project category, where the awards recognize projects that are innovative and inspirational in life.</p>	<p><b>Likely aligned</b></p>



### Transmission and distribution networks for renewable and low-carbon gases

Framework activity	Renewable energy / Gas distribution infrastructure		
Taxonomy activity	4.14 – Transmission and distribution networks for renewable and low-carbon gases (NACE codes D35.22, F42.21 and H49.50)		
	EU Technical mitigation criteria	Comments on alignment	Shades of Green comments on alignment
Mitigation criteria	<p>1. The activity consists in one of the following:</p> <p>(a) construction or operation of new transmission and distribution networks dedicated to hydrogen or other low-carbon gases;</p> <p>(b) conversion/repurposing of existing natural gas networks to 100% hydrogen;</p> <p>(c) 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;</p> <p>2. The activity includes leak detection and repair of existing gas pipelines and other network elements to reduce methane leakage.</p>	<p><b>Information provided by the issuer</b></p> <p>All gas transmission systems will be required by the EU Regulation on renewable and natural gases to accept gas flows with a hydrogen content of up to 2% by volume at the interconnection points between Union Member States in the natural gas system. EPIF’s goal for Eustream is to be prepared for a 5% hydrogen blend in the second half of 2025.</p> <p>In respect of gas distribution, approximately 59% of the local networks are constructed using polyethylene, a material fully compatible with hydrogen distribution. Additionally, all newly installed pipes are made from this hydrogen-ready material, ensuring full preparedness for the transition to hydrogen distribution. While the high-pressure network cannot be converted into polyethylene, hydrogen compatibility is ensured through appropriate steel grade and management of the operating pressure.</p> <p>EPIF has confirmed that investments into methane leak detection and repair (LDAR) are included in other investments under the project category, but that standalone LDAR investments are excluded.</p>	<b>Likely aligned</b>
	EU Taxonomy DNSH-criteria	Comments on alignment	Alignment
Climate change adaptation	See Transmission and distribution of electricity, above.	<p><b>Information provided by the issuer</b></p> <p>Both networks are considered as being at low risk of direct damage from more extreme weather events resulting from the climate change as the gas pipelines are to a large extent laid down under the ground.</p>	<b>Likely not aligned</b> EPIF has not substantiated that a climate risks and vulnerability assessment in line with EU Taxonomy criteria is performed.



<p>Sustainable use and protection of water and marine resources</p>	<p>Environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed with the aim of achieving good water status and good ecological potential as defined in Article 2, points (22) and (23), of Regulation (EU) 2020/852, in accordance with Directive 2000/60/EC of the European Parliament and of the Council and a water use and protection management plan, developed thereunder for the potentially affected water body or bodies, in consultation with relevant stakeholders.</p> <p>Where an Environmental Impact Assessment is carried out in accordance with Directive 2011/92/EU of the European Parliament and of the Council and includes an assessment of the impact on water in accordance with Directive 2000/60/EC, no additional assessment of impact on water is required, provided the risks identified have been addressed.</p>	<p><b><u>Relevant contextual information:</u></b></p> <p>The EU Water Framework Directive is implemented in Slovakia.</p> <p><b><u>Information provided by the issuer</u></b></p> <p>Operation of existing gas transmission and distribution networks does not pose direct risk for any water bodies and both entities have complied with local regulation and internal environmental policies. At the gas transmission network, each compressor station has a preventive plan to avoid discharge of pollutants into the environment in line with Act no. 364/2004 Coll., on Waters. The expansion of the networks leading to potential harm to waters during the construction phase is relatively limited. The exception was a construction of the Poland–Slovakia gas interconnector completed by EUS (EPIF’s subsidiary) in October 2022, for which an Environmental Impact Assessment (EIA) has been carried out and the environmental permit has been issued by the competent authority. At the gas distribution network, SPPD has implemented an Integrated Management System, which integrates occupational health and safety, environment, and quality processes. Additionally, the Methodological Guideline for Environmental Management contains specific guidelines in the area of water pollution prevention. All individuals involved in the transportation of hazardous goods undergo regular training, and their activities are monitored. At locations where handling of more than 1000 liters of dangerous substances occurs, emergency plans are developed and approved, and emergency drills are conducted annually.</p>	<p><b>Likely aligned</b></p>
<p>Pollution prevention &amp; control</p>	<p>Fans, compressors, pumps and other equipment used which is covered by Directive 2009/125/EC of the European Parliament and of the Council comply, where relevant, with the top class requirements of the energy label, and with implementing regulations under that Directive and represent the best available technology.</p>	<p><b><u>Information provided by the issuer</u></b></p> <p>EUS and SPPD (EPIF’s subsidiaries) are certified as compliant with the requirements of ISO 14001 (environmental management). Both entities further hold the certification ISO 3834-2 (welding quality), while EUS also holds certification ISO 50001 (energy management) and SPPD holds certification ISO 55001 (asset management).</p>	<p><b>Likely aligned</b></p>



		<p>EUS and SPPD ensure compliance with EU requirements regarding efficiency and other parameters in the technology used (such as compressor technology operated by EUS and regulation stations operated by SPPD) through their procurement process.</p> <p>According to EPIF, its use of ISO certifications ensures compliance with the ‘top class’ requirements of the energy label, while the use of best available technology is mandated by the respective EU Directives that impose best available technology requirements on technologies used in the EU.</p>	
<p>Protection and restoration of biodiversity and ecosystems</p>	<p>See Transmission and distribution of electricity, above.</p>	<p><b><u>Relevant contextual information:</u></b></p> <p>Slovakian legislation on EIAs is aligned with the relevant EU Directive.</p> <p><b><u>Information provided by the issuer</u></b></p> <p>The pipelines of EUS and SPPD (EPIF’s subsidiaries) in Slovakia cross several wetland areas which are protected by the international Ramsar Convention on Wetlands. For all development and reconstruction works which were performed in the respective areas, all required permits were obtained. Impact on biodiversity is a primary consideration in the decision-making process on the development and subsequent operation of the networks. In line with its biodiversity policy, SPPD generally strives not to interfere with areas of the highest biological diversity through its activities. SPPD continues its efforts to preserve biodiversity after the construction of a facility, both during operation and when decommissioning facilities. The goal of SPPD is to restore the landscape affected by its activities to a state that is as natural as possible for the given locality, creating viable habitats for original species in that area.</p> <p>EPIF has confirmed that mitigation measures are implemented as required.</p>	<p><b>Likely aligned</b></p>





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**S&P Global**



## District heating/cooling distribution

Framework activity	Energy efficiency / district heating networks		
Taxonomy activity	4.15 - District heating/cooling distribution (NACE D35.30)		
	EU Technical mitigation criteria	Comments on alignment	Shades of Green's comments on alignment
Mitigation criteria	<p>The activity complies with one of the following criteria:</p> <ul style="list-style-type: none"> <li>(a) for construction and operation of pipelines and associated infrastructure for distributing heating and cooling, the system meets the definition of efficient district heating and cooling systems laid down in Article 2, point 41, of Directive 2012/27/EU;</li> <li>(b) for refurbishment of pipelines and associated infrastructure for distributing heating and cooling, the investment that makes the system meet the definition of efficient district heating or cooling laid down in Article 2, point 41, of Directive 2012/27/EU starts within a three-year period as underpinned by a contractual obligation or an equivalent in case of operators in charge of both generation and the network;</li> <li>(c) the activity is the following:               <ul style="list-style-type: none"> <li>(i) modification to lower temperature regimes;</li> <li>(ii) advanced pilot systems (control and energy management systems, Internet of Things).</li> </ul> </li> </ul>	<p><b><u>Information provided by the issuer</u></b></p> <p>Operation of EPIF's district heating networks has been further considered for taxonomy alignment as it meets one of the two criteria in Annex I, specifically "<i>the system meets the definition of efficient district heating and cooling systems laid down in Article 2, point 41, of Directive 2012/27/EU</i>". This criterium requires the district heating or cooling system to use at least 50 % renewable energy, 50 % waste heat, 75 % cogenerated heat or 50 % of a combination of such energy and heat. EPIF operations are aligned with the requirement as the heat distributed through its network is produced solely in cogeneration mode by the adjacent cogeneration heating plants which are also in ownership of EPIF. The exceptions are occasional periods with peak heat demand which needs to be partly covered by back-up hot water boilers (though, in all cases will be &gt; 75%).</p>	<p><b>Likely aligned</b></p>
	EU Taxonomy DNSH-criteria	Comments on alignment	Alignment
Climate change adaptation	See Transmission and distribution of electricity, above.	<p><b><u>Information provided by the issuer</u></b></p> <p>The distribution networks are currently considered as being at low risk of direct damage from more extreme weather events resulting from the climate change. The pipes are to a large extent laid down under the ground. The lines located above the ground might be partly located in forest areas and exposed to falling trees. However, the network mainly consists of large-diameter pipes with a wall thickness of 10mm, and no damage has been historically caused by falling trees on the pipeline. Moreover, a protective zone of 2.5 meters from the edge of the pipeline is maintained along the route.</p>	<p><b>Likely not aligned</b></p> <p>EPIF has not substantiated that a climate risks and vulnerability assessment in line with EU Taxonomy criteria is performed.</p>



Sustainable use and protection of water and marine resources	See Transmission and distribution networks for renewable and low-carbon gases, above.	<p><b><u>Information provided by the issuer</u></b></p> <p>The district heating networks represent closed systems where water is circulated from the main heat exchanger at the heat generation source to the heat exchange station in the proximity of the end consumers and subsequently returned to the heat generation source for re-heating. Water in the network is regularly resupplied to compensate for water lost through evaporation. However, no water is discharged to the water bodies.</p> <p>EPIF performs a water stress analysis to ensure that it only operates in the low water stress areas based on Aqueduct Water Risk Atlas. Moreover, EPIF ensures that the water withdrawn is discharged back (except for the water evaporating in the process) to the water body with very similar parameters (quality, temperature).</p>	<b>Likely aligned</b>
Pollution prevention and control.	See Transmission and distribution networks for renewable and low-carbon gases, above.	<p><b><u>Information provided by the issuer</u></b></p> <p>The EU efficiency requirements for the compressors used across the networks are binding already for manufacturers of this technology, from whom EPIF entities source the equipment.</p>	<b>Likely aligned</b>
Protection and restoration of biodiversity and ecosystems	See Transmission and distribution of electricity, above.	<p><b><u>Relevant contextual information:</u></b></p> <p>Czech legislation on EIAs is aligned with the relevant EU Directive.</p> <p><b><u>Information provided by the issuer</u></b></p> <p>EIAs are undertaken as standard. None of EPIF's district heating systems have been identified to be located near biodiversity-sensitive areas (which according to EPIF is defined to align with EU definitions).</p>	<b>Likely aligned</b>



### Cogeneration of heat/cool and power from bioenergy

Framework activity	Energy efficiency / district heating networks		
Taxonomy activity	4.20 - Cogeneration of heat/cool and power from bioenergy (NACE codes D35.11 and D35.30)		
	EU Technical mitigation criteria	Comments on alignment	Shades of Green's comments on alignment
Mitigation criteria	<ol style="list-style-type: none"> <li>1. Agricultural biomass used in the activity complies with the criteria laid down in Article 29, paragraphs 2 to 5, of Directive (EU) 2018/2001. Forest biomass used in the activity complies with the criteria laid down in Article 29, paragraphs 6 and 7, of that Directive.</li> <li>2. The greenhouse gas emission savings from the use of biomass are at least 80 % in relation to the GHG saving methodology and the relative fossil fuel comparator set out in Annex VI to Directive (EU) 2018/2001.</li> <li>3. Where the installations rely on anaerobic digestion of organic material, the production of the digestate meets the criteria in Sections 5.6 and criteria 1 and 2 of Section 5.7 of this Annex, as applicable.</li> <li>4. Points 1 and 2 do not apply to electricity generation installations with a total rated thermal input below 2 MW and using gaseous biomass fuels.</li> </ol>	<p><b><u>Information provided by the issuer</u></b></p> <p>Biomass combusted by PLTEP (EPIF subsidiary) is sourced locally within the Czech Republic, predominantly from the Plzeň Region. Owing to the limited transport distance (&lt; 500km), the saving of greenhouse gases compared to a fossil fuel alternative exceeds the threshold required by the Taxonomy Regulation of 80% (based on the typical values of greenhouse gas savings as indicated in Annex VI to Directive (EU) 2018/2001). In addition, when approaching potential supplier of biomass, PLTEP strongly prefers railway transport over road transport where feasible.</p> <p>Taxonomy regulation allows forest and agricultural biomass to be considered as taxonomy-aligned provided that some conditions are fulfilled such as legality of harvesting, forest regeneration of harvested areas and other criteria ensuring sustainability of biomass production. This is ensured through certification which is required by PLTEP from each supplier including declaration that the biomass complies with the Czech regulation specifying criteria on sustainability and greenhouse gas savings. The suppliers are also obliged to provide evidence that they are entitled to harvest wood from the land based on direct ownership or the agreement with the landowner.</p> <p>EPIF has confirmed no installations will rely on anaerobic digestion.</p>	<p><b>Likely aligned</b></p> <p>The eligibility criteria refer to the EU Taxonomy criteria and are therefore identical.</p>
	EU Taxonomy DNSH-criteria	Comments on alignment	Alignment
Climate change adaptation	See Transmission and distribution of electricity, above.	<b><u>Information provided by the issuer</u></b>	<p><b>Likely not aligned</b></p> <p>EPIF has not substantiated that a climate risks and</p>



		The biomass unit is currently considered as being at low risk of direct damage from more extreme weather events resulting from the climate change.	vulnerability assessment in line with EU Taxonomy criteria is performed.
Sustainable use and protection of water and marine resources	See Transmission and distribution networks for renewable and low-carbon gases, above.	<p><b><u>Information provided by the issuer</u></b></p> <p>Based on the integrated permit, the heating plant is allowed to withdraw cooling water from the adjacent river and discharge it back. The amount of water discharged from our plants is not materially different from amount of water withdrawn, i.e. vast majority of water is returned back to the source. The cooling flow-based systems in the cogeneration heating plants represent closed systems, whereby the water discharged is of the same or better quality and similar temperature, at which it was withdrawn from the source.</p> <p>According to EPIF, impact on water is a standard element of the EIAs which are undertaken as standard.</p>	<b>Likely aligned</b>
Pollution prevention & control	<p>For installations falling within the scope of Directive 2010/75/EU, emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants, ensuring at the same time that no significant cross-media effects occur.</p> <p>For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.</p> <p>For plants in zones or parts of zones not complying with the air quality limit values laid down in Directive 2008/50/EC, results of the information exchange, which are published by the Commission in accordance with Article 6, paragraphs 9 and 10, of Directive (EU) 2015/2193 are taken into account.</p> <p>In case of anaerobic digestion of organic material, where the produced digestate is used as fertiliser or soil improver, either directly or after composting or any other treatment, it meets the requirements for fertilising materials set out in Component Material Categories (CMC) 4</p>	<p><b><u>Information provided by the issuer</u></b></p> <p>After major refurbishments aimed at reduction of dust particles, PLTEP (EPIF's subsidiary) is in compliance with the best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for large combustion plants.</p>	<p><b>Not enough information to conclude</b></p> <p>While EPIF's existing investments seemingly align, there is not enough to conclude on the alignment for investments under the eligibility criteria.</p>



	<p>and 5 in Annex II to Regulation (EU) 2019/1009 or national rules on fertilisers or soil improvers for agricultural use.</p> <p>For anaerobic digestion plants treating over 100 tonnes per day, emissions to air and water are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set for anaerobic treatment of waste in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for waste treatment. No significant cross-media effects occur.</p>		
Protection and restoration of biodiversity and ecosystems	See Transmission and distribution of electricity, above.	<p><b><u>Relevant contextual information:</u></b></p> <p>Czech legislation on EIAs is aligned with the relevant EU Directive.</p> <p><b><u>Information provided by the issuer</u></b></p> <p>The plant is not located near any biodiversity-sensitive area. EIAs are undertaken as standard.</p>	<b>Likely aligned</b>



### High-efficiency co-generation of heat/cool and power from fossil gaseous fuels

Framework activity	Energy efficiency / district heating networks		
Taxonomy activity	4.30 – High-efficiency co-generation of heat/cool and power from fossil gaseous fuels (NACE codes D35.11 and D35.30)		
	EU Technical mitigation criteria	Comments on alignment	Shades of Green’s comments on alignment
Mitigation criteria	<p>1. The activity meets either of the following criteria:</p> <p>(a) the life-cycle GHG emissions from the co-generation of heat/cool and power from gaseous fuels are lower than 100 g CO<sub>2</sub>e per 1 kWh of energy output of the co-generation.</p> <p>Life-cycle GHG emissions are calculated based on project-specific data, where available, using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018.</p> <p>Quantified life-cycle GHG emissions are verified by an independent third party.</p> <p>Where facilities incorporate any form of abatement, including carbon capture or use of renewable or low-carbon gases, that abatement activity complies with the relevant Sections of this Annex, where applicable. Where the CO<sub>2</sub> emitted from the electricity generation is captured, the CO<sub>2</sub> shall meet the emissions limit set out in point 1 of this Section and, the CO<sub>2</sub> be transported and stored underground in a way that meets the technical screening criteria for transport of CO<sub>2</sub> and storage of CO<sub>2</sub> set out in Sections 5.11 and 5.12, respectively of this Annex.</p>	N/A.	N/A – given that EPIF’s investments will relate to facilities with emissions higher than 100 gCO <sub>2</sub> e and with permits granted before 31 December 2030, evaluation is against 1 (b) – see below.
Mitigation criteria	<p>1.</p> <p>(b) facilities for which the construction permit is granted by 31 December 2030 comply with all of the following:</p> <p>(i) the activity achieves primary energy savings of at least 10 % compared with the references to separate production of heat and electricity; the primary energy savings are calculated on the basis of formula provided in Directive 2012/27/EU;</p> <p>(ii) direct GHG emissions of the activity are lower than 270 g CO<sub>2</sub>e/kWh of the output energy;</p>	<p><b><u>Relevant contextual information</u></b></p> <p>According to EPIF’s decarbonization roadmap for its heating infrastructure segment, it plans to replace lignite units with at least seven CCGT units across its Elektrárny Opatovice, United Energy, and Plzenska teplarenska subsidiaries.</p> <p><b><u>Information provided by the issuer</u></b></p> <p><b>Re 1. (b)(i):</b></p>	<p><b>Likely aligned</b></p> <p>The eligibility criteria refer to the EU Taxonomy criteria and are therefore identical.</p> <p>Points to note:</p> <p>According to EPIF, the investments represent a</p>



	<p>(iii) the power and/or heat/cool to be replaced cannot be generated from renewable energy sources, based on a comparative assessment with the most cost-effective and technically feasible renewable alternative for the same capacity identified; the result of this comparative assessment is published and is subject to a stakeholder consultation;</p> <p>(iv) the activity replaces an existing high emitting combined heat/cool and power generation activity, a separate heat/cool generation activity, or a separate power generation activity that uses solid or liquid fossil fuels;</p> <p>(v) the newly installed production capacity does not exceed the capacity of the replaced facility;</p> <p>(vi) the facility is designed and constructed to use renewable and/or low-carbon gaseous fuels and the switch to full use of renewable and/or low-carbon gaseous fuels takes place by 31 December 2035, with a commitment and verifiable plan approved by the management body of the undertaking;</p> <p>(vii) the replacement leads to a reduction in emissions of at least 55 % GHG per kWh of output energy;</p> <p>(viii) the refurbishment of the facility does not increase production capacity of the facility;</p> <p>(ix) the activity takes place on the territory of a Member State in which coal is used for energy generation, that Member State has committed to phase-out the use of energy generation from coal and has reported this in its integrated national energy and climate plan referred to in Article 3 of Regulation (EU) 2018/1999 or in another instrument.</p> <p>Compliance with the criteria referred to in point 1(b) is verified by an independent third party. The independent third party verifier has the necessary resources and expertise to perform such verification. The independent third party verifier does not have any conflict of interest with the owner or the funder, and is not involved in the development or operation of the activity. The independent third party verifier carries out diligently the verification of compliance with the technical</p>	<p>Based on the expected cogeneration efficiency of the heating plants of 90% and assumed split of 50:50 between heat and power, the cogeneration plants create primary energy savings of ca 13% compared to separate heat and power production, assuming best available technology represented by a gas heat boiler with 96% efficiency and CCGT power plant with 60% efficiency. The calculation was based on the formula provided in the Directive 2012/27/EU.</p> <p><b>Re 1. (b)(ii):</b></p> <p>EPIF cogeneration plants are planned to achieve an overall efficiency (i.e. including cogeneration and condensation generation) of 75%, resulting in emission intensity of ca 264 g CO<sub>2</sub>e/kWh. This assumes sole combustion of natural gas. As the turbines shall be ready for partial hydrogen combustion (share of ca 15% is indicated in the initial stage) with envisaged gradual increase, the emission intensity is expected to go further down.</p> <p><b>Re 1. (b)(iii):</b></p> <p>Potential viable renewable alternatives to generate the heat needed for the residential and commercial customers currently supplied by EPIF from are (i) retrofit of existing lignite boilers to enable biomass combustion, (ii) heat pumps powered by renewable energy sources or (iii) geothermal energy.</p> <p><b>Biomass boilers</b></p> <p>This could be achieved by refurbishment of existing lignite boilers to enable 100% biomass combustion and replace current usage of lignite with biomass. We consider this alternative as detrimental to the EU decarbonization goals and not aligned with EU Taxonomy criteria. Reliance on biomass at the required scale to replace all lignite and provide sufficient heat volumes would dramatically increase usage of biomass and its availability would be uncertain and its sustainability characteristics would likely</p>	<p>replacement of coal power and do not increase the capacity of any unit (satisfying 1(b)(iv) and (viii).</p> <p>EPIF has provided information on investments' alignment with the qualitative criteria in criteria 1(b)(i), (ii) and (vii).</p> <p>The comparative assessment required under 1(b)(iii) has not been made public or subject to a stakeholder consultation.</p> <p>The target and plan approved by EPIF's management board in respect of the transition to renewable and/or low carbon gases, as required under 1(b)(vi), is not currently in place.</p> <p>Regarding criteria 1(b)(ix), the coal phase out commitment in January 2022<sup>23</sup> is somewhat vague. Note, however, EPIF's own coal phase out target by 2030.</p>
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<sup>23</sup> [Reuters - Czech Republic coal phase out](#)





	<p>screening criteria. In particular, every year the independent third party publishes and transmits to the Commission a report:</p> <p>(a) certifying the level of direct GHG emissions referred to in point 1(b)(ii); (b) assessing whether the activity is on a credible trajectory to comply with point 1(b)(vi).</p> <p>On the basis of the reports transmitted to it, the Commission may address an opinion to the operators concerned. The Commission shall take those reports into account when performing the review referred to in Article 19(5) of Regulation (EU) 2020/852.</p>	<p>be compromised. EPIF is currently able to source sufficient biomass volumes from local sources with limited transport distance. The biomass is certified and aligned with EU Taxonomy criteria. We consider as not feasible to substantially increase the biomass usage, while maintaining these standards.</p> <p><b>Heat pumps</b> Heat pumps are generally considered as a viable alternative to decarbonize heating. However, the prerequisites are (i) decarbonization of the power grid and (ii) reinforcing the capacity of the transmission networks to accommodate the fluctuations driven by the heat offtake. EPIF entities supply heat to major regional cities including densely populated blocks of flats where the needs for the reserved capacity might exceed the current grid capacities. In addition, the radiators in existing older blocks of flats are often designed for hotter water and are therefore smaller compared to radiators typically used with heat pumps which typically supply water at lower temperatures.</p> <p><b>Geothermal energy</b> Utilization of geothermal energy in the Czech Republic is limited, there are only a handful of existing projects. The major drawback is the major seasonal fluctuation in heat offtake. The capacities of the geothermal source need to be designed to cover the peak heat demand during winter which might not be utilized during summer. The solution might not be therefore cost-effective.</p> <p><b>Conclusion</b> While heat pumps and geothermal energy might be considered as zero carbon alternatives in the long term when it is conceivable to deploy these technologies on a large scale, a rapid reduction in emissions which is vitally needed in the short term, will be more reliably achieved through replacement of the lignite plants with highly efficient CCGT units. The crucial aspect is the envisaged adaptation of the CCGT units for renewable gases, making these assets fully compatible with net zero energy system and preventing the emissions from natural gas from being locked in. In addition, these dispatchable sources do not only supply heat but are also vital contributors to grid</p>	
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		<p>stability, enabling the ramp up of renewable generation sources. We therefore consider the CCGT units as best positioned to contribute to the emission reduction goals.</p> <p><b>Re 1. (b)(iv):</b></p> <p>CCGT technologies at all sites operated by EPIF represent a replacement of existing technologies reliant on lignite. The emission intensity of the CCGT units is substantially lower than for the lignite-based technologies.</p> <p><b>Re 1. (b)(v):</b></p> <p>The installed thermal capacity of the CCGT units is below the capacity of the replaced units at all plants.</p> <p><b>Re 1. (b)(vi):</b></p> <p>The gas turbines at all facilities shall be ready for partial hydrogen combustion from the outset with 15% currently guaranteed by suppliers of the technology with optionality to increase the share up to 70%. This shall enable EPIF combust solely zero carbon gases as a combination of hydrogen with the remainder represented by other renewable gases, mainly biomethane. The pace of increasing the share of zero carbon gases in the mixture will largely depend on commercial availability of hydrogen or other renewable gases. EPIF shall be technologically ready to introduce required modification to the technology to enable full combustion of renewable gases.</p> <p><b>Re 1. (b)(vii):</b></p> <p>The emission intensity of existing lignite units is in the range of 600-900 g/kWh, depending on share of cogeneration and condensation production. The new CCGT units are planned to have emission intensity below the threshold of 270 g/kWh, achieving emission reduction of at least 55%.</p> <p><b>Re 1. (b)(viii):</b></p>	
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		<p>The thermal installed capacity of the CCGT units is below the capacity of the replaced units at all plants, reducing the generation potential.</p> <p><b>Re 1. (b)(ix):</b></p> <p>The previous Czech government (in office until 2021) acknowledged the outcome of a “coal committee” which recommended to phase out coal in energy generation by 2038. According to the current Policy Statement of the Czech government, the government aims to create conditions to enable phase out coal in energy generation by 2033.</p> <p><b>Re the independent third party verification:</b></p> <p>Verification not performed at this stage as the development projects have just commenced.</p>	
Mitigation criteria	<p>2. The activity meets either of the following criteria:</p> <p>(a) at construction, measurement equipment for monitoring of physical emissions, including those from methane leakage, is installed or a leak detection and repair program is introduced;</p> <p>(b) at operation, physical measurement of emissions are reported and any leak is eliminated.</p>	<p><b><u>Information provided by the issuer</u></b></p> <p><b>Re 2. (a):</b></p> <p>EPIF aims to implement all measures to prevent gas leaks, including a leak detection and repair program.</p>	<p><b>Likely aligned</b></p> <p>The eligibility criteria refer to the EU Taxonomy criteria and are therefore identical.</p>
	<b>EU Taxonomy DNSH-criteria</b>	<b>Comments on alignment</b>	<b>Alignment</b>
Climate change adaptation	See Transmission and distribution of electricity, above.	<p><b><u>Information provided by the issuer</u></b></p> <p>The new technologies will be located in the same premises as the technologies to be replaced. And the existing units are currently considered as being at low risk of direct damage from more extreme weather events resulting from the climate change.</p>	<p><b>Likely not aligned</b></p> <p>EPIF has not substantiated that a climate risks and vulnerability assessment in line with EU Taxonomy criteria is performed.</p>
Sustainable use and protection of water and marine resources	See Transmission and distribution networks for renewable and low-carbon gases, above.	<p><b><u>Information provided by the issuer</u></b></p> <p>The new technologies will be part of existing EPIF district heating operations where compliance with these criteria is already ensured through meeting the conditions in the integrated permit.</p>	<p><b>Likely aligned</b></p>



<p>Pollution prevention &amp; control</p>	<p>Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur.</p> <p>For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.</p> <p>The activity does not lead to the manufacture, placing on the market or use of:</p> <ul style="list-style-type: none"> <li>(a) substances, whether on their own, in mixtures or in articles, listed in Annexes I or II to Regulation (EU) 2019/1021 of the European Parliament and of the Council, except in the case of substances present as an unintentional trace contaminant;</li> <li>(b) mercury and mercury compounds, their mixtures and mercury-added products as defined in Article 2 of Regulation (EU) 2017/852 of the European Parliament and of the Council;</li> <li>(c) substances, whether on their own, in mixture or in articles, listed in Annexes I or II to Regulation (EC) No 1005/2009 of the European Parliament and of the Council;</li> <li>(d) substances, whether on their own, in mixtures or in an articles, listed in Annex II to Directive 2011/65/EU of the European Parliament and of the Council, except where there is full compliance with Article 4(1) of that Directive;</li> <li>(e) substances, whether on their own, in mixtures or in an article, listed in Annex XVII to Regulation (EC) 1907/2006 of the European Parliament and of the Council, except where there is full compliance with the conditions specified in that Annex;</li> <li>(f) substances, whether on their own, in mixtures or in an article, meeting the criteria laid down in Article 57 of Regulation (EC) 1907/2006 and identified in accordance with Article 59(1) of that Regulation, except where their use has been proven to be essential for the society;</li> <li>(g) other substances, whether on their own, in mixtures or in an article, that meet the criteria laid down in Article 57 of Regulation (EC) 1907/2006, except where their use has been proven to be essential for the society.</li> </ul>	<p><b><u>Information provided by the issuer</u></b></p> <p>EPIF aims to comply with the respective directives and the associated emission limits.</p>	<p><b>Not enough information to conclude</b></p> <p>There is not enough to conclude on the approach or alignment of investments under the eligibility criteria.</p>
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Protection and restoration of biodiversity and ecosystems	See Transmission and distribution of electricity, above.	<b><u>Information provided by the issuer</u></b>  The new technologies will be part of existing EPIF district heating operations where compliance with these criteria is already ensured through meeting the conditions in the integrated permit.	<b>Likely aligned</b>
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**Production of heat/cool from fossil gaseous fuels in an efficient district heating and cooling system**

Framework activity	Energy efficiency / district heating networks		
Taxonomy activity	4.31 - Production of heat/cool from fossil gaseous fuels in an efficient district heating and cooling system (NACE codes D35.11 and D35.30)		
	EU Technical mitigation criteria	Comments on alignment	Shades of Green's comments on alignment
Mitigation criteria	<p>1. The activity meets either of the following criteria:</p> <p>(a) Life-cycle GHG emissions from the generation of heat/cool from gaseous fuels are lower than 100 g CO<sub>2</sub>e/kWh.</p> <p>Life-cycle GHG emission savings are calculated using Recommendation 2013/179/EU or, alternatively, using ISO 14067:2018 or ISO 14064-1:2018.</p> <p>Quantified life-cycle GHG emissions are verified by an independent third party.</p> <p>Where facilities incorporate any form of abatement, including carbon capture or use of renewable or low-carbon gases, that abatement activity complies with the relevant Sections of this Annex, where applicable. Where the CO<sub>2</sub> emitted from the electricity generation is captured, the CO<sub>2</sub> shall meet the emissions limit set out in point 1 of this Section and shall be transported and stored underground in a way that meets the technical screening criteria for transport of CO<sub>2</sub> and storage of CO<sub>2</sub> set out in Sections 5.11 and 5.12, respectively of this Annex.</p>	N/A	N/A – given that EPIF's investments will relate to facilities with emissions higher than 100 gCO <sub>2</sub> e and with permits granted before 31 December 2030, evaluation is against 1 (b) – see below.
Mitigation criteria	<p>1.</p> <p>(b) facilities for which the construction permit is granted by 31 December 2030 comply with all of the following:</p> <p>(i) the thermal energy generated by the activity is used in an efficient district heating and cooling system as defined in Directive 2012/27/EU;</p> <p>(ii) the direct GHG emissions of the activity are lower than 270 g CO<sub>2</sub>e/kWh of the output energy;</p> <p>(iii) the heat/cool to be replaced cannot be generated from renewable energy sources, based on a comparative assessment with the most cost-</p>	<p><b><u>Information provided by the issuer</u></b></p> <p><b>Re 1. (b)(i):</b> According to EPIF, heat will be used in its adjacent district heating networks which satisfy the definition of 'efficient district heating and cooling system as defined in Directive 2012/27/EU' given they always distribute more than 75% cogenerated heat.</p> <p>For all other criteria, see High-efficiency co-generation of heat/cool and power from fossil gaseous fuels, above.</p>	<p><b>Likely aligned</b></p> <p>The eligibility criteria refer to the EU Taxonomy criteria and are therefore identical.</p> <p>For points to note, see High-efficiency co-generation of heat/cool and power from fossil gaseous fuels, above.</p>



	<p>effective and technically feasible renewable alternative for the same capacity identified; the result of this comparative assessment is published and is subject to a stakeholder consultation;</p> <p>(iv) the activity replaces an existing high emitting heating/cooling activity using solid or liquid fossil fuel;</p> <p>(v) the newly installed production capacity does not exceed the capacity of the replaced facility;</p> <p>(vi) the facility is designed and constructed to use renewable and/or low-carbon gaseous fuels and the switch to full use of renewable and/or low-carbon gaseous fuels takes place by 31 December 2035, with a commitment and verifiable plan approved by the management body of the undertaking;</p> <p>(vii) the replacement leads to a reduction in emissions of at least 55 % GHG per kWh of output energy;</p> <p>(viii) the refurbishment of the facility does not increase production capacity of the facility;</p> <p>(ix) where the activity takes place on the territory of a Member State in which coal is used for energy generation, that Member State has committed to phase-out the use of energy generation from coal and has reported this in its integrated national energy and climate plan referred to in Article 3 of Regulation (EU) 2018/1999 or in another instrument.</p> <p>Compliance with the criteria referred to in point 1(b) is verified by an independent third party. The independent third-party verifier has the necessary resources and expertise to perform such verification. The independent third party verifier does not have any conflict of interest with the owner or the funder, and is not be involved in the development or operation of the activity. The independent third party verifier carries out diligently the verification of compliance with the technical screening criteria. In particular, every year the independent third party publishes and transmits to the Commission a report:</p> <p>(a) certifying the level of direct GHG emissions referred to in point 1(b)(ii); (b) assessing whether the activity is on a credible trajectory to comply with point 1(b)(vi).</p>		
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	On the basis of the reports transmitted to it, the Commission may address an opinion to the operators concerned. The Commission shall take those reports into account when performing the review referred to in Article 19(5) of Regulation (EU) 2020/852.		
Mitigation criteria	2. The activity meets either of the following criteria:  (a) at construction, measurement equipment for monitoring of physical emissions, including those from methane leakage, is installed or a leak detection and repair program is introduced; (b) at operation, physical measurement of emissions are reported and any leak is eliminated.	<b><u>Information provided by the issuer</u></b>  <b>Re 2. (a):</b>  EPIF aims to implement all measures to prevent gas leaks, including a leak detection and repair program.	<b>Likely aligned</b>  The eligibility criteria refer to the EU Taxonomy criteria and are therefore identical.
	<b>EU Taxonomy DNSH-criteria</b>	<b>Comments on alignment</b>	<b>Alignment</b>
Climate change adaptation	See Transmission and distribution of electricity, above.	<b><u>Information provided by the issuer</u></b>  The new technologies will be located in the same premises as the technologies to be replaced. And the existing units are currently considered as being at low risk of direct damage from more extreme weather events resulting from the climate change.	<b>Likely not aligned</b>  EPIF has not substantiated that a climate risks and vulnerability assessment in line with EU Taxonomy criteria is performed.
Sustainable use and protection of water and marine resources	See Transmission and distribution networks for renewable and low-carbon gases, above.	<b><u>Information provided by the issuer</u></b>  The new technologies will be part of existing EPIF district heating operations where compliance with these criteria is already ensured through meeting the conditions in the integrated permit.	<b>Likely aligned</b>
Pollution prevention & control	Emissions are within or lower than the emission levels associated with the best available techniques (BAT-AEL) ranges set out in the latest relevant best available techniques (BAT) conclusions, including the best available techniques (BAT) conclusions for large combustion plants. No significant cross-media effects occur.  For combustion plants with thermal input greater than 1 MW but below the thresholds for the BAT conclusions for large combustion plants to apply, emissions are below the emission limit values set out in Annex II, part 2, to Directive (EU) 2015/2193.  The activity does not lead to the manufacture, placing on the market or use of:	<b><u>Information provided by the issuer</u></b>  EPIF aims to comply with the respective directives and the associated emission limits.	<b>Not enough information to conclude</b>  There is not enough to conclude on the alignment of investments under the eligibility criteria.





	<p>(a) substances, whether on their own, in mixtures or in articles, listed in Annexes I or II to Regulation (EU) 2019/1021 of the European Parliament and of the Council, except in the case of substances present as an unintentional trace contaminant;</p> <p>(b) mercury and mercury compounds, their mixtures and mercury-added products as defined in Article 2 of Regulation (EU) 2017/852 of the European Parliament and of the Council;</p> <p>(c) substances, whether on their own, in mixture or in articles, listed in Annexes I or II to Regulation (EC) No 1005/2009 of the European Parliament and of the Council;</p> <p>(d) substances, whether on their own, in mixtures or in an articles, listed in Annex II to Directive 2011/65/EU of the European Parliament and of the Council, except where there is full compliance with Article 4(1) of that Directive;</p> <p>(e) substances, whether on their own, in mixtures or in an article, listed in Annex XVII to Regulation (EC) 1907/2006 of the European Parliament and of the Council, except where there is full compliance with the conditions specified in that Annex;</p> <p>(f) substances, whether on their own, in mixtures or in an article, meeting the criteria laid down in Article 57 of Regulation (EC) 1907/2006 and identified in accordance with Article 59(1) of that Regulation, except where their use has been proven to be essential for the society;</p> <p>(g) other substances, whether on their own, in mixtures or in an article, that meet the criteria laid down in Article 57 of Regulation (EC) 1907/2006, except where their use has been proven to be essential for the society.</p>		
Protection and restoration of biodiversity and ecosystems	See Transmission and distribution of electricity, above.	<p><b><u>Information provided by the issuer</u></b></p> <p>The new technologies will be part of existing EPIF district heating operations where compliance with these criteria is already ensured through meeting the conditions in the integrated permit.</p>	<b>Likely aligned</b>



# Appendix 3: About Shades of Green

Shades of Green, now a part of S&P Global and formerly part of CICERO, provides independent, research-based second party opinions (SPOs) of green financing frameworks as well as climate risk and impact reporting reviews of companies. At the heart of all our SPOs is the multi-award-winning Shades of Green methodology, which assigns shadings to investments and activities to reflect the extent to which they contribute to the transition to a low carbon and climate resilient future.

Shades of Green is internationally recognized as a leading provider of independent reviews of green bonds, since the market's inception in 2008. Shades of 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. Shades of Green operates independently from the financial sector and other stakeholders to preserve the unbiased nature and high quality of second opinions.

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- ★ **2021 Largest External Reviewer**, Climate Bonds Initiative Awards
  - ★ **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