

Eco Material Technologies Inc.

ESG Ratings

	ESG Rating ^a	Score	Analysis Type
Entity	3	54	Full entity
Instrument	2	63	Integrated debt
Framework	2	72	Green

^aESG Rating of 1-5, where 1 is the strongest. Date ESG Rating and score assigned: 18 January 2022.

Note: For Framework, analysis types can be green, social, sustainability, sustainability-linked, conventional or other.

Credentials



Transition



ICMA



EU Green Bond Standard

See Appendix A for definitions of Transition and ICMA; other details.

Key Debt Details

Instrument	Issue Date	Currency	Amount	Coupon	Maturity Date	Type ^a
Bond	TBC	USD	TBC	TBC	TBC	Green

^aAs defined by issuer. Note: TBC – to be confirmed. Issued by Eco Material Technologies Inc.. ISIN: not available.

Instrument Relevance

(%)	Instrument	Debt of the Same Type	Any ESG-Related Debt
Versus gross lease-adjusted debt ^a	TBC	TBC	TBC
Versus capex	TBC	TBC	TBC
Versus CFO	TBC	TBC	TBC

^aExcluding non-recourse debt. CFO = cash flow from operations. Note: TBC – to be confirmed.

Business Activity Overlap with Use of Proceeds

100%

Note: Share of the entity's total business activities that can use proceeds from the instrument above. Based on revenue.

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The Entity – Highlights

Eco Material Technologies Inc. was formed in December 2021, subsequently to the proposed merger of Green Cement, Inc. and Boral Resources, a North American subsidiary of Boral Limited. Eco Material is primarily engaged in the manufacturing of supplementary cementitious materials (SCMs), including its signature product, Pozzosl原因, and fly ash; and in the marketing and distribution of fly ash across the US, where it holds a volume share of about 50%.

Sustainable Fitch considers SCMs to be low carbon materials that can significantly contribute to the decarbonisation of the cement industry, which accounts for 8% of global CO₂ emissions. Portland cement, the most common type of cement, is typically produced from clinker, a material that is directly responsible for almost all the CO₂ emissions of the industry. Some Portland cement can be substituted with SCMs in certain applications, which avoids an equivalent amount of CO₂ emissions.

The acquisition of Boral's fly ash business will allow Eco Material to secure the necessary raw material for large scale production of Pozzosl原因, according to the management. The company reports that Pozzosl原因 is about 20% stronger than Portland cement and that this makes it a low carbon and durable alternative.

The fly ash business collects, markets and distributes fly ash; which is used as a low carbon substitute to Portland cement. Fly ash is a by-product of coal power plants that would be stored in landfills if not collected and processed by companies such as Eco Material. About 7 million tonnes of fly ash are repurposed by the company each year, generating significant environmental benefits.

About 50% of fly ash that is currently produced in the US is not suitable for other uses; the company says that it has the technological means to transform this fly ash into a high value and marketable product.

The management of health and safety (H&S) is strong. as the safety records show it appears to be outperforming the industry.

Eco Material's ESG strategy and disclosure remain at their infancy despite the green nature of the business. The company does not yet publish sustainability reporting nor disclose key environmental and social data and targets.

Our engagement with the company demonstrated that the management shows a strong interest in developing its ESG strategy and accelerating its overall ESG performance. In the short- to mid-term, we expect the management of ESG, including policies, to be primarily driven by Boral Resources' experience. We will be monitoring the evolution of the company's approach to ESG.

Source: Sustainable Fitch, ESG review memorandum "project Symphony - Boral Resources" prepared by Bridge House Advisors on 19 November 2021, 2020 Boral's sustainability report, Eco Material Technologies preliminary offering memorandum

The Transaction – Highlights

- The bond proceeds will primarily be used to finance the acquisition of Boral’s fly ash business in the US.
- Both fly ash and Pozzosl原因 are SCMs used as partial substitutes of Portland cement. The fly ash substitution rate is typically limited to 20%, but Pozzosl原因 can replace up to 100% of Portland cement, depending on the application of the final mix.
- Almost all of the cement industry’s emissions are generated during the production of clinker, which is produced at extremely high temperatures using fossil fuel combustion. The process also requires the conversion of limestone into calcium oxide, both of which release a large amount of CO₂ emissions.
- SCMs such as fly ash are by-products of coal power plants and may require only limited energy for processing. Pozzosl原因’s carbon footprint is minimal, as it is less than 0.001tCO₂ a tonne of manufactured product. These products are therefore considered as low carbon substitutes to Portland cement, with the proportion substituted being directly proportionate to CO₂ emissions savings.
- Boral’s fly ash is predominantly reclaimed from utilities who would otherwise store the by-product in landfills. The repurposing of fly ash to support the decarbonisation of the cement industry can therefore be assessed through the lens of the eco-efficient technologies and processes and through the circular economy category of ICMA green projects.

Source: Sustainable Fitch, Green Cement presentation, ESG review memorandum “project Symphony - Boral Resources” prepared by Bridge House Advisors on 19 November 2021, 2020 Boral’s sustainability report, Eco Material Technologies preliminary offering memorandum

Framework Analysis

Use of Proceeds – Eligible Projects

ESG Rating: 2

Company Material	Fitch's View
Acquisition of Boral Resources	
<ul style="list-style-type: none"> The proceeds will be primarily used to finance the acquisition of Boral Resources, the largest marketer and distributor of fly ash in the US. Fly ash is the main raw material of Eco Material's signature product, Pozzoslak, which currently represents about 1% of the company's combined revenue. Pozzoslak can replace up to 100% of Portland cement, and the company reports it has advanced properties compared to other SCMs. SCMs are low carbon substitutes of Portland cement. 	<ul style="list-style-type: none"> The cement industry generates approximately 8% of global greenhouse gas (GHG) emissions; primarily during the production of clinker, the main ingredient of Portland cement. SCMs, including fly ash and Pozzoslak, offer the industry the opportunity to reduce its carbon footprint if used as a substitute to Portland cement. The applications where Pozzoslak replaces 100% of Portland cement could be considered to have minimal CO₂ emissions as its manufacturing process generates less than 0.001tCO₂ per tonne of manufactured product (which is lower than the EU taxonomy threshold of 0.469tCO₂ per tonne per of manufactured product). The acquisition of Boral's fly ash business could allow Eco Material to secure the necessary raw material for large-scale production of Pozzoslak. It is Sustainable Fitch's view that the transaction could contribute to the reduction of the carbon footprint of the cement industry. The fly ash business generates additional environmental benefits and contributes to the circular economy as it repurposes a by-product of coal power plants that would otherwise be treated as waste. Furthermore, the company plans to harvest fly ash, thus clearing legacy landfills. Therefore, in our view the green bond is aligned with the "eco-efficient and /or circular economy adapted products, production technologies and processes" category of the Green Bond Principles defined by the International Capital Markets Association (ICMA).
Source: Eco Material Technologies preliminary offering memorandum, company engagement	Source: Sustainable Fitch

Use of Proceeds – Other Information

ESG Rating: 2

Company Material	Fitch's View
<ul style="list-style-type: none"> Unless a special mandatory redemption occurs, the net proceeds of the notes will be solely dedicated to the acquisition of Boral Resources and its business combination with Green Cement, which builds on the ESG strategy of the company and seeks to position the combined business as a sustainable, green materials industry leader participating in the circular economy. 	<ul style="list-style-type: none"> Eco Material will use the proceeds to finance the acquisition of Boral Resources; which is expected to close in 2022, therefore financing a wholly new project within the minimum lookback period.
Source: Eco Material Technologies preliminary offering memorandum, company engagement	Source: Sustainable Fitch

Evaluation and Selection

ESG Rating: 2

Company Material	Fitch's View
<ul style="list-style-type: none"> The management and board of directors of the company have assessed the acquisition for congruence with a number of financial, operational, sustainability, governance and accounting criteria. The company has determined that the acquisition will permit Eco Material to utilise a higher proportion of previously unmarketable fly ash and accelerate the shift towards sustainable green sources of SCMs, such as natural pozzolans and landfilled fly ash. 	<ul style="list-style-type: none"> Following engagement with the company, we understand that the decision process involved the investment committees of One Equity Partners and Warburg Pincus, and the board of directors of Green Cement. All had representatives with experience in finance, operations, sustainability, governance and accounting. In addition, an ESG advisory firm, Bridge House Advisors, was commissioned prior to the acquisition to assess the ESG performance of Boral Resources.
Source: Eco Material Technologies preliminary offering memorandum, company engagement	Source: Sustainable Fitch

Management of Proceeds

ESG Rating: 2

Company Material	Fitch's View
<ul style="list-style-type: none"> The offering may be consummated prior to the consummation of the acquisition. If the offering does close prior to the closing date of the acquisition, the gross proceeds from the offering 	<ul style="list-style-type: none"> The escrow account, where the unallocated proceeds will be held, can provide assurance to investors that the proceeds will not be used for any purpose other than the acquisition.

Framework Analysis

Management of Proceeds

ESG Rating: 2

Company Material	Fitch's View
<p>of the notes will be deposited into the escrow account in the name of the company for the benefit of the holders of the notes. The escrow release will be subject to the satisfaction of certain conditions, including the substantially concurrent consummation of the acquisition.</p> <ul style="list-style-type: none"> The allocation of net proceeds from the notes to consummate the acquisition will be subject to verification as part of the company's audited consolidated financial statements for 31 December 2022, which is expected to include disclosure regarding the sources and uses of the acquisition, including with funds made available from the offering of the notes. 	<p>In addition, the company will provide a verification in its financial statements that will be audited by an independent third-party auditor.</p>
Source: Eco Material Technologies preliminary offering memorandum, company engagement	Source: Sustainable Fitch

Report and Transparency

ESG Rating: 3

Company Material	Fitch's View
<p>using its products, water withdrawal in respect of its production and workplace safety statistics.</p>	
Source: Eco Material Technologies preliminary offering memorandum, company engagement	Source: Sustainable Fitch

Report and Transparency

ESG Rating: 3

Company Material	Fitch's View
<ul style="list-style-type: none"> The company intends to use the net proceeds from this offering to finance the acquisition and pay the transaction costs. The company intends to prepare and make readily available information on the environmental and social impact and benefits from its activities and operations. The company intends to prepare an annual sustainability report which will be made available on the company's website and/or integrated within other reports to investors. Such reporting will provide qualitative and quantitative descriptions of the outcomes and impacts of the company's SCM production. Metrics that the Company intends to report include, but are not limited to, volumes of fly ash reclaimed from landfills, the proportion of sales generated by sustainable SCM products, information regarding GHG savings and/or CO₂ avoidance as a result of 	<ul style="list-style-type: none"> Only the acquisition and the costs of the transaction will be funded with the proceeds. For this reason, the company does not intend to publish allocation reports in the future. However, the company intends to publish impact reporting as part of its annual sustainability report that will include quantitative metrics. To further enhance its reporting, the company could commit to disclose the share of proceeds allocated towards acquisition versus transaction costs.

Framework Analysis

Relevant UN Sustainable Development Goals – Instrument

- 11.6: By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.
- 12.4: By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.
- 12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.



Source: Sustainable Fitch, United Nations

Entity Analysis

Broader Perspective on Sector

Sector Trajectory	Fitch's View
Short term	<ul style="list-style-type: none"> • Cement is among the most consumed resources in the world. Cement production reached 4.3Gt in 2020, largely driven by the construction industry as cement is the main constituent of concrete. • The cement industry is responsible for 8% of global CO₂ emissions. The sector is not on track to meet the 2050 net-zero emissions ambition, according to the International Energy Agency, as its direct CO₂ emissions increased by 1.8% between 2015 and 2020, while a 3% reduction a year is required to reach net-zero emissions. • The production of cement has three main steps: raw material preparation, clinker production, and final grinding of clinker with other components. • Clinker is the main ingredient of cement. Almost all of the cement industry's CO₂ emissions are generated during clinker production, as it is produced at temperatures as high as 1,500°C, which consumes a large amount of fossil fuels. In addition, limestone is converted into calcium oxide during the clinker production process, which releases CO₂. 30% to 40% of the direct CO₂ emissions in this process come from the combustion of fuels to produce thermal energy for clinker production and the remaining 60% to 70% comes from the chemical processing of limestone, according to the EU Technical Expert Group (TEG). • The key ways to minimise the carbon footprint of the cement industry are: <ul style="list-style-type: none"> – to replace fossil fuels with alternative fuels, such as biomass and waste materials; – to use energy efficiency improvements in the clinker production process; – to deploy technologies such as carbon capture utilisation and storage; and – to reduce the clinker-to-cement ratio or use alternatives to Portland cement.

Broader Perspective on Sector

Sector Trajectory	Fitch's View
Long term	<ul style="list-style-type: none"> • The Global Cement and Concrete Association (GCCA) has acknowledged the industry's need to reduce its carbon emissions. The GCCA published a roadmap document in October 2021 that outlines the plan for the industry to reach net-zero emissions by 2050. 9% of CO₂ emissions can be avoided by increasing the use of Portland cement alternatives, based on this roadmap. • The roadmap estimates that during the first period, 2020 to 2030, clinker alternatives will be mainly based on industrial by-products such as fly ash and ground granulated blast-furnace slag. Alternatives to Portland cement will also play an important role, but their contribution will be limited due to a lack of raw materials for the required scale. • During the second phase, 2030 to 2050, the availability of fly ash and ground granulated blast-furnace slag is expected to decline, while ground limestone and calcined clay will increase in availability, leading to them increasingly serving as feedstock in the production of clinker alternatives. Alternatives to Portland cement will continue to play an important role but at a level capped at about 5% of the market according to the GCCA.

Source: Sustainable Fitch

Entity Analysis

Broader Perspective on Company

Company Direction	Fitch's View
Short term	<ul style="list-style-type: none"> The company's signature product, Pozzosl原因, and other SCMs it markets are used as Portland cement substitutes. The company's Pozzosl原因 manufacturing process does not involve excessive heat processing or the conversion of limestone into calcium oxide, as the product is not made from clinker. This means it avoids all the CO₂ emissions that would be generated during clinker production, leading to significant carbon emissions reductions within the sector. The only CO₂ emissions associated with the company's manufacturing process come from electricity consumption to operate the mills and account for less than 0.001tCO₂ a tonne of manufactured product. These emissions are minimal in comparison to cement production from clinker, leading to a significant carbon emissions avoidance equal to the amount of Portland cement replaced. The other SCMs, such as fly ash, are used as cement substitutes and the amount used is directly proportionate to CO₂ savings.
Long term	<ul style="list-style-type: none"> The company appears to be well positioned in the mid-term future. Its acquisition of a fly ash business will allow it to secure the necessary raw material for the production of Pozzosl原因 and offer it the opportunity for large scale production. In addition, fly ash will continue to be used directly as a Portland cement substitute. In the mid- to long-term, the company plans to secure its fly ash supply by harvesting legacy landfills from retired coal power plants. Fly ash is a by-product of coal power plants that, if it is not reused, is treated as waste and stored in landfills. In the long-term, the company plans to increase its use of natural pozzolans, which are widely available in nature, as fly ash is slowly decreasing in availability due to coal power plant shutdowns. However, the mining of natural pozzolans can hinder the environmental gains from their use as cement supplements, as the activity is associated with environmental risks such as erosion, contamination of soil and water supplies, and loss of biodiversity. We currently view this activity with caution. At present, 8% of the company's signature product line is made of natural pozzolans.

Source: Sustainable Fitch

Entity Analysis

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
Manufactured products			
<ul style="list-style-type: none"> The manufactured products segment includes the products that previously manufactured and marketed by Green Cement. These products are known under the signature name Pozzoslak. <p>Represents 1% of overall revenue.</p>	<ul style="list-style-type: none"> The cement industry is responsible for 8% of the total CO₂ emissions generated globally. The amount of Portland cement used is directly proportional to the CO₂ emissions generated during clinker manufacturing, according to the International Energy Agency. Each tonne of Portland cement manufactured generates a tonne of CO₂ emissions. Internationally recognised organisations, such as the EU, have stressed the need to significantly reduce the carbon footprint of the industry. The EU has set strict technical screening criteria (TSC) that the manufacturing process must meet in order to be considered a sustainable economic activity. The TSC requires the specific GHG emissions from the clinker and cement, or alternative binder, production to be lower than 0.469tCO₂e a tonne of cement or 	<ul style="list-style-type: none"> From a social perspective, the business activity does not generate any additional social benefits. 	2

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
	<ul style="list-style-type: none"> alternative binder manufactured. The GHG emissions intensity of Pozzoslak manufacturing was less than 0.001tCO₂ a tonne of manufactured product, meeting the TSC by a large margin. The amount of Portland cement substituted by the product is therefore directly proportional to the CO₂ savings. As the product can replace up to 100% of Portland cement, depending on the application of the final mix, it could be considered as a nearly CO₂ emissions free cement in these instances. In addition, the company's internal tests concluded that the product, after 28 days, is approximately 20% stronger than Portland cement, and can therefore prevent, or delay, intermediate amounts of capex to prolong the lifecycle of the material and result in a lower need for cement replacement. 		

Entity Analysis

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
Supplementary cementitious materials (SCM)			
<ul style="list-style-type: none"> The SCM segment includes the other products offered by the company. These are fresh fly ash, which accounts for the majority of this business activity's revenue (91.5%), harvested fly ash (0.8%) and other products, including synthetic gypsum (7.7%). SCMs also include natural pozzolans, which have not yet generated any revenue. <p>Represents 77% of overall revenue.</p>	<ul style="list-style-type: none"> The production of fly ash, either fresh or harvested, is not addressed by the EU taxonomy. However, as an SCM, fly ash reduces the carbon footprint of the cement industry as the share of cement supplemented by fly ash is directly proportional to CO₂ emissions savings. The collection, removal and usage of fly ash are activities that contribute to the circular economy. Fresh fly ash is a by-product of coal-fired power plant operation. If it is not reused, it is treated as waste and placed in landfills. Legacy landfills, where fresh fly ash was previously stored, offer additional sources of fly ash. The company collects, processes, markets and distributes about 7 million tonnes of fly ash a year that would be treated as waste, which contributes to the circular economy and the avoidance of 7 	<ul style="list-style-type: none"> The Bridge House Advisors, an ESG advisory firm, found that, according to the fly ash safety data sheets provided by Boral Resources, fly ash is an irritant and a health hazard, as it may cause cancer or respiratory irritation. The company reprocesses about 7 million tonnes of fly ash a year, thus avoiding its storage in landfills that could pose health hazards to local communities. In addition, we expect that the subsequent health hazards among its employees will be largely mitigated as the company demonstrates robust H&S management and its safety records outperform the industry. The company has implemented 	2

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
	<ul style="list-style-type: none"> million tonnes of CO₂ emissions due to the product's supplementary cementitious properties. Following our engagement with the management, it is our understanding that the company intends to enhance its environmental additionality by expanding the sourcing of fly ash from legacy landfills, thereby reusing a by-product that would otherwise remain buried. In addition, the management says that the company has technology in place that could use fly ash that is unmarketable today (about 50% of current fly ash produced in the US) and subsequently prevent it being stored in landfills. The mining of natural pozzolans is an environmentally intense activity that can result in erosion, contamination of soil and water supplies, and 	<ul style="list-style-type: none"> several measures in response to community concerns about the Kirkland mining project. These measures include community engagement through newsletters and face to face meetings, meetings with local authorities and donations to local organisations. About 50% of the mine's employees are from the local area. 	

Entity Analysis

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
	<p>loss of biodiversity. The mining of natural pozzolans can therefore reduce the environmental gains from their use as cement supplements, and so we view this activity with caution.</p> <ul style="list-style-type: none"> Synthetic gypsum is another by-product of coal-fired power plant operation. It can be used interchangeably with natural gypsum in products such as cement, drywall and plaster, and it is considered as fully and eternally recyclable. The processing and marketing of synthetic gypsum contributes to the circular economy as the by-product is not stored in landfills. 		
Site services and transportation			
<ul style="list-style-type: none"> This business activity includes services that provide day-to-day operating support to utilities and other standalone projects, including services of coal combustion products disposal. It also includes transportation of the company's products from terminals to customers. 	<ul style="list-style-type: none"> We view the site services and transportation as an extension of, and complementary to, the aforementioned business activities. In our view, these activities enable CO₂ emissions reduction in the cement and concrete industry as 	<ul style="list-style-type: none"> From a social perspective, the business activity does not generate any additional social benefits. 	3

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
Represents 22% of overall revenue.	they are part of the SCM's supply chain.		
Source: Green Cement presentation, ESG review memorandum "project Symphony - Boral Resources" prepared by Bridge House Advisors on 19 November 2021, Eco Material Technologies preliminary offering memorandum	Source: Sustainable Fitch, based on Green Cement presentation, ESG review memorandum "project Symphony - Boral Resources" prepared by Bridge House Advisors on 19 November 2021, Eco Material Technologies preliminary offering memorandum		

Entity Analysis

Environmental View

Profile	Fitch's View	ESG Rating
Policies	<ul style="list-style-type: none"> The company's environmental management and procedures are inherited from Boral Resources. It is unclear to what extent they apply to the remaining business inherited from Green Cement; however, it accounts for only 1% of the combined entity in terms of revenue. In addition, we did not identify any cause of concern that would make us believe that the business side inherited from Green Cement has inadequate environmental performance. The company's environmental management is led by two environmental professionals who are responsible for regulatory compliance. Environmental audits are performed to ensure compliance typically every three to five years depending on the risk level. In addition, an environmental policy is in place that includes commitments to eliminate negative environmental effects and to cause no environmental harm, among other topics. Proactive measures to enhance environmental performance beyond regulatory requirements are not identified, but the company does say that it implements measures to reduce its energy consumption. Water appears to be of low materiality as it is mainly used for sanitary purposes, and its management is efficient to the extent required according to Bridge House Advisors. We have identified the Kirkland mining site as the company's most material operation site in terms of land use and biodiversity. It appears that this project is compliant with regulatory requirements; however, it is being challenged by local environmental groups. The company has procedures to manage hazardous waste, including policies, responsibility assignments, employee training, waste type assessments and record keeping. The Bridge House Advisors reported that the company's management of air pollution is reactive. The company reports that it seeks to implement best practice and technology, but the notices of violation of air permits it has received suggest that its management of air pollution is ineffective. Eco Material's ESG profile would benefit from it aiming to reduce its environmental impact, for example by adopting new technologies and optimising its processes. 	3
Disclosure	<ul style="list-style-type: none"> The company's current disclosure of environmental data is limited, and the data is provided on a segregated basis. 	5

Environmental View

Profile	Fitch's View	ESG Rating
	<ul style="list-style-type: none"> The Bridge House Advisors have estimated that Boral Resources' Scope 1 emissions for the fiscal year to end-June 2021 (FY21) were 32,411 tonnes of CO₂, based on the fuel consumption from its fleet. The fuel consumption decreased in 2021 from 2020, so it is expected that the Scope 1 emissions from fuel consumption have also decreased. However, this could be due to operation disruptions associated with the Covid-19 pandemic. Green Cement reported that its 2020 electricity consumption was about 1,448MWh. The GHG emissions from its manufacturing process were 591.7tCO₂, equivalent to less than 0.001tCO₂ per tonne of product. 	
Evolution	<ul style="list-style-type: none"> We were unable to assess the company's environmental performance as historical data is not available due to the recent founding of the company. Market best practice would be for the company to start tracking key environmental performance indicators (such as Scopes 1, 2 and 3 emissions, water usage, waste production, energy consumption and the share of renewable energy consumption), as proposed by internationally recognised standards such as those of the Global Reporting Initiative. Further, the company could consider setting a pathway marked with short- and long-term targets validated by the Science-Based Targets initiative to track its performance and ensure that it meaningfully contributes to the decarbonisation of both the cement industry and the overall economy. 	5
Targets and supply chain	<ul style="list-style-type: none"> Following engagement with the company, we understand that the management is in the process of formulating the executive remuneration policy; it does not anticipate including short- or long-term ESG targets linked to variable remuneration. The supply chain management system is inherited from Boral Resources. The sustainable procurement policy is in line with ISO 20400, the international standard for sustainable procurement. Its suppliers must comply with the supplier code of conduct, which covers H&S, environmental standards and human rights. In addition, the suppliers' performance is evaluated based on a questionnaire that covers these topics. We expect that the company will continue to manage ESG risks in its supply chain and work closely with its suppliers to improve their 	4

Entity Analysis

Environmental View

Profile	Fitch's View	ESG Rating
	performance. The company could further improve the process by setting targets in the supply chain and adopting market best-practice measures.	
Risks and incident treatment	<ul style="list-style-type: none"> No critical incidents have been identified. 	1

Source: Sustainable Fitch, based on Green Cement presentation, ESG review memorandum "project Symphony - Boral Resources" prepared by Bridge House Advisors on 19 November 2021, 2020 Boral's sustainability report, Eco Material Technologies preliminary offering memorandum

Entity Analysis

Social View

Profile	Fitch's View	ESG Rating
Human rights	<ul style="list-style-type: none"> The human rights policy, inherited from Boral Resources, is expected to set the threshold for the company's human rights approach. This policy is based on international conventions such as the International Bill of Human Rights, the International Labour Organization's Declaration on Fundamental Principles and Rights at Work, the Convention on the Rights of the Child and the UN Declaration on the Rights of Indigenous People. The company's ESG profile would benefit from it continuing the human rights training of its employees that was previously carried out by Boral Resources. The training could be offered to all employees on a regular basis, and could include its suppliers. Other human rights practices could also be considered, as described by internationally acknowledged conventions. 	1
Labour rights	<ul style="list-style-type: none"> The company inherited a H&S management system from Boral Resources and a strong historical safety record from both entities. The H&S management system is composed of policies, procedures and employee training that is provided at least annually in addition to other regular safety awareness measures. The H&S programme is led by a safety director who is also a member of the senior leadership team. Although no fatalities were reported in the past four years, Bridge House Advisors reports that Boral Resources reported a settlement for an employee fatality in April 2021. It is unclear when the fatality occurred. Other safety data is provided on a segregated basis, and shows they are outperforming the industry. Green Cement has gone more than five years without a single reportable accident while Boral Resources recorded a 0.91 total recordable incident rate in 2020, while the industry average stood at 3.8. The turnover rate was available only for Green Cement. The management reported that six out of 30 employees, left the company between 1 January 2020 and 25 November 2021; which represents an average turnover of 20% a year. We were unable to segregate Boral Resources' turnover from Boral North America; however, the latter experienced a high turnover of 40%. The company will have to confront this issue and implement retention measures to secure a skilful workforce and avoid potential subsequent disturbances to its operations. 	2

Social View

Profile	Fitch's View	ESG Rating
	<ul style="list-style-type: none"> It appears that Boral Resources collaborates with employee trade unions; however, only 4% of its employees are covered by collective bargaining agreements. The company should continue to respect the rights of freedom of association and collective bargaining agreements, as well as to ensure that all of its employees are aware of their rights. 	
Diversity	<ul style="list-style-type: none"> Gender diversity is lacking in the company's executive management team as all the directors are men. In addition, the gender composition of the company's workforce remains unclear, and no other diversities are reported. The company could disclose detailed workforce characteristics, such as gender diversity and gender pay gap, to meet market best practice. 	5
Community and customers	<ul style="list-style-type: none"> The company is facing opposition from a local environmental group in regards to the Kirkland mine. The local group is concerned that mine operations will impact the air quality of the region through dust pollution, putting the health of local residents and wildlife in danger. Simultaneously, the large quantities of water that the company proposes to be used to remediate the dust pollution could put local farming at risk, as well as the availability of water in general. It remains unclear how the company plans to respond to this situation. The company has implemented several measures in response to these concerns to reassure the local community. These measures include community engagement through newsletters and face to face meetings, meetings with local authorities and donations to local organisations. About 50% of the mine's employees are from the local area, and it appears to be compliant with regulatory requirements. Further disclosure, that could improve the company's ESG performance, could include any community programmes conducted by the entity, as well as their impact and capex. 	4
Targets and supply chain	<ul style="list-style-type: none"> Our assessment of this section is the same as for the environmental "Targets and supply chain" section. 	5

Entity Analysis

Social View

Profile	Fitch's View	ESG Rating
Risks and incident treatment	<ul style="list-style-type: none"> We identified one critical incident. A Boral Resources employee was involved in a traffic accident that killed one person. The employee drove a tractor-trailer into oncoming traffic during a dust storm, resulting in the death of an individual. 	2

Source: Sustainable Fitch, based on Green Cement presentation, ESG review memorandum "project Symphony - Boral Resources" prepared by Bridge House Advisors on 19 November 2021, 2020 Boral's sustainability report, human rights policy July 2020, Project Symphony - HR and benefit preliminary findings by Mercer on 8 November 2021, Green Cement's internal H&S policies, Eco Material Technologies preliminary offering memorandum

Entity Analysis

Governance View

Profile	Fitch's View	ESG Rating
Financials and reporting	<ul style="list-style-type: none"> Green Cement's financial statements for 2018 and 2019 are unaudited. Green Cement has audited its 2020 financial statements; however, the reports were not available at the time of this analysis. Green Cement's financial statements were prepared in accordance with US GAAP. The Boral Group's financial statements were independently audited by KPMG, who made no major remarks in the last three financial years. Boral Resources' financial statements for FY21 were audited by KPMG too but at a lower materiality threshold. Boral Resources' reports were prepared in accordance with the IFRS of the International Accounting Standards Board. In the future, the company intends to report according to GAAP at the Eco Material level. 	2
Top management and control	<ul style="list-style-type: none"> The board of directors currently lacks independence, as it is formed from Green Cement representatives and the transaction sponsors' representatives. The chair of the board also serves as the CEO, so the effective supervision of the executive management team cannot be ensured. The management said, during our engagement with the company, that it plans to establish a board of directors formed from nine representatives from Green Cement and the transaction sponsors' representatives, as well as industry experts. The board of directors lacks gender diversity but some age diversity is observed. We did not identify any board level committees, including an audit committee; however, the management said that it plans to establish these committees in the future. 	5
Remuneration	<ul style="list-style-type: none"> Following engagement with the company, we understand that the management is in the process of formulating the executive remuneration policy. 	3

Governance View

Profile	Fitch's View	ESG Rating
	<ul style="list-style-type: none"> We calculated the CEO to average pay ratio based on preliminary figures, though this does not include variable pay. Based on these figures, the ratio was less than 10. Market best practice would be for the company to disclose the CEO to median employee pay ratio, with the variable remuneration included. 	
Risk management	<ul style="list-style-type: none"> We expect that the company will build upon the risk management framework it inherited from Boral Resources and that it will continue to implement at least the same compliance procedures, including the grievance reporting channel, and policies including the code of conduct. The inherited policies also include the competition law policy, which outlines the company's commitment to comply with antitrust laws, and the antitrust policy and rules booklet, which are supported by the antitrust compliance guide. Employees receive training on this topic and are periodically assessed on their awareness. Antitrust is an important issue for the company as Boral Resources previously underwent an antitrust investigation in August 2019 for alleged anticompetitive business practices. 	1
Tax management	<ul style="list-style-type: none"> A tax policy does not appear to be in place. Green Cement's holding company, Inea International Ltd. entity, is based in the British Virgin Islands; which are classified as among the most complicit in assisting multinational enterprises to underpay corporate tax by the Corporate Tax Haven Index. 	2

Source: Sustainable Fitch, based on Green Cement presentation, ESG review memorandum "project Symphony - Boral Resources" prepared by Bridge House Advisors on 19 November 2021, 2020 Boral's sustainability report, 2020 tax transparency report for Boral Ltd.

Entity Analysis

Relevant UN Sustainable Development Goals – Entity

- 11.6: By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.



- 12.4: By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.



- 12.5: By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

Source: Sustainable Fitch, United Nations

Appendix A: Key Terms

Term	Definition
Debt types	
Green	Proceeds will be used for green projects and/or environmental-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Green Bond Principles or other principles, guidelines or taxonomies.
Social	Proceeds will be used for social projects and/or social-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Social Bond Principles or other principles, guidelines or taxonomies.
Sustainability	Proceeds will be used for a mix of green and social projects and/or environmental and social-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Sustainability Bond Guidelines or other principles, guidelines, taxonomies.
Sustainability-linked	Financial and/or structural features are linked to the achievement of pre-defined sustainability objectives. Such features may be aligned with ICMA Sustainability Bond Guidelines or other principles, guidelines or taxonomies. The instrument is often referred to as an SLB (sustainability-linked bond) or SLL (sustainability-linked loan).
Conventional	Proceeds are not destined for any green, social or sustainability project or activity, and the financial or structural features are not linked to any sustainability objective.
Other	Any other type of financing instrument or a combination of the above instruments.

Term	Definition
Standards	
Transition	A term applied to green, social, sustainable or sustainability-linked instruments, only when the purpose of the debt instrument is to enable the issuer to achieve a climate change-related strategy according to Fitch criteria or methodology.
ICMA	International Capital Market Association. The "ICMA" credential on page 1 refers to alignment with ICMA's Green Bond Principles: a series of principles and guidelines for green, social, sustainability and sustainability-linked (or KPI-linked) instruments.
EU Green Bond Standard	A set of voluntary standards created by the EU to "enhance the effectiveness, transparency, accountability, comparability and credibility of the green bond market".
Other terms	
ESG debt	Green, social, sustainability and sustainability-linked types of debt.
Short term	Within five years.
Long term	At least six years away.
Entity's business activity overlap with use of proceeds	The share of the entity's total business activities that can use proceeds from the debt instrument in question.
NACE	An industry standard classification system for economic activities in the EU, based on the United Nations' International Standard Industrial Classification of All Economic Activities (ISIC).
Source: Sustainable Fitch, ICMA, UN, EU Technical Expert Group	

Appendix B: Methodology and ESG Rating Definitions

Fitch's ESG Ratings are designed to indicate an entity's Environmental, Social and Governance (ESG) performance and commitment, as well as its integration of ESG considerations into its business, strategy and management, with a focus on actions and outcomes rather than purely on policies and broader commitments.

There are three ratings: the ESG Entity Rating (ESG ER), ESG Instrument Rating (ESG IR) and, for debt instruments linked to ESG key performance indicators (KPIs) and/or use of proceeds, the ESG Framework Rating (ESG FR). ESG Ratings are on a scale from one to five, where one represents full alignment with ESG best practice. Behind each rating sit scores of zero to 100, as well as sub-scores for even greater granularity.

Sustainable Fitch's analysts assess all the business activities of an entity and more than 40 additional headline factors, covering all three ESG pillars. For debt instruments, they assess use of proceeds and more than 20 additional headline factors.

Fitch provides individual datasets with grades and commentary through a feed. The score and sub-score database allows direct comparison of entities and instruments, on a full ESG basis or on selected fields.

ESG ERs consider the issuer's strategy, how it relates to sustainability, and how sustainability is embedded in the issuer's business, including ESG policies, procedures and outcomes. The entity is broken down into constituent business units, with NACE codes, for a granular assessment of E and S factors. Fitch assesses G aspects at the company level.

ESG FRs consider any type of bond, with varying analysis if there is a defined use of proceeds, KPI-linked coupon or conventional bond. The rating aims to identify the strength of the bond framework on a standalone basis, separate to the entity, regardless of any self-assigned descriptions. Fitch analysts categorise bonds as Green, Social or Sustainability (GSS) types independently, based on their view of the main area covered by the use of proceeds, rather than automatically using the entity's categorisation. They will also determine if the bond should be classed as a transition bond and if it aligns with the EU Green Bond Standard and ICMA principles. Analysis considerations include the use of proceeds and sustainability-linked targets that form the primary purpose of the instrument, and the structure and effectiveness of the framework being used to further that purpose.

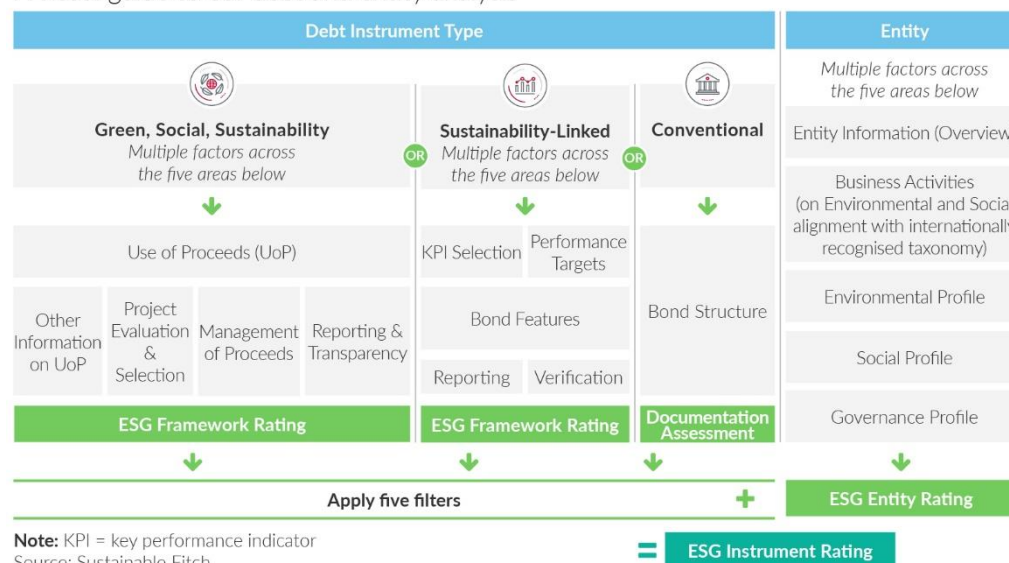
ESG IRs consider different types of debt instruments in the context of the issuing entity, enabling absolute ESG credentials comparisons for similar types of instruments issued by different types of entities, different types of instruments issued by different issuers, as well as different types of instruments issued by a single entity.

Analytical Process

Analysis considers all available relevant information (ESG and financial), including the entity's ESG report. Fitch's ESG Rating Reports transparently display the sources of information analysed for each section and provide a line-by-line commentary on the sub-factors analysed.

Fitch's ESG Rating Process

A visual guide to our debt and entity analysis



An important part of the analysis is the assessment of the E and S aspects of the use of proceeds and business activities. In considering those aspects, the rating framework is inspired by major taxonomies (e.g. the EU taxonomy for E aspects, and the UN Sustainable Development Goals for S aspects). Once the analyst has completed the model, with commentary for the related ESG Ratings, it is submitted to the approval committee, which reviews the model for accuracy and consistency. ESG Ratings are monitored annually or more frequently if new information becomes available.

Use Cases

Sustainable Fitch's ESG Ratings can help inform decisions related to:

- Investment strategy
- Asset allocation and portfolio construction
- Benchmarking and index construction
- Risk management and stress testing
- Identification of transition bonds
- Disclosure and reporting.

Appendix B: Methodology and ESG Rating Definitions

Rating Scale and Definitions

	ESG Entity	ESG Instrument	ESG Framework
1	<p>ESG ER of '1' indicates that the entity analysed evidences an excellent ESG profile.</p> <p>Entity is excellent both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '1' indicates that the debt instrument in the context of the ultimate issuing entity evidences an excellent ESG profile.</p> <p>Entity is excellent both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is excellent in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '1' indicates that the framework for the instrument evidences an excellent ESG profile.</p> <p>Framework structure is excellent in terms of alignment with ambitious best practises and proceeds are dedicated to excellent environmental and/or social activities/projects according to taxonomies of reference.</p>
2	<p>ESG ER of '2' indicates that the entity analysed evidences a good ESG profile.</p> <p>Entity is good both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '2' indicates that the debt instrument in the context of the ultimate issuing entity evidences a good ESG profile.</p> <p>Entity is good both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is good in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '2' indicates that the framework for the instrument evidences a good ESG profile.</p> <p>Framework structure is good in terms of alignment with ambitious best practises and proceeds are dedicated to good environmental and/or social activities/projects according to taxonomies of reference.</p>
3	<p>ESG ER of '3' indicates that the entity analysed evidences an average ESG profile.</p> <p>Entity is average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '3' indicates that the debt instrument in the context of the ultimate issuing entity evidences an average ESG profile.</p> <p>Entity is average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is average in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '3' indicates that the framework for the instrument evidences an average ESG profile.</p> <p>Framework structure is average in terms of alignment with ambitious best practises and proceeds are dedicated to average environmental and/or social activities/projects according to taxonomies of reference.</p>
4	<p>ESG ER of '4' indicates that the entity analysed evidences a sub-average ESG profile.</p> <p>Entity is sub-average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '4' indicates that the debt instrument in the context of the ultimate issuing entity evidences a sub-average ESG profile.</p> <p>Entity is sub-average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is sub-average in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '4' indicates that the framework for the instrument evidences a sub-average ESG profile.</p> <p>Framework structure is sub-average in terms of alignment with ambitious best practises and proceeds are dedicated to sub-average environmental and/or social activities/projects according to taxonomies of reference.</p>
5	<p>ESG ER of '5' indicates that the entity analysed evidences a poor ESG profile.</p> <p>Entity is poor both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '5' indicates that the debt instrument in the context of the ultimate issuing entity evidences a poor ESG profile.</p> <p>Entity is poor both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is poor in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '5' indicates that the framework for the instrument evidences a poor ESG profile.</p> <p>Framework structure is poor in terms of alignment with ambitious best practises and proceeds are dedicated to poor environmental and/or social activities/projects according to taxonomies of reference.</p>

Source: Sustainable Fitch

Appendix C: ICMA Principles and Guidelines

ICMA Labelled: Green Bond

Four Pillars	
1) Use of proceeds (UoP)	Yes
2) Project evaluation & selection	Yes
3) Management of proceeds	Yes
4) Reporting	Yes
Independent External Review Provider	
Second-party opinion	No
Verification	No
Certification	No
Scoring/rating	Yes
Other	Not applicable
1) Use of Proceeds (UoP)	
UoP	
Renewable energy	No
Energy efficiency	No
Pollution prevention and control	No
Environmentally sustainable management of living natural resources and land use	No
Terrestrial and aquatic biodiversity conservation	No
Clean transportation	No
Sustainable water and wastewater management	No
Climate change adaptation	No
Eco-efficient and/or circular economy adapted products, production technologies and processes	Yes
Green buildings	No
Unknown at issuance but currently expected to conform with green bond principles (GBP) categories, or other eligible areas not yet stated in GBPs	No
Other	Acquisition of fly ash business that can enable the production of low carbon cement substitutes at large scale.
2) Project Evaluation & Selection	
Evaluation & Selection	
Credentials on the issuer's environmental sustainability objectives	Yes

ICMA Labelled: Green Bond

Documented process to determine that projects fit within defined categories	No
Defined and transparent criteria for projects eligible for green bond proceeds	No
Documented process to identify and manage potential ESG risks associated with the project	No
Summary criteria for project evaluation and selection publicly available	No
Other	Not applicable
Evaluation & Selection/Responsibility & Accountability	
Evaluation/selection criteria subject to external advice or verification	No
In-house assessment	Yes
Other	Prior to the acquisition, an ESG advisory firm, Bridge House Advisors, was commissioned to assess the ESG performance of Boral Resources.
3) Management of Proceeds	
Tracking of Proceeds	
Green bond proceeds segregated or tracked by the issuer in an appropriate manner	Yes
Disclosure of intended types of temporary investment instruments for unallocated proceeds	Yes
Other	Not applicable
Additional Disclosure	
Allocations to future investments only	Yes
Allocations to both existing and future investments	No
Allocation to individual disbursements	Yes
Allocation to a portfolio of disbursements	No
Disclosure of portfolio balance of unallocated proceeds	Yes
Other	Not applicable
4) Reporting	
UoP Reporting	
Project-by-project	Yes

Appendix C: ICMA Principles and Guidelines

ICMA Labelled: Green Bond

On a project portfolio basis	No
Linkage to individual bond(s)	Yes
Other	Not applicable
UoP Reporting/Information Reported	
Allocated amounts	Yes
Green bond-financed share of total investment	No
Other	Not applicable
UoP Reporting/Frequency	
Annual	No
Semi-annual	No
Other	Upon closing of the acquisition
Impact Reporting	
Project-by-project	Yes
On a project portfolio basis	No
Linkage to individual bond(s)	Yes
Other	Not applicable
Impact Reporting/Information Reported (exp. ex-post)	
GHG emissions/savings	Yes
Energy savings	No
Decrease in water use	Yes
Other ESG indicators	Volumes of fly ash reclaimed from landfills
Impact Reporting/Frequency	
Annual	Yes
Semi-annual	No
Other	Not applicable
Means of Disclosure	
Information published in financial report	Yes
Information published in ad hoc documents	No
Information published in sustainability report	Yes
Reporting reviewed	No
Other	Not applicable

ICMA Labelled: Green Bond

Source: Sustainable Fitch, ICMA

Appendix D: Debt Record

Use of Proceeds – Eligible Projects

Use of Proceeds	NACE Section-Level Code
Acquisition of Boral Resources	C23.51
	E38.12
	E38.22
	H49.41

Source: Sustainable Fitch

An ESG Rating is an assessment of the Environmental, Social and Governance (“E”, “S” and “G”) qualities of financial instruments and/or entities. An ESG Rating is not a credit rating. ESG Ratings are provided by Sustainable Fitch, a separate division of Fitch Ratings. Sustainable Fitch has established certain policies and procedures intended to avoid creating conflicts of interest and compromising the independence or integrity of Fitch Ratings’ credit rating activities, as well as its ESG rating activities. For a description of the methodology, limitations and disclaimers of Sustainable Fitch’s ESG Ratings, please use this link: www.sustainablefitch.com.

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Harbour Energy PLC

ESG Ratings

	ESG Rating ^a	Score	Analysis Type
Entity	3	50	Full entity
Instrument	Not applicable	Not applicable	Not applicable
Framework	Not applicable	Not applicable	Not applicable

^a ESG Rating of 1-5, where 1 is the strongest. Date ESG Rating and score assigned: 8 December 2021.
 Note: For Framework, analysis types can be green, social, sustainability, sustainability-linked, conventional or other.

Credentials



Transition



ICMA



EU Green Bond Standard

Note: N/A – not applicable.
 See Appendix A for definitions of Transition and ICMA; other details.

Key Debt Details

Instrument	Issue Date	Currency	Amount	Coupon	Maturity Date	Type
Bond	N/A	N/A	N/A	N/A	N/A	N/A

Note: N/A – not applicable.

Instrument Relevance

(%)	Instrument	Debt of the Same Type	Any ESG-Related Debt
Versus gross lease-adjusted debt ^a	N/A	N/A	N/A
Versus capex	N/A	N/A	N/A
Versus CFO	N/A	N/A	N/A

^a Excluding non-recourse debt. CFO = cash flow from operations. Note: N/A – not applicable.

Business Activity Overlap with Use of Proceeds

Note: Share of the entity's total business activities that can use proceeds from the instrument above. Based on Harbour Energy 2021 half year results.

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The Entity – Highlights

Harbour Energy PLC is an independent oil and gas (O&G) company that was formed in March 2021 from an all-share merger between Chrysaor and Premier Oil. The company is involved in exploration, production and development activities across seven countries: UK, Mexico, Norway, Indonesia, Vietnam, the Falkland Islands and Brazil although the company has announced plans to exit operations in the latter two. As of 2021, the company's production solely takes place in the UK, Indonesia and Vietnam.

Harbour Energy's strategy focuses both on its UK production and on its production expansion to at least one other region through acquisitions. As a result, the majority of its capex will be invested in projects related to infill drilling, well intervention and plant modifications.

Harbour Energy has set a target to achieve net zero Scopes 1 and 2 emissions by 2035. The company aims to achieve that through decreasing its own emissions by improving plant efficiency, minimising venting and flaring and connecting renewables where possible. Harbour Energy plans to address its hard-to-abate emissions with carbon offsets.

Harbour Energy is involved in a variety of carbon capture and storage projects. The company was an early investor in the Acorn Carbon Capture and Hydrogen project that is co-funded by other industry peers alongside financing from the UK and Scottish governments and the EU. In the first phase of the project, which was expected to be in operation by 2024, CO₂ would be captured from the St. Fergus gas terminals. Moreover, the Acorn Hydrogen project would be generating hydrogen from natural gas. However, in October 2021 the project was classed as a reserve Track-1 cluster in an announcement by the Department of Business, Energy & Industrial Strategy. A reserve cluster is one that meets the eligibility and evaluation criteria and can be chosen in case the government ends engagement with a pre-selected Track-1 cluster.

Harbour Energy is also the sole owner and developer of the VNZ CO₂ Transport and Storage project which is expected to transport and store up to 11 million tonnes of CO₂ a year by 2030. The project will use diverse depleted gas reservoirs in the Viking area with an estimated capacity of 330 million tonnes of CO₂ storage. The company is also a co-investor in the V Net Zero Humber Cluster, a carbon capture and storage project, alongside three other organisations. Sustainable Fitch considers these projects critical given the potential relevance of these technologies, when developed at scale, to assist the sector to decarbonise and mitigate its adverse environmental impact.

Harbour Energy will be reporting on ESG, complying with the Task Force for Climate-Related Financial Disclosures, the Global Reporting Initiative and the CDP. The company could improve its ESG profile by registering its net zero emission target with the Science Based Targets initiative.

The Entity – Highlights (Cont.)

Fitch has used a variety of materials to complete this analysis, including pre-merger information from Premier Oil and Chrysaor where information for Harbour Energy was not readily available.

Source: Sustainable Fitch, Harbour Energy materials

Entity Analysis

Broader Perspective on Sector

Sector Trajectory	Fitch's View
Short term	<ul style="list-style-type: none"> As the energy transition gains momentum via a mix of growing investors' demand for low-carbon solutions and increasing governments' regulation around climate change action, O&G companies face mounting pressure to rethink their business strategy. In order to navigate the energy transition wave in the short-term, O&G companies need to adopt and integrate a sustainability strategy in their wider business strategy. An increasing number of investors expect clear and transparent targets on emissions reductions from the O&G sector and hence committing to these will be necessary for O&G companies to remain attractive. O&G companies are expected to invest in digitisation of their operations in order to assist them in meeting their emission performance targets and operating more efficiently; for example, using drones and robots to inspect issues at the facilities could reduce the time it takes to identify a problem and hence speed-up the resolution process. Data analytics and algorithms can also support companies in extending infrastructure life-cycle by optimising operating expenses. Investments related to digital strategy and technologies require significant upfront expenditure that might not yield return in the short-run, putting them at risk of being discarded to pursue higher cash flow generating investments. Hence companies need a concrete plan and should act sooner rather than later to avoid losing momentum from greener peers.
Long term	<ul style="list-style-type: none"> The outlook for the O&G sector will likely be affected by increased attention on low carbon solutions. As a result, companies should prioritise investments in renewable energy and new technologies such as carbon capture and storage. As renewable technologies become cost-competitive and are implemented at a large scale, the O&G industry needs to seek new ways to adapt to the changing energy dynamics and match the emission targets of the firms in the renewable sector. Key companies in the sector have already set up the long-term emissions targets in response to climate change and environmental concerns.

Source: Sustainable Fitch

Broader Perspective on Company

Company Direction	Fitch's View
Short term	<ul style="list-style-type: none"> Harbour Energy has already started investments in low carbon technologies. One of them is the VNZ CO₂ Transport and Storage project which received a licence award in October 2021. This project is expected to store up to 11 million tonnes of CO₂ per year by 2030 and has an estimated storage capacity of 330 million tonnes of CO₂. The captured CO₂ transiting through the VNZ Transport and Storage infrastructure will come from the V Net Zero Humber Cluster which is a carbon capture and storage project that involves another three parties. The V Net Zero Humber Cluster will start as soon as 2027, if successful in meeting the phase-two eligibility criteria. In addition, the company is an early investor in the Acorn Carbon Capture and Hydrogen project. This project is an industry partnership with further contribution from the UK government and the EU. The Acorn project has a reserve Track-1 status from the UK government. These investments are positive from an ESG perspective and are important for the company's transition. However, these technologies are not yet cost-effective and require significant government backing, exposing Harbour Energy to regulation approval risk and project sanctioning.
Long term	<ul style="list-style-type: none"> Harbour Energy has set a net zero target in its Scopes 1 and 2 emissions by 2035. The company aims to achieve this through investments in carbon offsets, operational efficiency and electrification of platforms in combination with renewable connections. Fitch considers this target important for the long-term survival of the company as the world is transitioning to low carbon. However, the company's net-zero target relies on new technologies that do not yet have a proven ability to be developed economically at scale. The company has already started investing in low carbon solutions, as mentioned above; an area of development would be to transition to green hydrogen, as its projects so far relate to brown hydrogen development.

Source: Sustainable Fitch

Entity Analysis

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
Exploration and Production			
<ul style="list-style-type: none"> The company is involved in the O&G production, development and exploration. <p>Represents 100% of overall revenue.</p>	<ul style="list-style-type: none"> Fitch considers exploration and drilling of O&G to have an adverse environmental impact. The activity is carbon intensive and contributes to prolonging the use and consumption of fossil fuels which generate considerable carbon emissions. It is acknowledged that flaring can generate significant amounts of CO₂. Meanwhile, assets located in the UK have recently been found to be the most polluting among its peers operating in the North Sea, with as much as 21kg of CO₂ a barrel against 8kg in Norway. Chrysaor disclosed a barrel intensity equivalent of 19.1Kg CO₂/ barrel, which sits slightly above the world average of around 17Kg Co₂/barrel according to Rystad Energy. In addition, the wider availability and competitiveness of renewable energies alongside pressing needs to limit CO₂ emissions increase the risk of stranded assets within the O&G sector. However, Harbour Energy is making efforts to minimise emissions to the extent possible given its line of business, and it contributes to the energy transition through the funding of initiatives such as the VNZ CO₂ Transportation 	<ul style="list-style-type: none"> Fitch considers O&G exploration and drilling to be neutral from a social perspective. 	4

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
	<ul style="list-style-type: none"> and Storage project that has obtained regulatory approval in October 2021 and a lead participation in the V Net Zero Humber Cluster. The VNZ CO₂ project will be using existing Harbour Energy North Sea infrastructure, hence minimising the environmental impact of the development stage. The VNZ Humber Cluster will decarbonise more than 50% of the industrial emissions of the Humber, starting as early as 2027 if successful in phase two of approval. Harbour Energy is also involved in carbon capture and storage projects in Scotland, with the Acorn project selected as a Track-1 reserve project by the UK government. These investments are positive from an ESG perspective and this is partially reflected in this analysis. 		
Source: Harbour Energy 2021 half year results	Source: Sustainable Fitch, based on Harbour Energy 2021 half year results		

Entity Analysis

Environmental View

Profile	Fitch's View	ESG Rating
Policies	<ul style="list-style-type: none"> Both Chrysaor and Premier Oil have an environmental management system (EMS) in place (ISO 14001) which covers various areas of interest such as water, waste and pollution. We expect this to help Harbour Energy to integrate all the issues that might arise regarding environmental management and we will be monitoring how the EMS is being implemented in practice by the company. Disclosing policies and actions regarding the use of water and land as well as waste and pollution would be best practice. 	3
Disclosure	<ul style="list-style-type: none"> Scopes 1,2 and 3 emissions data are available for Premier Oil between 2016 and 2020. Following engagement, Harbour Energy has disclosed data on Scopes 1 and 2 emissions for Chrysaor between 2018 and 2020. Harbour Energy has confirmed that Scope 3 emissions of the company will be assessed in 2022. Other historic environmental data available for Premier Oil include effluents and waste, air pollutants, water usage and waste management. Moreover, there is 2020 data available on waste, chemical discharges and atmospheric emissions for Chrysaor. Although there is no readily available data available for either company on biodiversity, Harbour Energy has confirmed that its risk management processes and procedures target biodiversity protection. Biodiversity protection and conservation is being covered as all of Harbour Energy's assets have environmental and social impact assessments. Further disclosure around biodiversity policy inclusion within the company's day-to-day operations and investment decision process would provide transparency and accountability. 	2
Evolution	<ul style="list-style-type: none"> Scopes 1 and 3 emissions for Premier Oil have been decreasing between 2018 and 2020. Scope 2 emissions, which are linked to electricity consumption from company's offices, registered a significant decrease in 2020 as a result of the Covid-19 pandemic. Harbour Energy has confirmed that combined Scopes 1 and 2 emissions for Chrysaor have more than doubled between 2018 and 2020 due to the acquisition of UKCS ConocoPhillips assets. However, pro forma emissions for Chrysaor have remained stable in the same period. In addition, gross Scopes 1 and 2 emissions across the two companies that make up Harbour Energy have been reduced by 210,000 tonnes of CO₂e between 2018-2020. 	3

Environmental View

Profile	Fitch's View	ESG Rating
	<ul style="list-style-type: none"> Premier Oil reported improving trends in air pollutants, discharged produced water, hazardous and non-hazardous waste for the same period. There is no visibility on the relevant historic data for Chrysaor. Improving metrics are viewed positively as they demonstrate the company's commitment to sustainability and energy transition. Harbour Energy should draw from Premier Oil best practice in terms of disclosure, to provide a consolidated picture at end-2021. 	
Targets and supply chain	<ul style="list-style-type: none"> Harbour Energy commits to achieving net zero Scopes 1 and 2 emissions by 2035. In 2020 the board of directors of Premier Oil made greenhouse gas (GHG) intensity a remuneration-linked target for the executive directors. The target for GHG intensity, which makes 12.5% of the bonus component of the remuneration, was achieved in 2020. Harbour Energy also links executive remuneration to environmental targets such as carbon emissions. Looking into the supply chain, environmental factors form part of the screening criteria of suppliers. In addition, Premier Oil used to audit suppliers' compliance with their code of ethics. We would expect such practice to be replicated for the newly created entity. No breaches were reported in 2020. Premier Oil has used a sustainability consultancy firm to provide assurance for some of the sustainability metrics in its sustainability report. The assurance covers metrics on effluents and waste, emissions, water and occupational health and safety. This is viewed positively and is reflected in our assessment. The assurance on occupational health and safety metric is also viewed positively and this is reflected in our social profile analysis. Fitch considers this to be best practice and so Harbour Energy's confirmation that its ESG report will be independently assured, benefits the company's ESG profile. 	2

Entity Analysis

Environmental View

Profile	Fitch's View	ESG Rating
Risks and incident treatment	<ul style="list-style-type: none"> In 2020 there was a significant number of non-permitted releases of oil and chemicals into the sea by both Chrysaor and Premier Oil. Chrysaor mentions 21 unplanned releases into the sea across its operated assets; four of those related to oil spills which resulted in 22kg of oil being released to the sea. Premier oil reports seven unplanned releases totalling 50kg of hydrocarbons. In addition, Premier Oil recorded a permitted discharge of 333kg of oil in 2020. Oil spills have an adverse environmental impact which Fitch considers in the assessment. However, the company's release is within a modest range for the industry it operates in. 	3

Source: Sustainable Fitch, based on environmental report 2020 Chrysaor, environmental report 2020 Premier Oil, Premier Oil sustainability report 2020, Premier Oil sustainability report 2020 data sheet, Chrysaor annual report 2020

Entity Analysis

Social View

Profile	Fitch's View	ESG Rating
Human rights	<ul style="list-style-type: none"> A statement on prevention of modern slavery and human trafficking across the Harbour Energy operations and supply chain is available on the Harbour Energy website. Premier Oil is a signatory to the UN Global Compact and Harbour Energy confirmed its intention to extend this practice by becoming a signatory to UN Global Compact in the close future. 	1
Labour rights	<ul style="list-style-type: none"> Harbour Energy material provides information on the company's approach to a non-discriminatory working environment. In addition, Harbour Energy ensures the health and safety of its workforce by applying a self-assessment process for each of its facilities in order to identify and manage serious accident hazards. There were zero fatal accidents among employees and contractors of Premier Oil and Chrysaor between 2016 and 2020. Recording no incidents in an industry such as O&G is a robust performance, positioning the company ahead of the curve when compared against peers. Premier Oil conducts employee engagement surveys to discover areas of strength and improvement. Employee turnover at Premier Oil was at 5.6% for 2020 and the figure has remained relatively stable in the last three years. This data is not readily available for Chrysaor and hence there is no indication for the turnover ratio of the combined entity. 	2
Diversity	<ul style="list-style-type: none"> Female employees made up 26% and 22% of the total workforce in Premier Oil and Chrysaor in 2020 respectively. This figure has remained fairly stable between 2018 and 2020. Premier Oil reporting provides additional data on diversity with the most striking being the gender balance at the senior management level, where female employees make up only 13%. Improving gender diversity across the business and at senior management level would help Harbour Energy to strengthen its ESG profile. In addition, the median gender pay gap for Premier Oil and Chrysaor for 2020 was at 41.6% and 32.1% respectively. Fitch understands that this figure is a result of skewed distribution as a result of men occupying predominantly senior management positions. Harbour energy provided confidential information demonstrating that gender pay gap variation for equal positions was within minimal range, 	4

Social View

Profile	Fitch's View	ESG Rating
	mirroring market best-practice. Harbour Energy will be disclosing information on the gender pay gap and we will be monitoring this.	
Community and customers	<ul style="list-style-type: none"> Premier Oil spent USD550,000 in 2020 on community investments and engaged with stakeholders, such as fishing communities, impacted by projects. Harbour Energy commits to positive engagement with external communities. The company sponsors a variety of educational and socio-environmental programmes. It also sponsors and encourages employee volunteering. 	2
Targets and supply chain	<ul style="list-style-type: none"> Following engagement with the company, Fitch understands that Harbour Energy has various social targets in place. However, more visibility on the specific targets and timeframes of achievement would allow for a deeper assessment. Premier Oil had set a social target on lost time injury rate per million man-hours worked, aiming for a target of 0.21. This target was also part of the bonus component of the remuneration of the Premier Oil executives for 2020. The actual number achieved was 0.65 due to three cases of lost time injury; hence the company target was not met. Health and safety targets have been set by Harbour Energy and form part of the executive remuneration. More visibility on the specific target would strengthen Harbour Energy's ESG profile. Harbour Energy has a supply chain policy in place in which it commits to ensure and monitor the health, safety, environment, security and quality performance throughout its supply chain; and a global code of conduct that suppliers are required to follow as any breach could result in contract termination. A similar approach was in place at Premier Oil where suppliers were screened based on health, safety, environment and security criteria and on labour and human rights. Premier Oil undertook audits across its supply chain to evaluate compliance and no significant breaches were identified in 2020. Fitch considers targets given to suppliers alongside with screening, audits and disclosure on results to be best practice. Hence, we will continue monitoring whether these practices remain in place at Harbour Energy too. 	2

Entity Analysis

Social View

Profile	Fitch's View	ESG Rating
Risks and incident treatment	<ul style="list-style-type: none"> Following analytical research and engagement with the company, Fitch is not aware of any incidents that might have affected external communities in the last three years. 	1

Source: Sustainable Fitch, based on Premier Oil sustainability report 2020, Premier Oil sustainability report 2020 data sheet Chrysaor pay gap report 2020, Premier Oil pay gap report 2020, Harbour Energy material

Entity Analysis

Governance View

Profile	Fitch's View	ESG Rating
Financials and reporting	<ul style="list-style-type: none"> An independent auditor's statement is included in the annual reports of both Chrysaor and Premier Oil. There is no evidence of any audit remarks or fines for either of the two companies in the last three years. 	1
Top management and control	<ul style="list-style-type: none"> There are 11 directors (including the CEO) in Harbour Energy's board of directors; six of those are independent. Gender diversity at the board level stands at 36% with one of the four women being the CEO. There is also a clear split between the chairman and the CEO. The majority of the board is between 60 and 64 years old. Three nationalities are represented at the board level; UK (five members), US (four members) and Norway (four members). The board has established four committees to assist it with the governance of the company. These committees are the audit and risk committee; the health, safety, environment and security committee; the nomination committee; and the remuneration committee. The former is responsible for monitoring and reviewing the company's risk management and the internal audit and systems of control. The latter approves the remuneration of the chairman and of the executive and senior directors. Fitch considers disclosure of information on the results of the internal audit monitored by the audit and risk committee as best practice. We will be monitoring visibility on this in Harbour Energy's reporting. 	2
Remuneration	<ul style="list-style-type: none"> The remuneration of the company's executive and senior directors is determined by the remuneration committee. In the case of Premier Oil, remuneration of executives for 2020 was linked to the achievement of specific ESG and operational goals. We expect a similar approach by Harbour Energy. The CEO pay ratio was 6.94 and 7.5 for Chrysaor and Premier Oil respectively in 2020. This ratio is considerably low when compared to that of other companies in the energy industry, which is viewed positively. 	1

Governance View

Profile	Fitch's View	ESG Rating
Risk management	<ul style="list-style-type: none"> Fitch finds risk management procedures at Harbour Energy comprehensive. Harbour Energy's global code of conduct addresses the company's approach to risk management factors such as compliance with the law, corruption and competition. The board of directors and the audit and risk committee are responsible for managing and monitoring compliance with the code. The company commits to review effectiveness of the code at least annually and examine any requirements for amendment. Looking into Premier Oil reporting, there were zero incidents of non-compliance with the global code of conduct in 2020. In addition, the company was not subject to any fines or legal action related to business ethics in 2020. Lastly, from a security perspective there were zero major incidents affecting Premier Oil's assets or cyber infrastructure in 2020. 	1
Tax management	<ul style="list-style-type: none"> Harbour Energy has a tax policy in place which applies across the company and its subsidiaries. The company commits not to engage in artificial tax avoidance and to implement procedures in place to prevent tax evasion. There is also no indication of use of tax havens from Premier Oil or Chrysaor in the recent past. 	1

Source: Sustainable Fitch, based on Premier Oil annual report, Chrysaor annual report, Premier Oil sustainability report, Harbour Energy material

Entity Analysis

Relevant UN Sustainable Development Goals – Entity

- 9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.



Source: Sustainable Fitch, United Nations

Appendix A: Key Terms

Term	Definition
Debt types	
Green	Proceeds will be used for green projects and/or environmental-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Green Bond Principles or other principles, guidelines or taxonomies.
Social	Proceeds will be used for social projects and/or social-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Social Bond Principles or other principles, guidelines or taxonomies.
Sustainability	Proceeds will be used for a mix of green and social projects and/or environmental and social-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Sustainability Bond Guidelines or other principles, guidelines, taxonomies.
Sustainability-linked	Financial and/or structural features are linked to the achievement of pre-defined sustainability objectives. Such features may be aligned with ICMA Sustainability Bond Guidelines or other principles, guidelines or taxonomies. The instrument is often referred to as an SLB (sustainability-linked bond) or SLL (sustainability-linked loan).
Conventional	Proceeds are not destined for any green, social or sustainability project or activity, and the financial or structural features are not linked to any sustainability objective.
Other	Any other type of financing instrument or a combination of the above instruments.

Term	Definition
Standards	
Transition	A term applied to green, social, sustainable or sustainability-linked instruments, only when the purpose of the debt instrument is to enable the issuer to achieve a climate change-related strategy according to Fitch criteria or methodology.
ICMA	International Capital Market Association. The "ICMA" credential on page 1 refers to alignment with ICMA's Green Bond Principles: a series of principles and guidelines for green, social, sustainability and sustainability-linked (or KPI-linked) instruments.
EU Green Bond Standard	A set of voluntary standards created by the EU to "enhance the effectiveness, transparency, accountability, comparability and credibility of the green bond market".
Other terms	
ESG debt	Green, social, sustainability and sustainability-linked types of debt.
Short term	Within five years.
Long term	At least six years away.
Entity's business activity overlap with use of proceeds	The share of the entity's total business activities that can use proceeds from the debt instrument in question.
NACE	An industry standard classification system for economic activities in the EU, based on the United Nations' International Standard Industrial Classification of All Economic Activities (ISIC).
Source: Sustainable Fitch, ICMA, UN, EU Technical Expert Group	

Appendix B: Methodology and ESG Rating Definitions

Fitch's ESG Ratings are designed to indicate an entity's Environmental, Social and Governance (ESG) performance and commitment, as well as its integration of ESG considerations into its business, strategy and management, with a focus on actions and outcomes rather than purely on policies and broader commitments.

There are three ratings: the ESG Entity Rating (ESG ER), ESG Instrument Rating (ESG IR) and, for debt instruments linked to ESG key performance indicators (KPIs) and/or use of proceeds, the ESG Framework Rating (ESG FR). ESG Ratings are on a scale from one to five, where one represents full alignment with ESG best practice. Behind each rating sit scores of zero to 100, as well as sub-scores for even greater granularity.

Sustainable Fitch's analysts assess all the business activities of an entity and more than 40 additional headline factors, covering all three ESG pillars. For debt instruments, they assess use of proceeds and more than 20 additional headline factors.

Fitch provides individual datasets with grades and commentary through a feed. The score and sub-score database allows direct comparison of entities and instruments, on a full ESG basis or on selected fields.

ESG ERs consider the issuer's strategy, how it relates to sustainability, and how sustainability is embedded in the issuer's business, including ESG policies, procedures and outcomes. The entity is broken down into constituent business units, with NACE codes, for a granular assessment of E and S factors. Fitch assesses G aspects at the company level.

ESG FRs consider any type of bond, with varying analysis if there is a defined use of proceeds, KPI-linked coupon or conventional bond. The rating aims to identify the strength of the bond framework on a standalone basis, separate to the entity, regardless of any self-assigned descriptions. Fitch analysts categorise bonds as Green, Social or Sustainability (GSS) types independently, based on their view of the main area covered by the use of proceeds, rather than automatically using the entity's categorisation. They will also determine if the bond should be classed as a transition bond and if it aligns with the EU Green Bond Standard and ICMA principles. Analysis considerations include the use of proceeds and sustainability-linked targets that form the primary purpose of the instrument, and the structure and effectiveness of the framework being used to further that purpose.

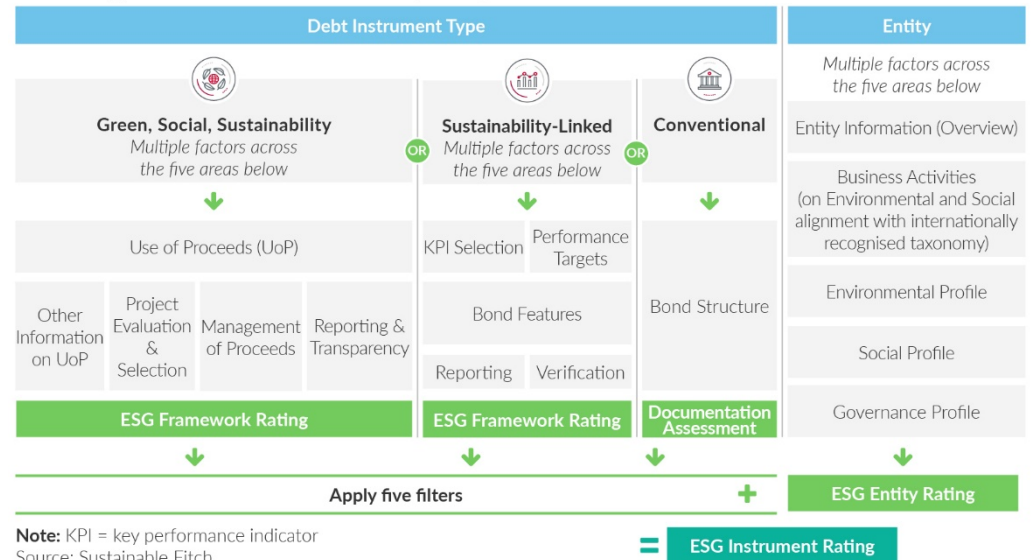
ESG IRs consider different types of debt instruments in the context of the issuing entity, enabling absolute ESG credentials comparisons for similar types of instruments issued by different types of entities, different types of instruments issued by different issuers, as well as different types of instruments issued by a single entity.

Analytical Process

Analysis considers all available relevant information (ESG and financial), including the entity's ESG report. Fitch's ESG Rating Reports transparently display the sources of information analysed for each section and provide a line-by-line commentary on the sub-factors analysed.

Fitch's ESG Rating Process

A visual guide to our debt and entity analysis



An important part of the analysis is the assessment of the E and S aspects of the use of proceeds and business activities. In considering those aspects, the rating framework is inspired by major taxonomies (e.g. the EU taxonomy for E aspects, and the UN Sustainable Development Goals for S aspects). Once the analyst has completed the model, with commentary for the related ESG Ratings, it is submitted to the approval committee, which reviews the model for accuracy and consistency. ESG Ratings are monitored annually or more frequently if new information becomes available.

Use Cases

Sustainable Fitch's ESG Ratings can help inform decisions related to:

- Investment strategy
- Asset allocation and portfolio construction
- Benchmarking and index construction
- Risk management and stress testing
- Identification of transition bonds
- Disclosure and reporting.

Appendix B: Methodology and ESG Rating Definitions

Rating Scale and Definitions

	ESG Entity	ESG Instrument	ESG Framework
1	<p>ESG ER of '1' indicates that the entity analysed evidences an excellent ESG profile.</p> <p>Entity is excellent both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '1' indicates that the debt instrument in the context of the ultimate issuing entity evidences an excellent ESG profile.</p> <p>Entity is excellent both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is excellent in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '1' indicates that the framework for the instrument evidences an excellent ESG profile.</p> <p>Framework structure is excellent in terms of alignment with ambitious best practises and proceeds are dedicated to excellent environmental and/or social activities/projects according to taxonomies of reference.</p>
2	<p>ESG ER of '2' indicates that the entity analysed evidences a good ESG profile.</p> <p>Entity is good both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '2' indicates that the debt instrument in the context of the ultimate issuing entity evidences a good ESG profile.</p> <p>Entity is good both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is good in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '2' indicates that the framework for the instrument evidences a good ESG profile.</p> <p>Framework structure is good in terms of alignment with ambitious best practises and proceeds are dedicated to good environmental and/or social activities/projects according to taxonomies of reference.</p>
3	<p>ESG ER of '3' indicates that the entity analysed evidences an average ESG profile.</p> <p>Entity is average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '3' indicates that the debt instrument in the context of the ultimate issuing entity evidences an average ESG profile.</p> <p>Entity is average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is average in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '3' indicates that the framework for the instrument evidences an average ESG profile.</p> <p>Framework structure is average in terms of alignment with ambitious best practises and proceeds are dedicated to average environmental and/or social activities/projects according to taxonomies of reference.</p>
4	<p>ESG ER of '4' indicates that the entity analysed evidences a sub-average ESG profile.</p> <p>Entity is sub-average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '4' indicates that the debt instrument in the context of the ultimate issuing entity evidences a sub-average ESG profile.</p> <p>Entity is sub-average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is sub-average in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '4' indicates that the framework for the instrument evidences a sub-average ESG profile.</p> <p>Framework structure is sub-average in terms of alignment with ambitious best practises and proceeds are dedicated to sub-average environmental and/or social activities/projects according to taxonomies of reference.</p>
5	<p>ESG ER of '5' indicates that the entity analysed evidences a poor ESG profile.</p> <p>Entity is poor both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '5' indicates that the debt instrument in the context of the ultimate issuing entity evidences a poor ESG profile.</p> <p>Entity is poor both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is poor in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '5' indicates that the framework for the instrument evidences a poor ESG profile.</p> <p>Framework structure is poor in terms of alignment with ambitious best practises and proceeds are dedicated to poor environmental and/or social activities/projects according to taxonomies of reference.</p>

Source: Sustainable Fitch

An ESG Rating is an assessment of the Environmental, Social and Governance (“E”, “S” and “G”) qualities of financial instruments and/or entities. An ESG Rating is not a credit rating. ESG Ratings are provided by Sustainable Fitch, a separate division of Fitch Ratings. Sustainable Fitch has established certain policies and procedures intended to avoid creating conflicts of interest and compromising the independence or integrity of Fitch Ratings’ credit rating activities, as well as its ESG rating activities. For a description of the methodology, limitations and disclaimers of Sustainable Fitch’s ESG Ratings, please use this link: www.sustainablefitch.com.

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Orsted A/S

ESG Ratings

	ESG Rating ^a	Score	Analysis Type
Entity	2	77	Full entity
Instrument	1	89	Integrated debt
Framework	1	94	Green

^aESG Rating of 1-5, where '1' is the strongest. ESG Rating and score assigned on 12 May 2021.
 Note: For Framework, analysis types can be green, social, sustainability, sustainability-linked, conventional or other.

Credentials



Transition



ICMA



EU Green Bond Standard

See *Appendix A* for definitions of Transition and ICMA.

Key Debt Details

Instrument	Issue Date	Currency	Amount	Coupon	Maturity Date	Type ^a
Bond	11 Feb 2021	EUR	500m	1.50%	Perpetual	Green

^aAs defined by issuer. Note: Issued by Orsted A/S. ISIN: XS2293075680

Instrument Relevance

(%)	Instrument	Debt of the Same Type	Any ESG-Related Debt
Versus gross lease-adjusted debt ^a	7.5	66.9	66.9
Versus capex	18.3	163.5	163.5
Versus CFO	36.9	330.3	330.3

^aExcluding non-recourse debt. CFO = cash flow from operations

Business Activity Overlap with Use of Proceeds

61%

Note: Share of the entity's total business activities that can use proceeds from the instrument above. Based on revenue.

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The Entity – Highlights

Orsted A/S is a renewable energy company with a market-leading position globally in offshore wind power. It also has a small exposure to onshore wind power and solar farms, and operates a markets and bioenergy business. The company's core vision is to expand use the of renewable energy worldwide.

The company has effective ESG risk management policies, with clear evidence of ESG matrices that demonstrate the possible impact on the business and stakeholders of various risks.

Orsted's sustainability reporting is wide-reaching and reflects the importance that company attaches to this element of transparency. It also demonstrates material progress in meeting their key objectives and goals. The company is now partially aligned with such standards as GRI and SASB.

It makes a clear contribution to the UN Sustainable Development Goals (SDGs), specifically 7, 9 and 13, through its clean energy generation.

Orsted has leveraged green finance to contribute to a significant development of offshore wind power in the past four years. It has also continued to build and develop significant onshore wind and solar capacity.

Sustainability information is set out effectively, with charts used to illustrate the difference in Orsted's Scope 1, Scope 2 and Scope 3 emissions.

Source: Sustainable Fitch, Fitch Ratings, Orsted's Sustainability Report 2020, ESG Performance Report 2020

The Transaction – Highlights

- The bond's purpose is to finance offshore wind projects, funded in whole or in part, by Orsted (including any subsidiary belonging to the Orsted group).
- Its objective is to promote the transition to low carbon and climate resilient growth and a sustainable economy.
- Proceeds will be used for investment activities related to the development, construction and installation of offshore wind farms. Investments can be related to wind turbines, blades, foundations, cables, transmission assets and any other element of an offshore wind project.
- This bond is a hybrid capital (subordinated) structure bond. The coupon is fixed for the first 10 years and then adjusted every five years.

Source: Sustainable Fitch, Orsted Green Finance Framework 2019

Framework Analysis

Use of Proceeds – Eligible Projects

ESG Rating: 1

Company Material	Fitch's View
Offshore Wind Farms	
<ul style="list-style-type: none"> Eligible projects include a selected pool of offshore wind projects, funded in whole or in part, by Orsted (including any subsidiary of the Orsted group) with the objective to promote the transition to low carbon and climate resilient growth and a sustainable economy. Specifically, investments can be related to wind turbines, blades, foundations, cables, transmission assets and any other element of an offshore wind project. 	<ul style="list-style-type: none"> Continuing to generate clean energy at scale is an integral contribution to sustainable development. When building wind farms, Orsted consults with regulators, NGOs and other stakeholders to understand potential negative effects of the project. It carries out environmental impact assessments to identify areas of concern. Orsted has committed to mitigating any negative impacts of offshore wind farms. This is something Fitch will closely monitor.
Source: Orsted Green Finance Framework 2019, Orsted Green Bond Impact Report 2020	Source: Sustainable Fitch

Use of Proceeds – Other Information

ESG Rating: 2

Company Material	Fitch's View
<ul style="list-style-type: none"> New financing includes projects finalised or taken into operation up to 12 months prior to approval for green financing by the Orsted sustainability committee. Existing eligible projects may be subject to refinancing with a targeted look-back period of around two years. Orsted will endeavor to prioritize new projects in relation to the allocation of proceeds from new green financing instruments. Orsted says it will allocate 75%-85% of investments to new offshore wind farms. 	<ul style="list-style-type: none"> The allocation of up to 85% of the proceeds for new offshore wind farms is a sign that the green bonds are effective in achieving additionality. Orsted's green bond framework has been updated since its launch in 2017. The scores and comments reflect the Orsted green finance framework published in 2019. One notable change was that the lookback period was increased from one to two years. In practice, although most of the bond's funds were allocated to projects that had already passed a final investment decision, the funds helped finance the projects that had not been completed. Although there was no clear wording on what could not be invested in, Orsted says that all proceeds would be allocated to projects that "are evaluated to deliver long-term positive net environmental effects".

Use of Proceeds – Other Information

ESG Rating: 2

Company Material	Fitch's View
	<ul style="list-style-type: none"> Orsted has broader science-based strategic targets, with the proceeds of this transaction being allocated to assets making a clear and quantifiable contribution to meeting these.
Source: Orsted Green Finance Framework 2019	Source: Sustainable Fitch

Evaluation and Selection

ESG Rating: 1

Company Material	Fitch's View
<ul style="list-style-type: none"> Eligible projects to be financed with proceeds from Orsted's green bonds will be evaluated, selected and prioritised by the sustainability department in cooperation with the treasury department. Prioritised projects will, on an annual basis, be presented to Orsted sustainability committee for final approval of allocation of green bond proceeds. The treasury and sustainability team are both involved as part of this committee. It comprises representatives across sustainability, QHSE (quality, health, safety and environment), people and finance, and is chaired by the chief financial officer. Proceeds from the green financing instruments will be used exclusively to projects that meet the criteria specified in the framework and that are evaluated to deliver long-term positive net environmental effects. Orsted's sustainability commitment is the basis of all we do. 	<ul style="list-style-type: none"> Orsted's reported selection criteria is simple but effective, in our view. It means there is little to no room for financing projects that are not aligned with the stated use of proceeds. Fitch takes a positive view of the significant involvement from Orsted's sustainability team within the project evaluation process as it means there is a diverse set of people with input into the merits of individual projects.
Source: Orsted Green Finance Framework 2019, Orsted Green Bond Impact Report 2020	Source: Sustainable Fitch

Framework Analysis

Management of Proceeds

ESG Rating: 1

Company Material	Fitch's View
<ul style="list-style-type: none"> The net proceeds from any green finance instruments will be managed by the Treasury department in Orsted. For green bonds, an amount equal to the net proceeds will be credited to a separate account (green account) that will support and document Orsted's green financing of eligible projects. For Green Bonds, an amount equal to the net proceeds will be credited to a green account that will support and document Orsted's green financing of eligible projects. As long as Orsted has any green bonds outstanding and the green account has a positive balance, funds will, on an annual basis, be allocated from the green account to Orsted's green project portfolio in respect of financing or refinancing of eligible projects as approved by Orsted's sustainability committee. Until all net proceeds from green bonds have been allocated to eligible projects, the balance of the green account will be included in Orsted's liquidity reserve and managed in accordance with our cash management policies and investment mandates. 	<ul style="list-style-type: none"> Proceeds are held in a separate account, so there is little chance of funds being used on projects that are not aligned with Orsted's green finance framework. No information was found on the extent to which this cash management policy integrates sustainability. Orsted has a process for removing projects from the green portfolio if they are no longer eligible. Orsted's external auditor provides limited assurance on the allocation and tracking of proceeds on an annual basis. This is available in the company's Green Bond Impact Report 2020.
Source: Orsted Green Finance Framework 2019, Orsted Green Bond Impact Report 2020	Source: Sustainable Fitch

Report and Transparency

ESG Rating: 1

Company Material	Fitch's View
<ul style="list-style-type: none"> A list of the eligible projects financed, including allocated amounts and their main environmental effects. Descriptions of the projects including location and case studies. <p>Information about the allocation of proceeds between new projects and refinancing and any unallocated balance standing to the credit of the green account.</p> <ul style="list-style-type: none"> Balance of the green account. Impact reporting will include: <ul style="list-style-type: none"> Total capacity of renewable energy production (MW); Annual renewable energy generation (MWh) and Annual greenhouse gas emissions avoided (tonnes CO₂e). 	<ul style="list-style-type: none"> Impact reporting is available for every project and allocated proceeds are distinguishable at the bond level. The impact report clearly shows greenhouse gas (GHG) emissions avoided per instrument. The impact reporting is specific and measurable, covering the key metrics for tracking impact in the green energy space.
Source: Orsted Green Finance Framework 2019, Orsted Green Bond Impact Report 2020	Source: Sustainable Fitch

Report and Transparency

ESG Rating: 1

Company Material	Fitch's View
<ul style="list-style-type: none"> Orsted will publish an annual letter to investors on the allocation of proceeds and the targeted impact of the eligible projects financed with Orsted's green bonds. Allocation reporting will include: <ul style="list-style-type: none"> Orsted limits the proceeds from the green bond to 50% of a project's capital expenditure so that it does not exceed its ownership share in the event equity of farms are sold to external investors. 	<ul style="list-style-type: none"> This is verified by external auditors annually. Orsted is fully committed to regular impact reporting on its green bonds.

Framework Analysis

Relevant UN Sustainable Development Goals – Instrument

- 7.1: By 2030, ensure universal access to affordable, reliable and modern energy services.
 - 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix.
-
- 13.2: Integrate climate change measures into national policies, strategies and planning.
 - 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.



Source: Sustainable Fitch, United Nations

Framework Analysis

Alignment with EU Green Bond Standards

Framework	
- Strategy and rationale – aligned with EU taxonomy	Yes
- Issuer selection process	No
- Issuer evaluation process verified	No
- Project description	Yes
- Management of proceeds	Yes
- Reporting	Yes
Overall framework alignment	No

Allocation Reporting

- Statement on EU GBS	No
- Project breakdown (sector level)	Yes
- Geographic distribution	Yes
- External verification	Yes
- Frequency	Yes
Overall allocation reporting alignment	No

Impact Reporting

- Project descriptions	Yes
- Environmental objectives	Yes
- Breakdown by type and by financing /refinancing	Yes
- Impact metrics	Yes
- Frequency	Yes
Overall impact reporting alignment	Yes

Source: Sustainable Fitch

Green Projects

Use of Proceeds	Contribution to EU Environmental Objectives						Technical Screening Criteria	Do No Significant Harm	Minimum Safeguard
	EO1	EO2	EO3	EO4	EO5	EO6			
Offshore Wind Farms	Yes	n.a.	n.a.	n.a.	n.a.	n.a.	Yes. Orsted's primary business activity and the sole use of these bonds is for Offshore Wind Farms. Orsted's generation of energy from wind has lifecycle emissions lower than the 100g CO ₂ e/kWh threshold.	Yes. Orsted does not cause significant harm to other environmental objectives with the proceeds of this bond. There have been pre-emptive allegations of noise, water contamination and impacts on the fishing industry, mainly in opposition to wind farms being constructed. However, these allegations have not been substantiated.	Yes, due to alignment with UN Global Compact at entity level. It is not explicitly called out in green finance framework.

Note: n.a. – not applicable

Source: Sustainable Fitch

EU Environmental Objectives: climate change mitigation (EO1); climate change adaptation (EO2); sustainable use and protection of water and marine resources (EO3); transition to a circular economy, waste prevention and recycling (EO4); pollution prevention and control (EO5); protection of healthy ecosystems (EO6)

Entity Analysis

Broader Perspective on Sector

Sector Trajectory	Fitch's View
Short term	<ul style="list-style-type: none"> This sector is facing increasing urgency to decarbonise assets and generate more energy from renewable sources. In the short and medium term, this is likely to result in higher potential for investments in renewable energy companies. Generation of energy from non-renewable sources in any capacity will continue to be penalised by regulators, investors and governments, due to a lack of alignment with global climate ambitions. We therefore expect a strategy with short-, medium- and long-term targets for full decarbonisation and net zero alignment in this sector at a minimum. Non-renewable fuels will be necessary in some instances, but should have a clear justification and include a path to reducing dependence in the medium and long term.
Long term	<ul style="list-style-type: none"> Transitioning to the use of only renewable forms of energy is an integral part of meeting the Paris Agreement goals, in particular to limit the global temperature rise to 2°C above pre-industrialisation levels with a more ambitious target of 1.5°C. This means an increasing use of solar, wind and hydro energy sources to generate cleaner energy. A focus on the indirect negative impacts of this should be maintained, with scrutiny placed on the impact on such areas as biodiversity, water stress and community engagement. Companies should demonstrate increasing expenditure in new/innovative energy generation methods, such as hydrogen and biofuels, as well as increased efficiency through improvements in energy generation, for example, through larger wind turbines.

Source: Sustainable Fitch

Broader Perspective on Company

Company Direction	Fitch's View
Short term	<ul style="list-style-type: none"> Orsted continues to be a leader in sustainability within the energy sector. It has almost totally decarbonised its business activities and has performed a structural pivot from previously operating as an oil and gas company. The company is on track to meet short-term targets in green energy share, reducing GHG intensity, decarbonising the supply chain and deploying of offshore and onshore renewable energy capacity. It is also divesting from non-renewable energy sources, with the exceptions generally due to legal requirements.
Long term	<ul style="list-style-type: none"> Orsted has a comprehensive view of how it wants to progress its sustainability programme. This encompasses strategic thinking on its key sustainability challenges, actions needed and governance structure. The company demonstrated this through continued reporting and monitoring of targets and indicators. The programme covers both environmental and social targets, and demonstrates Orsted's focus on reducing its negative impact on society and increasing its positive impact. The company is making strong steps in a positive direction, particularly on meeting its environmental targets. As scrutiny grows, Orsted should continue to raise the bar with more innovative and efficient forms of sustainable energy generation e.g. more-efficient wind and solar farms, investment in sustainable hydrogen and progress with waste to energy technologies. Orsted is pursuing growth opportunities in renewable hydrogen, having secured funding for three renewable hydrogen projects. This will allow it to diversify its forms of renewable energy generation, as well as increase essential investment into a nascent area of renewable technology. Orsted should continue to offer in-depth and transparent reporting. Ambitious targets will be important to demonstrate its commitment to operate as a better and more sustainable business.

Source: Sustainable Fitch

Entity Analysis

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
Offshore (Wind Farms)			
<ul style="list-style-type: none"> Orsted develops, constructs, owns, and operates offshore wind farms. <p>Represents 61% of overall revenue.</p>	<ul style="list-style-type: none"> Orsted's offshore wind farms have a clear alignment with and contribution to the progression towards a net-zero society. Although exempt from GHG lifecycle assessment for the EU taxonomy, these wind farms have a very low stated GHG lifecycle profile of 7.04 tonnes CO₂e/GWH. Orsted developed and owns 50% of the world's largest offshore wind farm, Hornsea 1 off the eastern coast of northern England, generating enough electricity for a million homes. Orsted has also started investing in renewable hydrogen opportunities. The alignment of these opportunities with the EU taxonomy will be ultimately dependent on meeting conditions on CO₂ emissions, electricity use and carbon intensity. 	<ul style="list-style-type: none"> not applicable 	2

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
Onshore (Wind and Solar Farms)			
<ul style="list-style-type: none"> Orsted develops, operates and owns onshore wind, solar PV, and storage projects. <p>Represents 1% of overall revenue.</p>	<ul style="list-style-type: none"> The onshore wind and solar farms are also aligned with the transition to a net-zero society. Like wind power, solar PV technology is also eligible for EU taxonomy alignment and exempt from GHG lifecycle assessment. 	<ul style="list-style-type: none"> not applicable 	2
Markets & Bioenergy (Bio-mass Fired Plants and Fossil Fuel Power Plants)			
<ul style="list-style-type: none"> Provide balancing services for renewable generation portfolios and sell green certificates to the market. Orsted trades power, green certificates and other commodities. The company provides heating and thermal power through CHP plants. It is still maximising the commercial value of its legacy gas portfolio. It is commercialising its 'Renescence' waste to energy technology. Orsted is continuing with previously reported divestments across power distribution, residential, LNG and B2B Gas and power. 	<ul style="list-style-type: none"> Orsted's biomass capacity has GHG reduction targets aligned with the EU taxonomy for 2020, but it is unclear whether these thresholds have been met. The company self-certified its full biomass share as sustainable as of 2020. The legacy gas portfolio is limiting on sustainability, but maximising remaining commercial value is sensible if there is continued innovation within renewable technologies. The company's 'Renescence' waste to energy technology could represent 	<ul style="list-style-type: none"> In August 2020, Orsted divested from its Danish power distribution, residential customer and City Light businesses. 	3

Entity Analysis

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
Represents 38% of overall revenue.	progress within the circular economy field of sustainability. However, this is only a very small percentage of the markets and bioenergy business activity.		
Source: Orsted Annual Report 2020	Source: Sustainable Fitch, based on Orsted Annual Report 2020		

Entity Analysis

Environmental View

Profile	Fitch's View	ESG Rating
Policies	<ul style="list-style-type: none"> Orsted's policies cover key environmental sustainability areas for the business, such as biodiversity, water-management, resource management, stakeholder management and a code of conduct for business partners. It should maintain specificity and rigour across these, so that all they meet their intended purposes effectively. For example, its biodiversity policy is fairly comprehensive, showing how Orsted can mitigate the potential environmental impacts of its offshore wind farms. The policy also describes how an environmental team, which includes marine biologists, carries out impact assessments in the development phase of all projects. 	2
Disclosure	<ul style="list-style-type: none"> The company increased its use of externally recognised metrics and standards, such as the GHG protocol, Science-Based Targets Initiative, SASB, GRI and SDGs. It demonstrates these clearly in its ESG performance report. Orsted shows where its existing metrics align to SASB/SDG reporting and where there are gaps, which Fitch believes is a useful feature. It reports emissions at Scope 1, Scope 2 and Scope 3 level and show this split across its three recognised business areas. The company's reporting can be selective in terms of what it adheres to across these standards. Meeting the standards fully would help Orsted demonstrate its commitment to, and transparency in, sustainability. 	1
Evolution	<ul style="list-style-type: none"> Orsted has made good progress on its environmentally focused sustainability targets. Targets for coal consumption were the only ones where the company did not make progress in 2019-2020. Its five key 2025 targets within "catalysing the green energy transformation" are within reach, in our view. These are reducing GHG intensity by 98%, increasing green energy share to 99%, installing 15GW of offshore wind capacity and installing 5GW of onshore wind and solar capacity. Orsted's Scope 3 emissions reduction target is the furthest away. By 2020, the company had reduced these emissions by 13% against a target for a 50% reduction by 2025. 	2
Targets and supply chain	<ul style="list-style-type: none"> Orsted has a range of environmental targets, with the most prominent being carbon neutral by 2025 and having a carbon-neutral supply chain by 2040. 	1

Environmental View

Profile	Fitch's View	ESG Rating
	<ul style="list-style-type: none"> These targets are well tracked and prominent within the sustainability report and the Programme Performance Tracker on the company's website. The Carbon Neutral supply-chain target was announced in 2020 and Orsted pledged to reuest that its strategic follow these guidelines; - disclose their own emissions and set science-based carbon reduction targets; - use 100% renewable electricity in the manufacture of wind turbines, foundations, cables, substations and components; and - optimise their current vessel fleet and develop a roadmap to power vessels with renewable energy. This demonstrates that Orsted is making proactive steps in mitigating the negative impacts of its supply chain. 	
Risks and incident treatment	<ul style="list-style-type: none"> Orsted has had one (self-described) 'massive' environmental incident in recent years. The company said in its 2018 report that an oil leak in Fredericia, Denmark in 2017 had been "more significant than initially presumed". The number of incidents over the past three years was low and no other major incidents was reported. 	2

Source: Sustainable Fitch, based on Sustainability Report 2020

Entity Analysis

Social View

Profile	Fitch's View	ESG Rating
Human rights	<ul style="list-style-type: none"> Orsted is a signatory to the UN Global Compact and has committed to implementing the UN Guiding Principles on Business and Human Rights. 	1
Labour rights	<ul style="list-style-type: none"> Orsted had one fatality in 2019 from a work-related incident. Good progress has been made on the reduction of total recordable incident rate (number of recorded incidents / total number of hours worked). It has reduced this to 3.6 in 2020 from 4.9 in 2019, with a target for 2025 of 2.9. Orsted's voluntary and total employee turnover ratios in 2020 were both strong, at 5% and 8.4%, respectively. Both reduced from 2019. Both employee development and satisfaction have programmes and targets. Employee satisfaction has a peer-driven target (top 10% among peers), which is less ambitious than the targets in other areas. Orsted includes all contractors and data from companies wholly or partly owned in its figures. Orsted follows International Labour Organization conventions and expects business partners to do the same. 	2
Diversity	<ul style="list-style-type: none"> Orsted has a global diversity and inclusion policy, and reports on gender diversity at company, middle management, upper management, executive committee and board levels. However, targets and disclosure on diversity is very limited, with the exception of gender. This is a clear area for improvement for Orsted. Reporting could be expanded to include other diversity metrics, such as ethnicity. Gender pay gap metrics are disclosed at a median level for pay and bonuses, and the percentage of women and men receiving bonuses is also reported (20% and 23%, respectively). The median gender bonus gap is the company's worst performing figure at 37%, although this was a 6pp improvement from 2019. Orsted is implementing activities to address this, including a leadership scheme and inclusion of diversity in its HR processes. However, this does not demonstrate the same breadth of reporting as some peers, e.g. breakdown for different quartiles of pay band. 	4
Community and customers	<ul style="list-style-type: none"> Orsted has specific stakeholder engagement and local community engagement policies, as well as number 10 of its broader 	2

Social View

Profile	Fitch's View	ESG Rating
	<p>sustainability strategy being dedicated to local communities. This programme focuses on creating shared value with communities, with an acknowledgement that the company will have a more significant impact as it grows.</p> <ul style="list-style-type: none"> Orsted's fisheries communication and outreach plan for US offshore wind outlines its approach to working with the fishing industry. This comprehensive document sets out its approach, activities and procedures with the objective of minimising any disruption to fishing. In 2020, there was some external reports/benchmarking of renewable energy company issues and lack of engagement on land rights/acquisition. Although Orsted does not explicitly confront these in its report, it responded officially to the external report and finished in the top three companies benchmarked. 	
Targets and supply chain	<ul style="list-style-type: none"> Orsted reports on, and has social targets for, employee learning and development (target of 80 in 2020), employee satisfaction (78) and the percentage of women in leadership positions (target of 22% in 2023). The company's responsible business partner (RPP) programme ensures the ESG risks of working with any partners is identified. Its four-step approach of acceptance, risk assessment, assessment and improvement provides an insight into the process that suppliers have to undergo to work with Orsted. Orsted's social targets all have short-term timelines, which do not communicate Orsted's longer-term ambitions. 	2
Risks and incident treatment	<ul style="list-style-type: none"> No critical external incidents involving the general public were recorded in the previous three years. 	1

Source: Sustainable Fitch, based on Sustainability Report 2020

Entity Analysis

Governance View

Profile	Fitch's View	ESG Rating
Financials and reporting	<ul style="list-style-type: none"> Orsted produces detailed financial information and publishes it. Financial statements are prepared according to IFRS standards and are audited. No major issues have been raised by the auditors. 	1
Top management and control	<ul style="list-style-type: none"> Orsted's direction on sustainability has accountability at the board of directors level, demonstrating the strategic importance to the business. There are three employee-elected board members, who serve two-year terms before requiring re-election. This is a good level of employee representation, in Fitch's view. The board comprises members from a good variety of employment backgrounds, including conventional and renewable energy, finance and engineering. However, there is a slight bias towards members coming from finance. The company's previous chief executive, Henrik Poulsen is on the board of directors. The chief executive and chair positions are split. 	3
Remuneration	<ul style="list-style-type: none"> Safety targets are linked to remuneration of the board, with a 10% weighting within its cash-based bonus scheme. Of this incentive scheme, 60% is linked to individual business and leadership targets, including ESG targets, such as green energy share of energy generation and reductions in GHG emissions. Fitch views positively that these safety and climate targets are linked to discretionary remuneration, showing genuine accountability at board level for ESG matters. The chief executive pay ratio was 21 times the average full-time salary (based on expensed remuneration). This is positive, in Fitch's view, but could be improved. 	2
Risk management	<ul style="list-style-type: none"> Orsted demonstrates a clear risk management/materiality framework in its annual report, demonstrating the least and most material risks to the business and stakeholders. 	1

Governance View

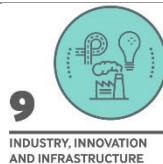
Profile	Fitch's View	ESG Rating
	<ul style="list-style-type: none"> The company reported four substantiated cases of inappropriate or unlawful behaviour in 2020 through its whistleblower scheme. None of these was reported as critical to the business, which shows that the whistleblower scheme implemented is broadly effective, in our view. 	
Tax management	<ul style="list-style-type: none"> Orsted does not use tax havens. Orsted had an effective tax rate of 11% for 2020. 	1

Source: Sustainable Fitch, based on Sustainability Report 2020, Remuneration Report 2020

Entity Analysis

Relevant UN Sustainable Development Goals – Entity

- 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix.
 - 7.3: By 2030, double the global rate of improvement in energy efficiency.
-
- 9.2: Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries.
 - 9.4: By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.
-
- 13.2: Integrate climate change measures into national policies, strategies and planning.
 - 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.



Source: Sustainable Fitch, United Nations

Appendix A: Key Terms

Term	Definition
Debt types	
Green	Proceeds will be used for green projects and/or environmental-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Green Bond Principles or other principles, guidelines or taxonomies.
Social	Proceeds will be used for social projects and/or social-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Social Bond Principles or other principles, guidelines or taxonomies.
Sustainability	Proceeds will be used for a mix of green and social projects and/or environmental and social-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Sustainability Bond Guidelines or other principles, guidelines, taxonomies.
Sustainability-linked	Financial and/or structural features are linked to the achievement of pre-defined sustainability objectives. Such features may be aligned with ICMA Sustainability Bond Guidelines or other principles, guidelines or taxonomies. The instrument is often referred to as an SLB (sustainability-linked bond) or SLL (sustainability-linked loan).
Conventional	Proceeds are not destined for any green, social or sustainability project or activity, and the financial or structural features are not linked to any sustainability objective.
Other	Any other type of financing instrument or a combination of the above instruments.

Term	Definition
Standards	
Transition	A term applied to green, social, sustainable or sustainability-linked instruments, only when the purpose of the debt instrument is to enable the issuer to achieve a climate change-related strategy according to Fitch criteria or methodology.
ICMA	International Capital Market Association. The "ICMA" credential on page 1 refers to alignment with ICMA's Green Bond Principles: a series of principles and guidelines for green, social, sustainability and sustainability-linked (or KPI-linked) instruments.
EU Green Bond Standard	A set of voluntary standards created by the EU to "enhance the effectiveness, transparency, accountability, comparability and credibility of the green bond market".
Other terms	
ESG debt	Green, social, sustainability and sustainability-linked types of debt.
Short term	Within five years.
Long term	At least six years away.
Entity's business activity overlap with use of proceeds	The share of the entity's total business activities that can use proceeds from the debt instrument in question.
NACE	An industry standard classification system for economic activities in the EU, based on the United Nations' International Standard Industrial Classification of All Economic Activities (ISIC).
Source: Sustainable Fitch, ICMA, UN, EU Technical Expert Group	

Appendix B: Methodology and ESG Rating Definitions

Fitch's ESG Ratings are designed to indicate an entity's Environmental, Social and Governance (ESG) performance and commitment, as well as its integration of ESG considerations into its business, strategy and management, with a focus on actions and outcomes rather than purely on policies and broader commitments.

There are three ratings: the ESG Entity Rating (ESG ER), ESG Instrument Rating (ESG IR) and, for debt instruments linked to ESG key performance indicators (KPIs) and/or use of proceeds, the ESG Framework Rating (ESG FR). ESG Ratings are on a scale from one to five, where one represents full alignment with ESG best practice. Behind each rating sit scores of zero to 100, as well as sub-scores for even greater granularity.

Sustainable Fitch's analysts assess all the business activities of an entity and more than 40 additional headline factors, covering all three ESG pillars. For debt instruments, they assess use of proceeds and more than 20 additional headline factors.

Fitch provides individual datasets with grades and commentary through a feed. The score and sub-score database allows direct comparison of entities and instruments, on a full ESG basis or on selected fields.

ESG ERs consider the issuer's strategy, how it relates to sustainability, and how sustainability is embedded in the issuer's business, including ESG policies, procedures and outcomes. The entity is broken down into constituent business units, with NACE codes, for a granular assessment of E and S factors. Fitch assesses G aspects at the company level.

ESG FRs consider any type of bond, with varying analysis if there is a defined use of proceeds, KPI-linked coupon or conventional bond. The rating aims to identify the strength of the bond framework on a standalone basis, separate to the entity, regardless of any self-assigned descriptions. Fitch analysts categorise bonds as Green, Social or Sustainability (GSS) types independently, based on their view of the main area covered by the use of proceeds, rather than automatically using the entity's categorisation. They will also determine if the bond should be classed as a transition bond and if it aligns with the EU Green Bond Standard and ICMA principles. Analysis considerations include the use of proceeds and sustainability-linked targets that form the primary purpose of the instrument, and the structure and effectiveness of the framework being used to further that purpose.

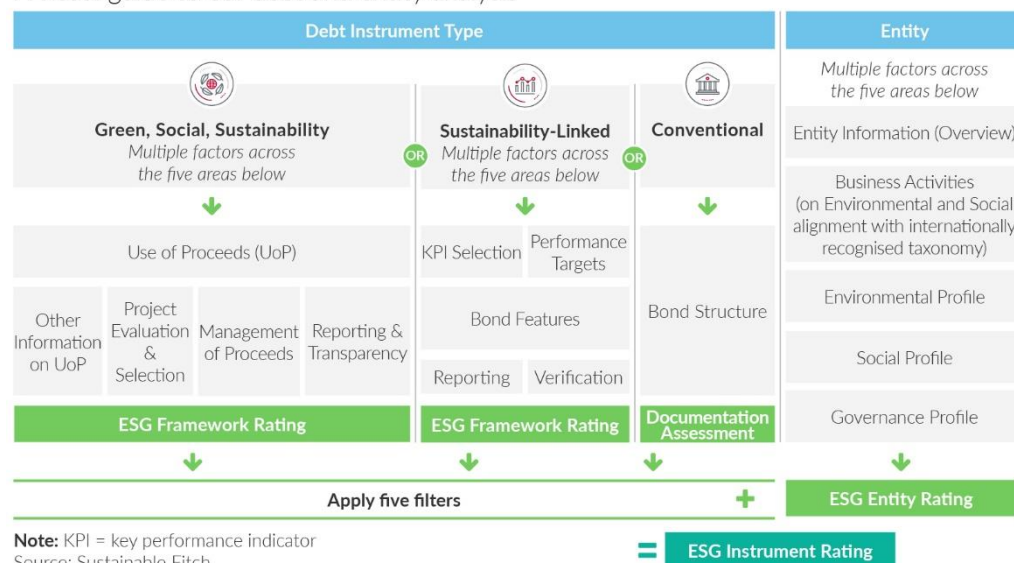
ESG IRs consider different types of debt instruments in the context of the issuing entity, enabling absolute ESG credentials comparisons for similar types of instruments issued by different types of entities, different types of instruments issued by different issuers, as well as different types of instruments issued by a single entity.

Analytical Process

Analysis considers all available relevant information (ESG and financial), including the entity's ESG report. Fitch's ESG Rating Reports transparently display the sources of information analysed for each section and provide a line-by-line commentary on the sub-factors analysed.

Fitch's ESG Rating Process

A visual guide to our debt and entity analysis



An important part of the analysis is the assessment of the E and S aspects of the use of proceeds and business activities. In considering those aspects, the rating framework is inspired by major taxonomies (e.g. the EU taxonomy for E aspects, and the UN Sustainable Development Goals for S aspects). Once the analyst has completed the model, with commentary for the related ESG Ratings, it is submitted to the approval committee, which reviews the model for accuracy and consistency. ESG Ratings are monitored annually or more frequently if new information becomes available.

Use Cases

Sustainable Fitch's ESG Ratings can help inform decisions related to:

- Investment strategy
- Asset allocation and portfolio construction
- Benchmarking and index construction
- Risk management and stress testing
- Identification of transition bonds
- Disclosure and reporting.

Appendix B: Methodology and ESG Rating Definitions

Rating Scale and Definitions

	ESG Entity	ESG Instrument	ESG Framework
1	<p>ESG ER of '1' indicates that the entity analysed evidences an excellent ESG profile.</p> <p>Entity is excellent both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '1' indicates that the debt instrument in the context of the ultimate issuing entity evidences an excellent ESG profile.</p> <p>Entity is excellent both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is excellent in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '1' indicates that the framework for the instrument evidences an excellent ESG profile.</p> <p>Framework structure is excellent in terms of alignment with ambitious best practises and proceeds are dedicated to excellent environmental and/or social activities/projects according to taxonomies of reference.</p>
2	<p>ESG ER of '2' indicates that the entity analysed evidences a good ESG profile.</p> <p>Entity is good both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '2' indicates that the debt instrument in the context of the ultimate issuing entity evidences a good ESG profile.</p> <p>Entity is good both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is good in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '2' indicates that the framework for the instrument evidences a good ESG profile.</p> <p>Framework structure is good in terms of alignment with ambitious best practises and proceeds are dedicated to good environmental and/or social activities/projects according to taxonomies of reference.</p>
3	<p>ESG ER of '3' indicates that the entity analysed evidences an average ESG profile.</p> <p>Entity is average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '3' indicates that the debt instrument in the context of the ultimate issuing entity evidences an average ESG profile.</p> <p>Entity is average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is average in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '3' indicates that the framework for the instrument evidences an average ESG profile.</p> <p>Framework structure is average in terms of alignment with ambitious best practises and proceeds are dedicated to average environmental and/or social activities/projects according to taxonomies of reference.</p>
4	<p>ESG ER of '4' indicates that the entity analysed evidences a sub-average ESG profile.</p> <p>Entity is sub-average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '4' indicates that the debt instrument in the context of the ultimate issuing entity evidences a sub-average ESG profile.</p> <p>Entity is sub-average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is sub-average in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '4' indicates that the framework for the instrument evidences a sub-average ESG profile.</p> <p>Framework structure is sub-average in terms of alignment with ambitious best practises and proceeds are dedicated to sub-average environmental and/or social activities/projects according to taxonomies of reference.</p>
5	<p>ESG ER of '5' indicates that the entity analysed evidences a poor ESG profile.</p> <p>Entity is poor both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '5' indicates that the debt instrument in the context of the ultimate issuing entity evidences a poor ESG profile.</p> <p>Entity is poor both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is poor in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '5' indicates that the framework for the instrument evidences a poor ESG profile.</p> <p>Framework structure is poor in terms of alignment with ambitious best practises and proceeds are dedicated to poor environmental and/or social activities/projects according to taxonomies of reference.</p>

Source: Sustainable Fitch

Appendix C: ICMA Principles and Guidelines

ICMA Labelled: Green Bond

Four Pillars	
1) Use of proceeds	Yes
2) Project evaluation & selection	Yes
3) Management of proceeds	Yes
4) Reporting	Yes
Independent External Review Provider	
Second-party opinion	Yes
Verification	Yes
Certification	No
Scoring/rating	No
Other	Not applicable
1) Use of Proceeds	
Use of Proceeds	
Renewable energy	Yes
Energy efficiency	No
Pollution prevention and control	No
Environmentally sustainable management of living natural resources and land use	No
Terrestrial and aquatic biodiversity conservation	No
Clean transportation	No
Sustainable water and wastewater management	No
Climate change adaptation	No
Eco-efficient and/or circular economy adapted products, production technologies and processes	No
Green buildings	No
Unknown at issuance but currently expected to conform with green bond principles (GBP) categories, or other eligible areas not yet stated in GBPs	No
Other	Not applicable
2) Project Evaluation & Selection	
Evaluation & Selection	
Credentials on the issuer's environmental sustainability objectives	Yes

ICMA Labelled: Green Bond

Documented process to determine that projects fit within defined categories	Yes
Defined and transparent criteria for projects eligible for green bond proceeds	Yes
Documented process to identify and manage potential ESG risks associated with the project	No
Summary criteria for project evaluation and selection publicly available	Yes
Other	Not applicable
Evaluation & Selection/Responsibility & Accountability	
Evaluation/selection criteria subject to external advice or verification	No
In-house assessment	Yes
Other	Not applicable
3) Management of Proceeds	
Tracking of Proceeds	
Green bond proceeds segregated or tracked by the issuer in an appropriate manner	Yes
Disclosure of intended types of temporary investment instruments for unallocated proceeds	No
Other	Not applicable
Additional Disclosure	
Allocations to future investments only	No
Allocations to both existing and future investments	Yes
Allocation to individual disbursements	Yes
Allocation to a portfolio of disbursements	No
Disclosure of portfolio balance of unallocated proceeds	Yes
Other	Not applicable
4) Reporting	
Use of Proceeds Reporting	
Project-by-project	Yes
On a project portfolio basis	No
Linkage to individual bond(s)	Yes
Other	

Appendix C: ICMA Principles and Guidelines

ICMA Labelled: Green Bond

Use of Proceeds Reporting/Information Reported

Allocated amounts	Yes
Green bond-financed share of total investment	No
Other	Not applicable

Use of Proceeds Reporting/Frequency

Annual	Yes
Semi-annual	No
Other	Not applicable

Impact Reporting

Project-by-project	Yes
On a project portfolio basis	No
Linkage to individual bond(s)	Yes
Other	Not applicable

Impact Reporting/Information Reported (exp. ex-post)

GHG emissions/savings	Yes
Energy savings	No
Decrease in water use	No
Other ESG indicators	

Impact Reporting/Frequency

Annual	Yes
Semi-annual	No
Other	Not applicable

Means of Disclosure

Information published in financial report	No
Information published in ad hoc documents	Yes
Information published in sustainability report	No
Reporting reviewed	Yes
Other	Not applicable

Source: Sustainable Fitch, ICMA

Appendix D: Debt Record

Use of Proceeds – Eligible Projects

Use of Proceeds	NACE Section-Level Code
Offshore wind farms	D35.11

Source: Sustainable Fitch

An ESG Rating is an assessment of the Environmental, Social and Governance (“E”, “S” and “G”) qualities of financial instruments and/or entities. An ESG Rating is not a credit rating. ESG Ratings are provided by Sustainable Fitch, a separate division of Fitch Ratings. Sustainable Fitch has established certain policies and procedures intended to avoid creating conflicts of interest and compromising the independence or integrity of Fitch Ratings’ credit rating activities, as well as its ESG rating activities. For a description of the methodology, limitations and disclaimers of Sustainable Fitch’s ESG Ratings, please use this link: www.sustainablefitch.com.

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societe nationale SNCF SA

ESG Ratings

	ESG Rating ^a	Score	Analysis Type
Entity	3	62	Full entity
Instrument	2	71	Integrated debt
Framework	2	65	Green

^a ESG Rating of 1-5, where 1 is the strongest. Date ESG Rating and score assigned: 16 July 2021.

Note: For Framework, analysis types can be green, social, sustainability, sustainability-linked, conventional or other.

Credentials



Transition



ICMA



EU Green Bond Standard

See Appendix A for definitions of Transition and ICMA; other details.

Key Debt Details

Instrument	Issue Date	Currency	Amount	Coupon	Maturity Date	Type ^a
Bond	7 Apr 2020	EUR	1,550m	0.63%	17 Apr 2030	Green

^a As defined by issuer. Note: Issued by SNCF. ISIN: FR0013507647.

Instrument Relevance

(%)	Instrument	Debt of the Same Type	Any ESG-Related Debt
Versus gross lease-adjusted debt ^a	1.8	8.7	8.7
Versus capex	14.3	67.8	67.8
Versus CFO	51.2	243.8	243.8

^a Excluding non-recourse debt. CFO = cash flow from operations.

Business Activity Overlap with Use of Proceeds

47%

Note: Share of the entity's total business activities that can use proceeds from the instrument above. Based on revenue.

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The Entity - Highlights

societe nationale SNCF SA (SNCF) reorganised its business in 2020, with the single parent company overseeing SNCF Réseau, SNCF Gares & Conexions, Rail Logistics Europe, SNCF Voyageurs, Geodis and Keolis. This had no direct impact on SNCF's sustainability profile, but the company's alignment with major taxonomies clearly varies across its businesses. For example, its rail-focused businesses frequently have zero direct or low-carbon-emissions transport, while Geodis and Keolis have transport types with a wider range of emissions.

SNCF is one of the biggest issuers of green bonds in Europe, and the biggest in the rail industry, at EUR7.2billion. Sustainability is a key part of the company's corporate social responsibility (CSR) strategy, although it does not yet play a central role in the overarching business strategy. SNCF's group CSR strategy for 2020-2030 includes a focus on resilience and adaptation to climate change. The group has Science-Based Target initiatives (SBTis) to reduce absolute Scope 1 and Scope 2 greenhouse gas (GHG) emissions by 26% by 2030, and Scope 3 emissions from fuel and energy-related activities by 26% by 2030, all from 2017 levels. SNCF previously partnered with the Institute for Climate Economics, ADEME and the University of Versailles Saint-Quentin to launch a thesis on the adaptation of the French railway system to the consequences of climate change.

The reporting references various sustainability standards, such as the Global Reporting Initiative (GRI) and the Sustainable Development Goals (SDGs). However, this is not in great depth nor detail. Furthermore, the company does not yet align with standards such as GRI or the Sustainability Accounting Standards Board (SASB) more widely across its entities. For example, while its reporting is comprehensive for entities such as Geodis, it is much less in depth for Keolis. There is also a lack of impact measurement to show its true contribution to the goals, and insufficient linking to underlying targets or indicators.

Source: Sustainable Fitch, SNCF Group Financial Report 2020 and 2019 Corporate Social Engagement Report

The Transaction - Highlights

- SNCF Réseau was previously the issuer of all of the group's green bonds. The parent, SNCF, became the group's sole issuing entity on 1 January 2020 and is responsible for the financing of all the operating companies.
- All net proceeds from green bonds will be allocated to eligible assets via intra-group loans.
- SNCF's green bond programme was previously dedicated to railway infrastructure assets. The group has been working since 2020 to extend this programme to additional eligible assets.
- Proceeds allocated to SNCF Réseau will be invested in projects related to the maintenance, and upgrade of the electrified network, including energy efficiency improvements, for UIC 5 or UIC 6 rail assets according to International Union of Railways (UIC) classification.

The Transaction – Highlights (cont.)

- Proceeds allocated to SNCF Voyageurs will be invested directly and indirectly in projects related to the creation of a zero-emission train fleet. This will include the purchase of new rolling stock material; the maintenance or overhaul of operations on rolling stock; and the maintenance or overhaul of associated maintenance facilities.
- Railway transport is a key contributor to wider efforts to reduce GHG emissions as the sector emits less than 1% of transportation-sector CO₂ emissions in France, while transporting 10% of passengers and freight. This suggests that rail is the most efficient and environmentally-friendly mode of transportation. For example, travelling 1km by train generates just 8.4g of CO₂e (carbon dioxide equivalent) compared to 213g for a private car.

Source: Sustainable Fitch, SNCF Green Bond Framework 2020/2021, SNCF Réseau Green Bond Reporting 2019

Framework Analysis

Use of Proceeds – Eligible Projects

ESG Rating: 2

Company Material	Fitch's View
SNCF Réseau: Maintenance, upgrades and energy efficiency of the rail system	
<ul style="list-style-type: none"> Capital expenditure projects to renovate tracks and traction power supply infrastructure, and signaling system upgrades. All investments are for the renovation of the core network: 100% electrified part of the network (UIC 1-4) 	<ul style="list-style-type: none"> This use of proceeds (UoP) is positive from an environmental point of view, due to the emissions avoided. For example, SNCF calculates that the 2019 green bonds will help avoid 17,173,907 tonnes of CO₂e over 40 years.
SNCF Réseau: New rail lines and extensions that ensure access to the network and the efficient movement of people and freight	
<ul style="list-style-type: none"> Capital expenditure projects related to new lines and extensions, improving access to the network for passengers and freight mobility. For example, the LGV Est, LGV SEA, LGV BPL, LGV CNM high-speed lines. 	<ul style="list-style-type: none"> This activity is somewhat positive from an environmental perspective as it is focused on transport by rail, a low-carbon form of mass transport. Extending the network will mean new populations will have access to a more sustainable form of transport.
SNCF Réseau: Investments linked to global climate-change challenges, the protection of biodiversity and natural resources	
<ul style="list-style-type: none"> Capital expenditure projects related to the protection of biodiversity and natural resources surrounding SNCF's existing network. 	<ul style="list-style-type: none"> This activity would likely have a very positive output but we would need more detailed information to make an accurate assessment.
SNCF Voyageurs: Investments related to the purchase of a zero-direct emissions train fleet	
<ul style="list-style-type: none"> Opex qualified as capex 	<ul style="list-style-type: none"> Investments in zero-direct-emissions trains align with EU taxonomy.
SNCF Voyageurs: Investments related to the renovation and maintenance of a zero-direct emissions train fleet	
<ul style="list-style-type: none"> Opex qualified as capex 	<ul style="list-style-type: none"> Investments in zero-direct-emissions trains align with EU taxonomy.
SNCF Voyageurs: Investments related to the overhaul of maintenance facilities in relation to a zero-direct emissions train fleet	
<ul style="list-style-type: none"> Opex qualified as capex 	<ul style="list-style-type: none"> Investments in zero-direct-emissions trains align with EU taxonomy.
Source: 2021 Green Bond Framework	Source: Sustainable Fitch

Use of Proceeds – Other Information

ESG Rating: 3

Company Material	Fitch's View
<ul style="list-style-type: none"> Eligible green projects are self-funded projects supporting zero-emissions transportation as they support an optimal use of rail transport. Eligible projects must meet the following criteria: high-speed lines, which were brought into service from 1981; standard electrified lines grouped 1 to 6 using the UIC classification; electrification investments in non-electrified lines grouped 1 to 6 using the UIC classification. 	<ul style="list-style-type: none"> The framework states that eligible projects include new and ongoing projects within a two-year look-back period. There is also a two-year look-forward period. The UoP is relatively tightly scoped to projects involving SNCF's standard expenditure within the rail system and new lines and extensions. This reduces the likelihood of controversial UoP.
Source: 2021 Green Bond Framework	Source: Sustainable Fitch

Evaluation and Selection

ESG Rating: 2

Company Material	Fitch's View
<ul style="list-style-type: none"> The finance and treasury division in coordination with the group's accounting and management control divisions and sustainable development division will review the allocation of the projects annually. If projects are considered eligible, they will be recorded in the green bond register and tracked for the life of the involvement in the green bond. 	<ul style="list-style-type: none"> The eligibility criteria is currently loose, somewhat lacking in detail and transparency over the evaluation process.
Source: 2021 Green Bond Framework	Source: Sustainable Fitch

Management of Proceeds

ESG Rating: 3

Company Material	Fitch's View
<ul style="list-style-type: none"> Pending allocation of an amount equal to the net proceeds from the sales of the notes to eligible green projects, the proceeds from the green bond will be placed into treasury accounts. The treasury will allocate, via intercompany loans, the bond proceeds to projects recorded in the register. The register will include a full list of 	<ul style="list-style-type: none"> SNCF states that proceeds will be placed into treasury accounts. This could be improved by having a more proactive approach to segregation of proceeds, as well as a clear indicator of how this segregation takes place. It would be good to see unallocated proceeds invested in a restricted pool of assets, such as

Framework Analysis

Management of Proceeds

ESG Rating: 3

Company Material	Fitch's View
<p>approved eligible projects and the amount allocated. While any bond proceeds remain unallocated, they will be invested in accordance with SNCF SA's liquidity management policies and guidelines in money market products, such as cash and/or cash equivalents and/or bank deposits.</p> <ul style="list-style-type: none"> • Payment of principal and interest of the notes will be made from general funds and will not be directly linked to the performance of the eligible green projects. • All net proceeds will be allocated to the identified eligible green projects and, so long as the green bonds are outstanding, the balance of the tracked net proceeds will be periodically adjusted to match allocations to the eligible green projects. 	<p>short-term green investments, to reinforce its commitment.</p> <ul style="list-style-type: none"> • The use and management of proceeds will be verified by SNCF's auditors.
Source: 2021 Green Bond Framework	Source: Sustainable Fitch

Report and Transparency

ESG Rating: 2

Company Material	Fitch's View
<ul style="list-style-type: none"> • Within the calendar year that follows the issuance, and until the full allocation of an amount equal to the net proceeds of the green bonds issued, SNCF will provide to investors: <ul style="list-style-type: none"> – Annual website updates on the amounts allocated to the eligible green projects; – Relevant expected impact metrics and, where feasible, actual impact metrics related to the eligible green projects where competition and confidentiality reasons allow; – Auditors or any other appointed third party will issue an annual report on compliance in all material respects with the eligible green project criteria. • Relevant metrics could include: 	<ul style="list-style-type: none"> • There is some reporting at an individual disbursement level, as the progress report shows which train lines have been financed. This level of granularity is positive and should continue to increase. • Allocation reporting is given at the category level, which is useful. However, reporting tied to individual bonds would increase transparency and insight. • SNCF states that the eligible green projects include capex (with operating expenditure treated as capex). We have therefore recorded all allocations as capex. • SNCF's auditor, KPMG, will report annually on SNCF's compliance with the eligible green project criteria.

Report and Transparency

ESG Rating: 2

Company Material	Fitch's View
<ul style="list-style-type: none"> – Investments related to maintenance, upgrades and energy efficiency of the rail system – Total GHG emissions of the maintenance project called high-output track replacement units (tCO₂e) – Share of concrete sleepers recycled from the maintenance project (tonnes) – Share of re-used rails from the maintenance project (tonnes of steel) – Total GHG emissions of the project (tCO₂e) – Total GHG emissions avoided because of the project (tCO₂e) – Total GHG emissions of the investments (tCO₂e) 	<ul style="list-style-type: none"> • SNCF has appointed advisory firm ISS to act as a verifier for obtaining Climate Bond Initiative certification. • SNCF uses two industry-accepted metrics; the carbon footprint of construction projects, and the total emissions avoided by the projects financed. The example metrics given in the framework would add significant detail and transparency. SNCF's green bond reports also show protection of resources metrics such as the share of re-used and recycled rails, share of re-used ballast, number of hectares compensated, and number of wildlife crossings created. • The examples metrics are relevant and useful, particularly if the company reports on its performance against most or all of these metrics.
Source: SNCF Green Bond Framework 2020/2021	Source: Sustainable Fitch, SNCF Green Bond Framework 2020/2021, SNCF Réseau green bond reporting 2019

Framework Analysis

Relevant UN Sustainable Development Goals – Instrument

- 9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.



- 11.a: Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning.



Source: Sustainable Fitch, United Nations

Framework Analysis

Alignment with EU Green Bond Standards

Framework	
- Strategy and rationale – aligned with EU taxonomy	No
- Issuer selection process	No
- Issuer evaluation process verified	No
- Project description	Yes
- Management of proceeds	Yes
- Reporting	Yes
Overall framework alignment	No
Allocation Reporting	
- Statement on EU GBS	No
- Project breakdown (sector level)	Yes
- Geographic distribution	No
- External verification	Yes
- Frequency	Yes
Overall allocation reporting alignment	No
Impact Reporting	
- Project descriptions	Yes
- Environmental objectives	Yes
- Breakdown by type and by financing /refinancing	No
- Impact metrics	Yes
- Frequency	Yes
Overall impact reporting alignment	No

Source: Sustainable Fitch

Green Projects

Use of Proceeds	Contribution to EU Environmental Objectives						Technical Screening Criteria	Do No Significant Harm	Minimum Safeguard
	EO1	EO2	EO3	EO4	EO5	EO6			
Maintenance, upgrades and energy efficiency of the rail system.	Yes	Yes	n.a.	n.a.	n.a.	n.a.	Yes, technical screening criteria (TSC) is met due to the UoP being focused on zero-direct-emissions rail networks, meeting the EU taxonomy criteria for transport by rail.	No, do no significant harm (DNSH) criteria is not fully met as it's not clear whether the circular economy threshold is met. The company states that at least 70% (by weight) of non-hazardous construction and demolition waste generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials.	Yes
New rail lines and extensions which ensure access to the network and the efficient movement of people and freight.	Yes	Yes	n.a.	n.a.	n.a.	n.a.	Yes, TSC is met due to UoP being focused on zero-direct-emissions rail networks, as above.	No, DNSH criteria is not fully met as it's not clear whether the circular economy threshold is met (as above).	Yes

Framework Analysis

Green Projects

Use of Proceeds	Contribution to EU Environmental Objectives						Technical Screening Criteria	Do No Significant Harm	Minimum Safeguard
	EO1	EO2	EO3	EO4	EO5	EO6			
Investments linked to global climate-change challenges, the protection of biodiversity and natural resources.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
SNCF Réseau: Investments linked to global climate change challenges, the protection of biodiversity and natural resources.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
SNCF Voyageurs: Investments related to the purchase of a zero-direct emissions train fleet	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
SNCF Voyageurs: Investments related to the renovation and maintenance of a zero-direct emissions train fleet	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Note: n.a. – not applicable.
 Source: Sustainable Fitch

EU Environmental Objectives: climate change mitigation (EO1); climate change adaptation (EO2); sustainable use and protection of water and marine resources (EO3); transition to a circular economy, waste prevention and recycling (EO4); pollution prevention and control (EO5); protection of healthy ecosystems (EO6)

Entity Analysis

Broader Perspective on Sector

Sector Trajectory	Fitch's View
Short term	<ul style="list-style-type: none"> Transport infrastructure is likely to face some disruption in the short term, with leisure and business travellers and corporations becoming more aware of related emissions. Following the pandemic, corporations and business travellers will likely place greater scrutiny on the positive and negative effects of travel for business purposes. Rail travel generally creates significantly less harmful emissions than travel by private car, plane or ferry, so will appeal to travellers conscious of their carbon footprint. However, rail-related emission levels are often highly dependent on how trains are powered, and, if via electricity, then how the electricity is generated. Rail companies will become increasingly aware of their operational impact on biodiversity, any disruption to local communities, and the energy mix used to fuel their trains.
Long term	<ul style="list-style-type: none"> In the longer term, it is likely that railway transport will become significantly more sustainable in Europe, due to the increasing prevalence of electric trains and the wider availability of renewable energy to power the grid. These factors will largely define the carbon profile of this part of the transport sector. This is likely to cause the carbon footprint "gap" between rail and air transport emissions to significantly grow, and rail transportation therefore to be by far the most sustainable way to travel medium distances. EU regulation and the focus on sustainability could catalyse the trend towards rail travel for sustainability reasons.

Source: Sustainable Fitch

Broader Perspective on Company

Company Direction	Fitch's View
Short term	<ul style="list-style-type: none"> SNCF has improved its sustainability profile by incorporating SBTi approved goals for 2030. This is positive but would benefit from annual accurate tracking of progress. The group could also extend its SBTi approved targets across all its entities. It is positive to see taxonomy aligned metrics in reporting such as CO₂ emissions per passenger kilometre. SNCF's sustainability profile could improve if it continues to invest in zero-direct-emissions trains, in order to align with EU taxonomy more fully in its key business activities, and facilitates and encourages such progress across the wider network. To improve its social profile, SNCF should focus on instilling targets for diversity, and reducing severe accidents for passengers and workers.
Long term	<ul style="list-style-type: none"> SNCF don't have long-term targets. Best practice would be to have a clear long-term vision with corresponding targets, to align with and even stay ahead of Paris Agreement targets. We would expect SNCF's rail network, passenger rail transport and freight to be fully aligned with EU taxonomy in the long term, by solely comprising of zero-direct-emissions trains. This will be supported by the fact that SNCF's primary market, France, is encouraging rail development and closing multiple national air corridors for environmental reasons. To improve as a business on social factors, SNCF should focus on instilling targets for diversity, reducing severe accidents for passengers and workers, and striving for zero fatal accidents as a priority.

Source: Sustainable Fitch

Entity Analysis

Business Activities

Company Material Core Contributions	Fitch's View			ESG Rating
	Environmental	Social		
Management of rail network				
<ul style="list-style-type: none"> SNCF Réseau manages, maintains and develops the national rail network in France. <p>Represents 15% of revenue.</p>	<ul style="list-style-type: none"> SNCF reports two figures for share of network electrification: 78% of its trains use electric traction; and the company accounts for 15,000km of electrified lines of a total of 30,000km of lines. The environmental score reflects the fact that only part (78%) of SNCF's rail network is aligned with EU taxonomy thresholds. 	<ul style="list-style-type: none"> SNCF's management of the rail network has a positive social impact through the increase of inter-urban and urban-rural connectivity. 		2
Management of stations				
<ul style="list-style-type: none"> SNCF Gares & Connexions designs, operates and maintains train stations. <p>Represents 4% of revenue.</p>	<ul style="list-style-type: none"> There is little information on the management of stations regarding sustainability. More information on the environmental sustainability profile of this BA will assist with the scoring. 	<ul style="list-style-type: none"> SNCF has a positive social impact as its stations act as economic hubs, enabling auxiliary services, such as food retail, benefiting travellers and other businesses. 		3
Rail transport				
<ul style="list-style-type: none"> SNCF operates passenger rail transport through its subsidiaries SNCF Voyages, Transilien and TER. <p>Represents 32% of revenue.</p>	<ul style="list-style-type: none"> SNCF's passenger rail transport emits direct emissions for some but not all of its passenger transport entities. The average CO₂ emissions from rail traction 	<ul style="list-style-type: none"> SNCF has positive impact through the increase of inter-urban and urban-rural connectivity. 		2

Business Activities

Company Material Core Contributions	Fitch's View			ESG Rating
	Environmental	Social		
	<ul style="list-style-type: none"> energy per passenger km is 5g-10g of CO₂e. This is very low in comparison to other forms of transport – for example, around 95% lower than driving alone). The company is also investing heavily in hybrid, battery and hydrogen-powered trains. 			
Rail Logistics Europe				
<ul style="list-style-type: none"> Freight transport and logistics are operated through Rail Logistics Europe (formerly TFMM rail and multimodal freight transport), which brings together the activities of rail freight companies, combined transport operators and freight forwarders through several companies (Fret SNCF SAS, Captrain France, Naviland Cargo, Captrain Europe, Forwardis and VIIA SNCF). <p>Represents 5% of revenue.</p>	<ul style="list-style-type: none"> Although it's not clear exactly what share of SNCF's freight and logistics business entails zero direct emissions, 90% of freight in France is electric. More information on this would aid transparency and analysis. 	<ul style="list-style-type: none"> SNCF's management of freight and logistics has a light impact on social indicators, but does facilitate economic activity and generate employment while generating little to no negative impact. 		2
International mass transport (Keolis)				
<ul style="list-style-type: none"> Other forms of mass transit are operated through Keolis. Keolis is a mass transit operator covering all modes of transportation (train, bus, car, underground, tramway, ferries, bicycles), and parking management. 	<ul style="list-style-type: none"> Keolis offers various forms of transport, but does not publicly report the precise split between the different modes. Greater transparency would 	<ul style="list-style-type: none"> Some of Keolis's key activities have a positive social impact, such as its bicycles, ride-sharing and car-pooling activities. 		3

Entity Analysis

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
Represents 16% of revenue.	improve the accuracy of its ESG Rating.	However, it is unclear what share of Keolis's business is comprised of these activities, making it difficult to give an accurate score.	
European management solutions (Geodis)			
<ul style="list-style-type: none"> Geodis is a European operator with global reach, offering management solutions across all or part of the logistics chain (supply chain optimisation, air and sea freight forwarding, distribution and express, road transport, contract logistics). 	<ul style="list-style-type: none"> Geodis aims to reduce CO₂ emissions by 30% by 2030, and has an emissions calculator that evaluates emissions for different shipping journeys. Its reporting on emissions by scope and per business line is comprehensive. The score assigned does not fully reflect the company's efforts, due to the lack of transparency over the mix between rail, air and sea transport. A more detailed revenue breakdown would enable more accurate and comprehensive analysis. 	<ul style="list-style-type: none"> SNCF's Geodis business has a neutral social impact. 	3
Represents 22% of revenue.			

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
Real estate			
<ul style="list-style-type: none"> SNCF Immobilier serves the other business lines in four areas: managing real estate used in operations; monetising assets not required for railway operations; managing the working environment in office premises; and managing residential properties. 	<ul style="list-style-type: none"> SNCF has a small real estate portfolio outside of train station ownership. More detailed reporting and greater transparency would enable more accurate analysis. It appears that SNCF is starting to invest in green buildings and is developing its ability to generate renewable energy. 	<ul style="list-style-type: none"> SNCF's real estate business has a neutral social impact. 	3
Represents 2% of revenue.			
Equipment, traction, rail production			
<ul style="list-style-type: none"> Other group-wide operations and business lines across the group, including Masteris, comprising equipment, traction, and rail production. 	<ul style="list-style-type: none"> Although there is little information on the sustainability of this area, SNCF's aim to achieve zero non-recovered waste by 2030 on products central to railway activity aligns with best practice. The company recycles more than 92% of its trains and 55,000 tonnes of materials each year on average. This contributes to meeting DNSH criteria for infrastructure for rail transport within the EU taxonomy. 	<ul style="list-style-type: none"> This activity has a neutral social impact. 	3
Represents 4% of revenue.			
Source: SNCF 2020 annual report	Source: Sustainable Fitch, SNCF 2020 annual report		

Entity Analysis

Environmental View

Profile	Fitch's View	ESG Rating
Policies	<ul style="list-style-type: none"> SNCF broadly discloses policies regarding its environmental impact and use of natural resources. For example, it refers to a strategy to limit resource consumption, reduce waste in operating processes and recover end-of-life products. Part of SNCF's CSR report demonstrates its actions to preserve and enhance biodiversity. It references eight partnerships formed in 2019 with French biodiversity advocates. The company could improve its ESG profile by giving further detail on what these partnerships entail. It has reduced its use of herbicide by 75% in the past 20 years. This is positive for the company's ESG profile, which it could improve by providing more information on other metrics that demonstrate the evolution of its environmental impact. It references an environmental improvement plan (PACE) that aims to identify, analyse and prioritise sources of environmental damage, with consideration given to the environmental vulnerability of its sites. This is positive for its ESG profile, in combination with a digital tool that assesses waste and pollution from waste management. Will will monitor how this improves the companies' efforts to reduce waste and pollution. The company launched a plan (Tread Lightly) in 2007 to minimise waste onboard the Eurostar, with the first plastic-free train running between London and Paris in 2019. This is positive for the ESG profile, which would be further improved if the plan were to extended across SNCF's networks. One of SNCF's subsidiaries, VFLI, has started operating a EuroDual locomotive: a hybrid train that can run on both electric and next-generation diesel power. This is an example of SNCF's innovation to cut carbon emissions. Reducing noise and air pollution from trains is another strategic focus in SNCF's CSR strategy. It invested EUR2.7million to mitigate noise hotspots in 2019, and it has reported that new rolling stock has almost halved noise pollution. The company provides a case study of how it is improving air quality in underground stations, with reference made to a partnership with an air quality monitoring network (Airparif) to assess conditions in 27 stations. It also refers to partnerships with Tallano Technologie to develop a suction device to remove fine particulates. Best practice would be to provide the quantitative result of these actions. 	2

Environmental View

Profile	Fitch's View	ESG Rating
Disclosure	<ul style="list-style-type: none"> SNCF reports its emissions collectively for Scope 1, Scope 2 and Scope 3 (around 2.5 million tonnes of CO₂), and for Scope 1 and Scope 2 combined. Further detail on its Scope 3 emissions (163,000 tonnes of CO₂), particularly around what activities are included or excluded in this figure, would strengthen its ESG profile. Scope 1, scope 2 and scope 3 emissions combined is available per the business areas; rail traction, commercial road transport, service vehicles and buildings. For transparency to investors, as well as enabling more thorough analysis, it would be useful to have Scope 1, Scope 2 and Scope 3 emissions data reported separately and detailed by business area. The company provides some data on its usage of and impact on natural resources, such as total water consumption by facilities and hazardous waste produced. The reporting of more metrics, e.g. related to land quality and biodiversity, would enable greater transparency and more in-depth analysis. 	3
Evolution	<ul style="list-style-type: none"> The company's Scope 1, Scope 2 and Scope 3 figures from 2019 demonstrate a 20% reduction in emissions from 2018. They also show a reduction in CO₂ emissions per passenger kilometre (pkm) from 7.2g/pkm in 2017 to 6.1g/pkm in 2019, with a target of 6g/pkm by 2025. Its emissions increased to 8.21g/pkm in 2021, but we believe that this is due to the significant, temporary reduction in passengers as a result of the pandemic. 	3
Targets and supply chain	<ul style="list-style-type: none"> The company uses two SBTi approved targets, as well as targets for energy efficiency. It could improve its ESG profile by being more ambitious, with targets consistent with reductions required to keep warming to 1.5 degrees Celsius. Its current targets are in line with warming of 2.0 degrees Celsius). It could also deploy more wide-ranging targets, with progress tracked and clear intermediate targets to ensure feasibility. SNCF is making an active effort to demonstrate its ESG responsibility in procurement. Carbon performance has become a key criterion for supply selection, and CSR performance now contributes to 20% of the overall supplier score. 	2

Entity Analysis

Environmental View

Profile	Fitch's View	ESG Rating
	<ul style="list-style-type: none"> The company reports its impact metrics in its CSR report and demonstrates taxonomy-aligned metrics, such as CO₂/pkm. 	
Risks and incident treatment	<ul style="list-style-type: none"> The company has not reported any recent major environmental incidents. 	1

Source: Sustainable Fitch, SNCF 2019 Corporate Social Engagement Report

Entity Analysis

Social View

Profile	Fitch's View	ESG Rating
Human rights	<ul style="list-style-type: none"> SNCF has adhered to the principles of the UN's Global Compact (UNGC) on human rights, anti-corruption, labour rights and environmental protection. It also annually reports on progress. SNCF is at the advanced level of the UNGC; a higher standard of performance for CSR. 	1
Labour rights	<ul style="list-style-type: none"> Collective agreements are signed each year with trade unions representing SNCF employees. In 2018, the French parliament approved an SNCF reform bill, writing off EUR35billion of debt but increasing competition through the phasing out of the domestic passenger monopoly, and reducing benefits and pensions to future employees. SNCF publishes its accident severity rate (1.59 per 1,000 hours worked), and frequency of accidents (22.39 per 1,000,000 hours worked). It could improve transparency by providing information on methodology. Two subcontracted workers died in October 2018 after a vehicle collision on an SNCF construction site in the Hautes-Pyrenees. 	4
Diversity	<ul style="list-style-type: none"> Of the group's employees, 23% were female as of 2020, while 35.1% of managers were female as of 2019 (2020 figures are not available). The company reports a gender pay gap of minus 2%; a relatively positive score. SNCF has 9,342 employees with disabilities in France (4.79% of its workforce). There is no evidence of disability-related discrimination. The company also provides transparent reporting in this area. 	4
Community and customers	<ul style="list-style-type: none"> Community is one of the three pillars of SNCF's strategic roadmap for social engagement and the ecological transition. One example of its engagement and proactivity towards the community is how it has identified 1,000 smaller stations with vacant real estate, releasing details of these premises online and inviting local organisations to submit ideas for turning the spaces into community hubs. It has set aside EUR20million to help fund the changes and has received 435 applications for 198 sites. Another focus in the CSR roadmap is mobility and accessibility. The company has made 289 stations accessible and aims to increase this to 730 by 2025. As a state-owned enterprise, best practice would be to make sufficient investment to make this target realistic, 	2

Social View

Profile	Fitch's View	ESG Rating
	<p>and to continue improving accessible mobility. The company has made both physical changes – such as tactile floor paths, disability-friendly signage and redesigned ticket windows – and digital improvements, via its Assistant SNCF app. This app includes a feature to connect people with hearing impairments to the train manager.</p> <ul style="list-style-type: none"> SNCF's customer satisfaction rate (in normal and disrupted situations) was 70% in 2020. This is down from 73% in 2019 but up from 68% in 2018. 	
Targets and supply chain	<ul style="list-style-type: none"> The company includes clear social targets in its CSR roadmap. This supports its ESG profile, but could be improved by including targets related to gender equality and other areas of diversity. There is a good breakdown of employee demographics, showing data by age range, gender and disabilities. This is positive for the credit file, which would be strengthened by greater transparency in this area, aligning with recognised standards such as SASB/GRI. 	2
Risks and incident treatment	<ul style="list-style-type: none"> The company recorded six accidents involving commercially operated trains that resulted in physical injuries in 2020. More data on whether these were fatalities, severe injuries or minor injuries would be useful for more in-depth analysis. In May 2021, French prosecutors announced that SNCF and a railway worker will face trial in 2022 on charges for manslaughter and unintentional injuries related to the 2013 accident in Bretigny-sur-Orge. A derailed train caused the death of seven people and injured many more. There is ongoing litigation from the Eckwesheim LGV accident on 14 November 2015, after a test train derailed leaving 11 dead and 42 injured. A provision for 'civic liability' excess has been recorded in the accounts. In 2020, there was EUR230million worth of provisions for litigation and contractual risks. In 2020, an appeal court fined SNCF Mobilites EUR100,000 related to manslaughter charges from a 2010 train accident in Audrieu, France, which killed one person. 	3

Source: Sustainable Fitch, SNCF 2019 Corporate Social Engagement Report

Entity Analysis

Governance View

Profile	Fitch's View	ESG Rating
Financials and reporting	<ul style="list-style-type: none"> A qualified opinion was given in 2019 and 2020 by the auditors, mainly due to impairment testing of assets in 2019, and due to the company's balance sheet now including the securities of SNCF Réseau in 2020. 	4
Top management and control	<ul style="list-style-type: none"> Half of the directors on SNCF's board of directors are female. Only two of 12 board members meet independence criteria. SNCF could improve its ESG profile by increasing this share, in order to aid objective influence and decision-making. There are chief executive officers (CEOs) or chairpersons for each of group's six entities, alongside SNCF chairperson and CEO Jean-Pierre Farandou. If the chairperson and CEO positions are combined, the board may appoint a lead director from among the independent directors. In addition to the executive or management committees, there is a group-level strategy and investment committee, an appointments, remuneration and governance committee and an audit, accounts and risks committee. A third of the board members are employee representatives. The internal audit, as the third line of defense, provides an independent assessment of the risk control level and the robustness of internal control. More information on the reporting lines of the audit function would be useful for analysis. 	2
Remuneration	<ul style="list-style-type: none"> The appointments, remuneration and governance committee exists to help the chairperson and CEO appoint senior executives. The committee makes recommendations on the amount and terms and conditions of the remuneration to be allocated to directors. In 2020, all compensation to the group chairperson/CEO and deputy CEO was fixed, at EUR450,000 and EUR250,000 respectively. 	5

Governance View

Profile	Fitch's View	ESG Rating
	<ul style="list-style-type: none"> Best practice would be to increase transparency over the breakdown of remuneration of more management members, and the extent to which remuneration is linked to long-term targets, sustainability or safety goals. 	
Risk management	<ul style="list-style-type: none"> There is a group internal control committee and internal control committee that respectively sets and implements the main objectives in terms of group risk management. This is in addition to an anti-corruption committee, compliance committee and ethics committee. SNCF was sentenced in 2019 for wrongful dismissal of an employee. The company acknowledges cyber risk and has mitigating plans in place, including an internal entity that specialises in cyber security, to conduct technical tests. 	1
Tax management	<ul style="list-style-type: none"> SNCF reports that all of its subsidiaries act as responsible taxpayers worldwide, in accordance with applicable tax laws and regulations. This is to be expected given its state-ownership. It has a group tax team that works with stakeholders within the international tax framework in order to comply with requirements. 	1

Source: Sustainable Fitch, SNCF Group Financial Report 2020

Entity Analysis

Relevant UN Sustainable Development Goals – Entity

- 9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.



- 11.a: Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning.



Source: Sustainable Fitch, United Nations

Appendix A: Key Terms

Term	Definition
Debt types	
Green	Proceeds will be used for green projects and/or environmental-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Green Bond Principles or other principles, guidelines or taxonomies.
Social	Proceeds will be used for social projects and/or social-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Social Bond Principles or other principles, guidelines or taxonomies.
Sustainability	Proceeds will be used for a mix of green and social projects and/or environmental and social-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Sustainability Bond Guidelines or other principles, guidelines, taxonomies.
Sustainability-linked	Financial and/or structural features are linked to the achievement of pre-defined sustainability objectives. Such features may be aligned with ICMA Sustainability Bond Guidelines or other principles, guidelines or taxonomies. The instrument is often referred to as an SLB (sustainability-linked bond) or SLL (sustainability-linked loan).
Conventional	Proceeds are not destined for any green, social or sustainability project or activity, and the financial or structural features are not linked to any sustainability objective.
Other	Any other type of financing instrument or a combination of the above instruments.

Term	Definition
Standards	
Transition	A term applied to green, social, sustainable or sustainability-linked instruments, only when the purpose of the debt instrument is to enable the issuer to achieve a climate change-related strategy according to Fitch criteria or methodology.
ICMA	International Capital Market Association. The "ICMA" credential on page 1 refers to alignment with ICMA's Green Bond Principles: a series of principles and guidelines for green, social, sustainability and sustainability-linked (or KPI-linked) instruments.
EU Green Bond Standard	A set of voluntary standards created by the EU to "enhance the effectiveness, transparency, accountability, comparability and credibility of the green bond market".
Other terms	
ESG debt	Green, social, sustainability and sustainability-linked types of debt.
Short term	Within five years.
Long term	At least six years away.
Entity's business activity overlap with use of proceeds	The share of the entity's total business activities that can use proceeds from the debt instrument in question.
NACE	An industry standard classification system for economic activities in the EU, based on the United Nations' International Standard Industrial Classification of All Economic Activities (ISIC).
Source: Sustainable Fitch, ICMA, UN, EU Technical Expert Group	

Appendix B: Methodology and ESG Rating Definitions

Fitch's ESG Ratings are designed to indicate an entity's Environmental, Social and Governance (ESG) performance and commitment, as well as its integration of ESG considerations into its business, strategy and management, with a focus on actions and outcomes rather than purely on policies and broader commitments.

There are three ratings: the ESG Entity Rating (ESG ER), ESG Instrument Rating (ESG IR) and, for debt instruments linked to ESG key performance indicators (KPIs) and/or use of proceeds, the ESG Framework Rating (ESG FR). ESG Ratings are on a scale from one to five, where one represents full alignment with ESG best practice. Behind each rating sit scores of zero to 100, as well as sub-scores for even greater granularity.

Sustainable Fitch's analysts assess all the business activities of an entity and more than 40 additional headline factors, covering all three ESG pillars. For debt instruments, they assess use of proceeds and more than 20 additional headline factors.

Fitch provides individual datasets with grades and commentary through a feed. The score and sub-score database allows direct comparison of entities and instruments, on a full ESG basis or on selected fields.

ESG ERs consider the issuer's strategy, how it relates to sustainability, and how sustainability is embedded in the issuer's business, including ESG policies, procedures and outcomes. The entity is broken down into constituent business units, with NACE codes, for a granular assessment of E and S factors. Fitch assesses G aspects at the company level.

ESG FRs consider any type of bond, with varying analysis if there is a defined use of proceeds, KPI-linked coupon or conventional bond. The rating aims to identify the strength of the bond framework on a standalone basis, separate to the entity, regardless of any self-assigned descriptions. Fitch analysts categorise bonds as Green, Social or Sustainability (GSS) types independently, based on their view of the main area covered by the use of proceeds, rather than automatically using the entity's categorisation. They will also determine if the bond should be classed as a transition bond and if it aligns with the EU Green Bond Standard and ICMA principles. Analysis considerations include the use of proceeds and sustainability-linked targets that form the primary purpose of the instrument, and the structure and effectiveness of the framework being used to further that purpose.

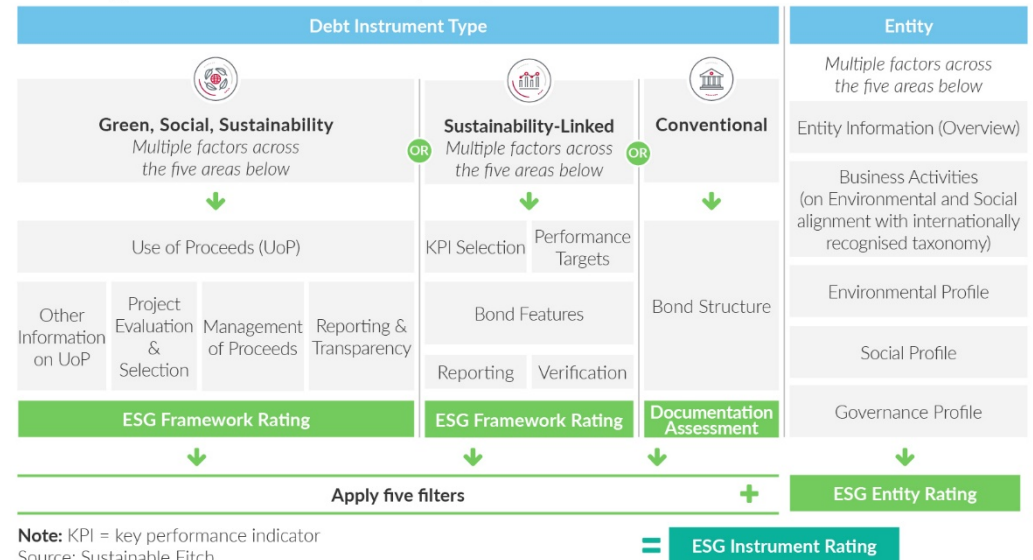
ESG IRs consider different types of debt instruments in the context of the issuing entity, enabling absolute ESG credentials comparisons for similar types of instruments issued by different types of entities, different types of instruments issued by different issuers, as well as different types of instruments issued by a single entity.

Analytical Process

Analysis considers all available relevant information (ESG and financial), including the entity's ESG report. Fitch's ESG Rating Reports transparently display the sources of information analysed for each section and provide a line-by-line commentary on the sub-factors analysed.

Fitch's ESG Rating Process

A visual guide to our debt and entity analysis



An important part of the analysis is the assessment of the E and S aspects of the use of proceeds and business activities. In considering those aspects, the rating framework is inspired by major taxonomies (e.g. the EU taxonomy for E aspects, and the UN Sustainable Development Goals for S aspects). Once the analyst has completed the model, with commentary for the related ESG Ratings, it is submitted to the approval committee, which reviews the model for accuracy and consistency. ESG Ratings are monitored annually or more frequently if new information becomes available.

Use Cases

Sustainable Fitch's ESG Ratings can help inform decisions related to:

- Investment strategy
- Asset allocation and portfolio construction
- Benchmarking and index construction
- Risk management and stress testing
- Identification of transition bonds
- Disclosure and reporting.

Appendix B: Methodology and ESG Rating Definitions

Rating Scale and Definitions

	ESG Entity	ESG Instrument	ESG Framework
1	<p>ESG ER of '1' indicates that the entity analysed evidences an excellent ESG profile.</p> <p>Entity is excellent both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '1' indicates that the debt instrument in the context of the ultimate issuing entity evidences an excellent ESG profile.</p> <p>Entity is excellent both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is excellent in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '1' indicates that the framework for the instrument evidences an excellent ESG profile.</p> <p>Framework structure is excellent in terms of alignment with ambitious best practises and proceeds are dedicated to excellent environmental and/or social activities/projects according to taxonomies of reference.</p>
2	<p>ESG ER of '2' indicates that the entity analysed evidences a good ESG profile.</p> <p>Entity is good both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '2' indicates that the debt instrument in the context of the ultimate issuing entity evidences a good ESG profile.</p> <p>Entity is good both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is good in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '2' indicates that the framework for the instrument evidences a good ESG profile.</p> <p>Framework structure is good in terms of alignment with ambitious best practises and proceeds are dedicated to good environmental and/or social activities/projects according to taxonomies of reference.</p>
3	<p>ESG ER of '3' indicates that the entity analysed evidences an average ESG profile.</p> <p>Entity is average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '3' indicates that the debt instrument in the context of the ultimate issuing entity evidences an average ESG profile.</p> <p>Entity is average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is average in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '3' indicates that the framework for the instrument evidences an average ESG profile.</p> <p>Framework structure is average in terms of alignment with ambitious best practises and proceeds are dedicated to average environmental and/or social activities/projects according to taxonomies of reference.</p>
4	<p>ESG ER of '4' indicates that the entity analysed evidences a sub-average ESG profile.</p> <p>Entity is sub-average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '4' indicates that the debt instrument in the context of the ultimate issuing entity evidences a sub-average ESG profile.</p> <p>Entity is sub-average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is sub-average in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '4' indicates that the framework for the instrument evidences a sub-average ESG profile.</p> <p>Framework structure is sub-average in terms of alignment with ambitious best practises and proceeds are dedicated to sub-average environmental and/or social activities/projects according to taxonomies of reference.</p>
5	<p>ESG ER of '5' indicates that the entity analysed evidences a poor ESG profile.</p> <p>Entity is poor both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '5' indicates that the debt instrument in the context of the ultimate issuing entity evidences a poor ESG profile.</p> <p>Entity is poor both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is poor in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '5' indicates that the framework for the instrument evidences a poor ESG profile.</p> <p>Framework structure is poor in terms of alignment with ambitious best practises and proceeds are dedicated to poor environmental and/or social activities/projects according to taxonomies of reference.</p>

Source: Sustainable Fitch

Appendix C: ICMA Principles and Guidelines

ICMA Labelled: Green Bond

Four Pillars	
1) Use of proceeds	Yes
2) Project evaluation & selection	Yes
3) Management of proceeds	Yes
4) Reporting	Yes
Independent External Review Provider	
Second-party opinion	Yes
Verification	No
Certification	Yes
Scoring/rating	No
Other	n.a.
1) Use of Proceeds	
Use of Proceeds	
Renewable energy	No
Energy efficiency	Yes
Pollution prevention and control	No
Environmentally sustainable management of living natural resources and land use	Yes
Terrestrial and aquatic biodiversity conservation	Yes
Clean transportation	Yes
Sustainable water and wastewater management	No
Climate change adaptation	No
Eco-efficient and/or circular economy adapted products, production technologies and processes	No
Green buildings	No
Unknown at issuance but currently expected to conform with green bond principles (GBP) categories, or other eligible areas not yet stated in GBPs	No
Other	n.a.
2) Project Evaluation & Selection	
Evaluation & Selection	
Credentials on the issuer's environmental sustainability objectives	Yes

ICMA Labelled: Green Bond

Documented process to determine that projects fit within defined categories	No
Defined and transparent criteria for projects eligible for green bond proceeds	Yes
Documented process to identify and manage potential ESG risks associated with the project	No
Summary criteria for project evaluation and selection publicly available	Yes
Other	n.a.
Evaluation & Selection/Responsibility & Accountability	
Evaluation/selection criteria subject to external advice or verification	No
In-house assessment	Yes
Other	n.a.
3) Management of Proceeds	
Tracking of Proceeds	
Green bond proceeds segregated or tracked by the issuer in an appropriate manner	No
Disclosure of intended types of temporary investment instruments for unallocated proceeds	Yes
Other	n.a.
Additional Disclosure	
Allocations to future investments only	No
Allocations to both existing and future investments	Yes
Allocation to individual disbursements	Yes
Allocation to a portfolio of disbursements	Yes
Disclosure of portfolio balance of unallocated proceeds	Yes
Other	n.a.
4) Reporting	
Use of Proceeds Reporting	
Project-by-project	No
On a project portfolio basis	Yes
Linkage to individual bond(s)	No

Appendix C: ICMA Principles and Guidelines

ICMA Labelled: Green Bond

Other	
Use of Proceeds Reporting/Information Reported	
Allocated amounts	Yes
Green bond-financed share of total investment	No
Other	n.a.
Use of Proceeds Reporting/Frequency	
Annual	Yes
Semi-annual	No
Other	n.a.
Impact Reporting	
Project-by-project	No
On a project portfolio basis	Yes
Linkage to individual bond(s)	No
Other	n.a.
Impact Reporting/Information Reported (exp. ex-post)	
GHG emissions/savings	Yes
Energy savings	Yes
Decrease in water use	No
Other ESG indicators	n.a.
Impact Reporting/Frequency	
Annual	Yes
Semi-annual	No
Other	n.a.
Means of Disclosure	
Information published in financial report	No
Information published in ad hoc documents	Yes
Information published in sustainability report	No
Reporting reviewed	Yes
Other	n.a.

Note: n.a. – not applicable.
 Source: Sustainable Fitch, ICMA

Appendix D: Debt Record

Use of Proceeds – Eligible Projects

Use of Proceeds	NACE Section-Level Code
SNCF Réseau: Maintenance, upgrades and energy efficiency of the rail system.	F42.12
	F42.13
SNCF Réseau: New rail lines and rail lines extensions which ensure access to the network and the efficient movement of people and freight.	F42.12
	F42.14
SNCF Réseau: Investments linked to the global climate change challenges, the protection of biodiversity and natural resources.	n.a.
SNCF Voyageurs: Investments related to the purchase of a zero-direct emissions train fleet	F42.12
	F42.13
	H49.10
	H49.20
SNCF Voyageurs: Investments related to the renovation and maintenance of a zero-direct emissions train fleet	F42.12
	F42.13
	H49.10
	H49.20
SNCF Voyageurs: Investments related to the overhaul of maintenance facilities in relation to a zero-direct emissions train fleet	F42.12
	F42.13
	H49.10
	H49.31
	H49.39

Source: Sustainable Fitch

An ESG Rating is an assessment of the Environmental, Social and Governance (“E”, “S” and “G”) qualities of financial instruments and/or entities. An ESG Rating is not a credit rating. ESG Ratings are provided by Sustainable Fitch, a separate division of Fitch Ratings. Sustainable Fitch has established certain policies and procedures intended to avoid creating conflicts of interest and compromising the independence or integrity of Fitch Ratings’ credit rating activities, as well as its ESG rating activities. For a description of the methodology, limitations and disclaimers of Sustainable Fitch’s ESG Ratings, please use this link: www.sustainablefitch.com.

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SSE plc

ESG Ratings

	ESG Rating ^a	Score	Analysis Type
Entity	3	62	Full entity
Instrument	2	70	Integrated debt
Framework	2	82	Green

^aESG Rating of 1-5, where 1 is the strongest. Date ESG Rating and score assigned: 2 August 2021
 Note: For Framework, analysis types can be green, social, sustainability, sustainability-linked, conventional or other

Credentials



Transition



ICMA



EU Green Bond Standard

See Appendix A for definitions of Transition and ICMA; other details

Key Debt Details

Instrument	Issue Date	Currency	Amount	Coupon	Maturity Date	Type ^a
Bond	4 Sep 2018	EUR	650m	1.38%	4 Sep 2027	Green

^aAs defined by issuer. Note: Issued by SSE plc. ISIN: XS1875284702

Instrument Relevance

(%)	Instrument	Debt of the Same Type	Any ESG-Related Debt
Versus gross lease-adjusted debt ^a	5.2	17.9	17.9
Versus capital expenditure	45.9	157.7	157.7
Versus cash flow from operations	46.5	160.0	160.0

^aExcluding non-recourse debt.

Business Activity Overlap with Use of Proceeds

Note: Share of the entity's total business activities that can use proceeds from the instrument above. Based on revenue

10%

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The Entity - Highlights

SSE plc is an energy company that carries out the generation, transmission, distribution and sale of energy from renewable and thermal sources. The company's SSE Renewable segment, has an energy portfolio that consists of onshore wind (1.9GW), offshore wind (0.58GW) and hydro (1.5GW), with planned onshore and offshore developments of over 7GW in the pipeline. This segment and the distribution and transmission of renewable energy, which is operated by SSEN Transmission (SHET) and SSEN Distribution (SHEPD), is integral to the reduction of the carbon intensity of its electricity generation, and is part of a wider transition to net-zero carbon emissions in the UK and abroad.

SSE Thermal's energy portfolio consists of flexible gas-fired power generation and storage, with a new 840MW power plant in development that is expected, by SSE, to be the cleanest and most efficient gas-fired power plant in Europe by completion in 2022. The thermal segment makes up a significant share of SSE's generated energy output (65% non-renewable versus 35% renewable output) as reported in the 2021 annual report. SSE says its thermal technologies are a critical complement to renewable energy generation. However, SSE also recognises the need to decarbonise the assets and is exploring decarbonisation as part of its business strategy.

SSE has adopted a new Net Zero Acceleration programme in 2021 which includes committing GBP 12.5 billion in capital investments by 2026 focused on net-zero infrastructure, and emission reduction targets in line with a 1.5°C pathway, approved by the Science Based Targets initiative. SSE has also made a commitment to not construct any new gas-fired power stations without a clear route to decarbonisation. While SSE demonstrates awareness of prevalent sustainability issues with clear ambitions to reduce negative impact, its current decarbonisation strategy relies on technologies still at early stages of development, such as carbon capture and storage (CCS) and hydrogen.

SSE shows awareness of ESG risks over the short, medium and long term, and integrates these in its group risk management framework, which features a Task Force on Climate-Related Financial Disclosures (TCFD) recommended risk assessment process. The risk management framework considers both physical and transitional climate change related risks, and proposes mitigation actions for each identified risk. Key risks include weather impacts on renewable energy output, damage to assets from natural disasters, closures of unabated gas-powered facilities earlier than 2030, and lower than forecasted average wind energy prices.

SSE has also identified social risks resulting from the net-zero energy transition such as fair energy pricing, retaining people in high-carbon jobs, and human rights issues in metal and mineral supply chains, which it explores in its Just Transition Strategy.

SSE has published yearly sustainability reports since 2015 in line with externally recognised frameworks such as the Global Reporting Initiative. Since 2017 it has further adopted the

The Entity – Highlights (Cont.)

recommendations of the TCFD and since 2021 it also reports in line with the Sustainability Accounting Standards Board (SASB). SSE also reports yearly on progress and allocation of its green bonds since 2018.

Since 2019, SSE has aligned its business strategy to the UN Sustainable Development Goals (SDGs). SSE has identified four SDGs (7, 8, 9 and 13) as highly material to its business. These goals form the foundation of SSE's 2030 strategy with progress linked to executive remuneration. SSE discloses progress towards each business goal in its sustainability report.

Source: Sustainable Fitch, 2021 SSE annual report, 2021 SSE sustainability report, 2020 SSE Just Transition Strategy, SSE net zero acceleration programme strategic update November 2021

The Transaction – Highlights

- SSE's green bonds support the group's strategy and transition to a low-carbon energy system by financing expansion of its renewable energy capacity and transmission network. As a major investor in the UK and Ireland's renewable energy infrastructure, the issue of a green bond shows SSE's commitment to long-term sustainability in the energy sector and the transition to a low carbon economy.

Source: Sustainable Fitch, 2021 Green Bond Framework

Framework Analysis

Use of Proceeds – Eligible Projects

ESG Rating: 1

Company Material	Fitch's View
Wind farms offshore equity investments	
<ul style="list-style-type: none"> Proceeds will be allocated to offshore projects currently under construction, such as Seagreen 1 and Dogger Bank, as well as to other consented offshore sites planned to be in operation by 2025-26. 	<ul style="list-style-type: none"> No bond proceeds were allocated to projects relating to offshore wind projects. Offshore wind projects are eligible activities under the EU taxonomy and are currently derogated from demonstrating alignment under any taxonomy threshold.
Onshore wind farm investments	
<ul style="list-style-type: none"> Proceeds will be allocated specifically to the 38MW extension of the Gordonbush onshore wind farm and the 443MW Viking onshore wind farm. 	<ul style="list-style-type: none"> Bond proceeds have been allocated to refinancing eligible onshore wind farm projects in the UK and Ireland. Onshore wind farm projects are eligible activities under the taxonomy and are currently derogated from demonstrating alignment under any taxonomy threshold.
Renewable energy transmission network infrastructure	
<ul style="list-style-type: none"> Proceeds will be allocated to building out the capability of the transmission system by supporting the connection of additional renewable energy capacity, including construction of new substations and extensions to existing substations. Particular projects will include the 600MW HVDC transmission link between Shetland and Great Britain, which is on track for energisation in 2024. 	<ul style="list-style-type: none"> Bond proceeds have been allocated to refinancing the Caithness-Moray HVDC transmission link. Transmission infrastructure projects are considered taxonomy eligible if they are on a trajectory to full decarbonisation (meaning that either 67% of newly connected generation capacity is renewable, or the average system grid emissions are below 100gCO_{2e}/kWh). Additionally, infrastructure with the main objective to increase use of renewable electricity generation is taxonomy eligible. SSE's transmission network is expected to meet the taxonomy requirements since 82% of the generation capacity connected to its network is renewable. It is also worth noting that Scotland's wider gross electricity consumption consisted of 97.4% renewable sources in 2020, which is another indication of the high proportion of renewables connected to transmission networks operating in Scotland.

Use of Proceeds – Eligible Projects

ESG Rating: 1

Company Material	Fitch's View
	<ul style="list-style-type: none"> As a point of improvement, SSE could provide more clarity in its green bond frameworks on any ring-fencing mechanisms, considering 18% of connected capacity in this area is non-renewable. The green bond framework at the time of allocation (2017) stated that funds enabled connection of 4.5GW, of which approximately 4.1GW was renewably generated. Investments in the transmission network currently do not wholly supported the connection and transmission of renewable energy, which could be improved upon in future.
Source: 2020/21 Green Bond Framework, 2017 Green Bond Framework, 2020 Green Bond Report	Source: Sustainable Fitch

Use of Proceeds – Other Information

ESG Rating: 3

Company Material	Fitch's View
<ul style="list-style-type: none"> The main selection criteria for eligible projects is that it must contribute to a positive environmental impact, support SSE's commitment to the ongoing reduction of the carbon intensity of its electricity generation and support SDG 13 (Urgent action to combat climate change). The net proceeds from SSE's green bonds will finance or refinance eligible green projects that are either under construction, will be completed within 24 months, or have been completed in the previous 24 months. 	<ul style="list-style-type: none"> The DNV Assurance report stated that the expected split between refinancing and new projects was 75%/25%. However, 100% of the proceeds from all SSE's four green bonds have been allocated to refinancing. SSE could consider increasing the amount of new projects financed by future green bonds, as this would signal progress towards SSE's renewable energy capacity targets. Another point of improvement would be to limit the lookback period to 12 months as an indication of the intent to finance new projects. Proceeds from SSE's first four bonds were clearly allocated to renewable energy transmission projects, however the green bond framework could be clearer on any ring fencing mechanisms to ensure funds are supporting only renewables-related transmission projects, as thermal facilities are also connected to the network.

Framework Analysis

Use of Proceeds – Other Information

ESG Rating: 3

Company Material	Fitch's View
Source: Green Bond Framework 2021_Green Bond Report 2021	Source: Sustainable Fitch

Evaluation and Selection

ESG Rating: 3

Company Material	Fitch's View
<ul style="list-style-type: none"> Project evaluation and selection is carried out by SSE's tax and treasury committee, which includes representatives of the key departments within SSE (corporate finance, group treasury and tax) that are responsible for the liquidity of the company. The committee is led by SSE's finance director. For any investment of more than GBP10 million, projects are evaluated by SSE's large capital project governance framework in addition to the SSE tax and treasury committee. 	<ul style="list-style-type: none"> The project evaluation and selection process is defined in the green bond framework. The requirements for eligible projects are clear, however the selection criteria could make reference to SDG 7 in addition to SDG 13, as this is highly relevant to renewable energy operations. The tax and treasury committee does not include members with a sustainability-related role or background. A second control structure in the evaluation and selection process would allow separating the individuals who propose projects from the individuals who evaluate projects.
Source: Green Bond Framework 2021	Source: Sustainable Fitch

Management of Proceeds

ESG Rating: 2

Company Material	Fitch's View
<ul style="list-style-type: none"> The proceeds will be directly allocated to refinance projects to the level of capital expenditure spent at the time of settlement. Proceeds will then be allocated on a monthly basis to cover ongoing capital expenditure of the projects. For proceeds that cannot be allocated to refinance projects at settlement, SSE will temporarily hold the funds either in deposits within its relationship banking group or within its liquid money market fund. 	<ul style="list-style-type: none"> For all SSE's green bond issuances to date, proceeds were allocated at the time of settlement. In the case of unallocated proceeds, the funds will be kept as part of SSE's liquid money market fund until allocated. Best practice in the sector would be to manage the green bonds proceeds in a separate bank account or special purpose vehicle until allocation. There is a process for reallocating funds from projects that are no longer considered eligible.

Management of Proceeds

ESG Rating: 2

Company Material	Fitch's View
<ul style="list-style-type: none"> Funds held on deposit will be monitored by the tax and treasury committee until fully allocated. Auditors, or any other third party appointed by SSE, will verify the internal tracking method and the allocation of funds from the green bond proceeds to eligible green projects. In the case of divestment from an eligible project, the funds will instead be reallocated to other eligible projects in the same category. 	<ul style="list-style-type: none"> SSE's auditors have verified the internal tracking method and the allocation of funds to eligible green projects, most recently by PwC in 2021.
Source: Green Bond Framework 2021	Source: Sustainable Fitch

Report and Transparency

ESG Rating: 1

Company Material	Fitch's View
<ul style="list-style-type: none"> SSE will report annually until the maturity of the green bond on both the allocation of proceeds and the environmental impact of the funded projects. The reporting will include relevant environmental metrics related to the eligible green bond projects, for example. The expected annual carbon saved, the expected electricity capacity and output, and the electricity flows from any transmission investments. Auditors, or any other third-party appointed by SSE, will verify the internal tracking method and the allocation of funds from the green bond proceeds to the eligible green projects. 	<ul style="list-style-type: none"> Additional detail about the sustainability-related background of the auditors that verify the allocation of funds would provide more assurance in the audit. The impact reporting is detailed and includes relevant environmental metrics on an individual project level. Linking the reported impact metrics back to SSE's science-based targets, or to alignment with other verified standards, such as the EU taxonomy, would provide more assurance in this regard.
Source: Green Bond Framework 2021	Source: Sustainable Fitch

Framework Analysis

Relevant UN Sustainable Development Goals – Instrument

- 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix.
 - 7.3: By 2030, double the global rate of improvement in energy efficiency.
-
- 9.4: By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.
-
- 13.2: Integrate climate change measures into national policies, strategies and planning.
 - 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.



Source: Sustainable Fitch, United Nations

Framework Analysis

Alignment with EU Green Bond Standards

Framework	
- Strategy and rationale – aligned with EU taxonomy	Yes
- Issuer selection process	No
- Issuer evaluation process verified	No
- Project description	Yes
- Management of proceeds	Yes
- Reporting	Yes
Overall framework alignment	No
Allocation Reporting	
- Statement on EU GBS	No
- Project breakdown (sector level)	Yes
- Geographic distribution	Yes
- External verification	Yes
- Frequency	Yes
Overall allocation reporting alignment	No
Impact Reporting	
- Project descriptions	Yes
- Environmental objectives	Yes
- Breakdown by type and by financing /refinancing	Yes
- Impact metrics	Yes
- Frequency	Yes
Overall impact reporting alignment	Yes

Source: Sustainable Fitch

Green Projects

Use of Proceeds	Contribution to EU Environmental Objectives						Technical Screening Criteria	Do No Significant Harm	Minimum Safeguard
	EO1	EO2	EO3	EO4	EO5	EO6			
Wind farms offshore equity investments	Yes	No	No	No	No	No	Yes, wind power is currently derogated from demonstrating alignment under any taxonomy threshold.	Yes, offshore wind power causes no significant harm to climate change mitigation or climate change adaptation, however it may cause other negative environmental impact, including disturbance of biodiversity, landscape change and waste generation.	Yes, the activity should be carried out in 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 (IBHR).
Onshore wind farm investments	Yes	No	No	No	No	No	Yes, wind power is currently derogated from demonstrating alignment under any taxonomy threshold.	Yes, onshore wind power causes no significant harm to climate change mitigation or climate change adaptation. However, it may	Yes, the activity should be carried out in alignment with the OECD guidelines for multinational enterprises and UN guiding principles on

Framework Analysis

Green Projects

Use of Proceeds	Contribution to EU Environmental Objectives						Technical Screening Criteria	Do No Significant Harm	Minimum Safeguard
	EO1	EO2	EO3	EO4	EO5	EO6			
Renewable Energy Transmission Network Infrastructure	Yes	Yes	No	No	No	No	Yes, transmission systems need to be on a trajectory to full decarbonisation (having either 67% of newly connected generation capacity from renewable sources, or average system grid emissions below 100 gCO ₂ e/kWh). Transmission activities also need to reduce material climate risks or support system adaptation efforts.	Yes, transmission networks cause no significant harm to climate change mitigation or climate change adaptation, however it may cause other negative environmental impacts including damage to water ecosystems and the circular economy.	Yes, the activity should be carried out in alignment with the OECD guidelines for multinational enterprises and UN guiding principles on business and human rights, including the ILO declaration on Fundamental Rights and Principles at Work, the eight ILO core conventions and the IBHR.

Green Projects

Use of Proceeds	Contribution to EU Environmental Objectives						Technical Screening Criteria	Do No Significant Harm	Minimum Safeguard
	EO1	EO2	EO3	EO4	EO5	EO6			

Source: Sustainable Fitch

EU Environmental Objectives: climate change mitigation (EO1); climate change adaptation (EO2); sustainable use and protection of water and marine resources (EO3); transition to a circular economy, waste prevention and recycling (EO4); pollution prevention and control (EO5); protection of healthy ecosystems (EO6)

Entity Analysis

Broader Perspective on Sector

Sector Trajectory	Fitch's View
Short term	<ul style="list-style-type: none"> The energy sector is under pressure to decarbonise its operations and assets to support the transition to a net-zero economy. Companies with non-renewable assets are facing regulatory and financial risks and will need to take action to either discontinue such operations or find strategies to decarbonise carbon intensive assets that are not aligned with climate targets and regulations. Companies that operate renewable energy facilities are also under pressure to scale up their operations to meet an increasing energy demand. The sector is also faced with uncertainty from weather impact on renewable energy sources, and the need to maintain flexibility and stability of the energy system. Such uncertainty means that non-renewable energy sources still play a key role in energy supply in the short term. The sector is also exploring new technologies such as hydrogen and CCS, to decarbonise non-renewable energy assets as they continue to support a stable net-zero transition.
Long term	<ul style="list-style-type: none"> The energy sector is pivotal in the transition to a low-carbon economy. Focus remains on the expansion of renewable energy infrastructure, the discovery of new technologies, and increasing access to renewable energy, including investment in smart grid developments. To stay consistent with a 1.5°C pathway and targets to reach net-zero by 2050, the sector is likely to face increasingly stringent measures from both regulators and investors to adapt its activities and improve transparency. Components of reporting, such as scenario analysis, disclosure on environmental metrics and their financial implications are expected to become more and more demanding for companies in this sector, with a focus to eliminate greenwashing. In addition, issues such as storage solutions and maintaining a stable electricity supply are likely to stretch into the long term with increasing urgency as the role of non-renewable energy sources is reduced. The sector may also see introduction of new renewable-energy incentives, as well as increased emissions regulations that can drastically impact companies' results and strategies.

Source: Sustainable Fitch

Broader Perspective on Company

Company Direction	Fitch's View
Short term	<ul style="list-style-type: none"> The Net Zero Acceleration strategy is a key development which places SSE in a good position to be a leader in the clean energy transition. Until 2026, it will commit capital investments of GBP12.5 billion to net-zero infrastructure, focused on facilitating an additional 4GW renewable energy capacity, and expanding transmission and distribution networks, while maintaining the 1.5°C -aligned pathway. While SSE shows positive progress on all its short-term sustainability-related performance metrics, there is still some way to go to maintain progress towards net-zero in the short term. One of the larger challenges for SSE will be to continue the transition away from non-renewable assets which still make up a significant part of its energy mix. SSE reached a significant milestone in March 2020 with the closure of its last coal-fired power plant, which also contributed to a significant reduction in emissions. SSE maintains that its gas-powered facilities make up an important segment in providing stability and flexibility to the network. Therefore, SSE is exploring routes to decarbonise these assets through abatement, and has been recognised for its progress within hydrogen and CCS in the UK. New projects in the short term include a first-of-its-kind, high efficiency, gas-fired generation technology at its Keadby 2 facility. It will also have the capacity to blend hydrogen. These are important developments considering that SSE's gas-related facilities are currently operating above the taxonomy emissions threshold, which may also significantly impact its compliance with other standards. SSE has set a new 1.5°C -aligned target to reduce the Scope 1 carbon intensity of electricity generated at each of its facilities (thermal and renewable) by 78.8% by 2030 to around 67gCO₂e/kWh. Achieving this reduction would make its facilities aligned with the EU taxonomy threshold which is at 100gCO₂/kWh. More detailed reporting on SSE's CO₂ emissions per kWh of individual facilities, particularly its gas-fired and hydro-power facilities would provide clearer transparency on each facility's progress towards alignment with the taxonomy.

Entity Analysis

Broader Perspective on Company

Company Direction	Fitch's View
Long term	<ul style="list-style-type: none"> SSE has taken other steps to demonstrate strong leadership in the net-zero transition in the UK and abroad, such as its commitment to science-based carbon reduction targets, its renewable energy expansion investments and the development of its Just Transition Strategy. SSE also demonstrates leadership by its investments in technologies such as CCS and hydrogen. SSE takes a long-term approach to identifying potential risks and opportunities, beyond its immediate operations, such as taking into consideration fair energy prices, retraining high-carbon sector employees and supporting the roll-out of electric vehicles. Going forward, SSE has a continuing role to play in the expansion of renewable energy infrastructure, for example in the trial and development of smart grids and the development of storage solutions. However, many of SSE's current decarbonisation strategies are highly reliant on new and uncertain technologies. Therefore, significant challenges remain if SSE is to keep its leadership profile in the long term, where SSE may need to stretch beyond current ambitions to increase renewable energy output, and decarbonise or move away from high-emission assets.

Source: Sustainable Fitch

Entity Analysis

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
SSE Renewables (offshore wind, onshore wind, & hydro assets)			
<ul style="list-style-type: none"> SSE Renewable's business activities include generation of electricity from onshore wind, offshore wind, flexible hydro-electricity, run-of-river hydro-electricity and pumped storage. The operational offshore wind installed capacity is 487MW in 2Q2021, with 2GW in the immediate development pipeline. The operational onshore wind installed capacity is at 1.9GW in 1Q21 with 497MW in the development pipeline. Hydro-electric installed capacity is at 1.5GW in 1Q21 with plans to develop a new 1.5GW pumped storage plant in the future. The above numbers are based on wholly owned sites and share of joint ventures. <p>Represents 4% of overall revenue.</p>	<ul style="list-style-type: none"> SSE's target to triple its renewable energy capacity by 2030 is ambitious. Its current renewable output is equal to or slightly lower than UK and European peers. Offshore and onshore wind power represent around 22% of SSE's total energy output. Wind power generation is considered aligned with the taxonomy, and is currently derogated from performing greenhouse gas lifecycle and/or product carbon footprint assessments to demonstrate alignment. Hydropower, which represents around 13% of SSE's total energy output, is subject to a threshold under the taxonomy (facilities with life cycle emissions lower than 100gCO₂e/kWh, declining to 0gCO₂e/kWh by 2050, are eligible). Hydropower activities 	<ul style="list-style-type: none"> SSE recognises that there may be both positive and negative social impacts of the net-zero transition, and have created their Just Transition Strategy to address social challenges in line with the SDGs. The strategy is comprehensive, and SSE calls it the first of its kind. It addresses key social issues of the net-zero transition such as retraining and deploying people in high-carbon jobs, ensuring fair energy pricing, providing equal access to smart grids, and addressing human rights issues in energy supply chains. With its Just Transition Strategy, SSE has taken a leading role in addressing social issues in the energy sector, which are 	2

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
	<p>may also cause additional negative environmental impacts, such as water pollution, generation of waste, and impacts on biodiversity, where the taxonomy will require mitigating measures to remain taxonomy aligned. SSE does not currently provide a breakdown of gCO₂e emissions by each renewable energy source, which means its hydropower operations cannot be confirmed as taxonomy aligned.</p>	<p>otherwise often less prioritised in relation to environmental issues in the sector.</p>	
SHET electricity network transmission			
<ul style="list-style-type: none"> SHET operates high voltage transmission of electricity from generating plants to the distribution network in the north of Scotland. <p>Represents 6% of overall revenue.</p>	<ul style="list-style-type: none"> Transmission infrastructure projects are taxonomy eligible if they are on a trajectory to full decarbonisation (having either 67% of newly connected generation capacity from renewable sources, or average system grid emissions below 100gCO₂e/kWh). The activity also needs to either reduce material climate risks or support system adaptation efforts. 	<ul style="list-style-type: none"> SHET will also be guided by the SSE groups' Just Transition Strategy. SHET plays an essential role in ensuring stable and equal access to electricity, including access to smart grids to support the renewable energy transition. The Just Transition Strategy is highly relevant to SHET as it 	2

Entity Analysis

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
	<ul style="list-style-type: none"> • SHET plays an important role in connecting new remote renewable energy sources to areas of demand. The transmission segment also made positive progress in 2020 when it became the world's first network company to set a science-based carbon reduction target. • However, the transmission network also transmits energy from gas-fired power plants in Scotland and southern England, equal to around 18% of connected generation as well as from hydropower. These technologies are subject to the 100gCO₂e/kWh taxonomy threshold. Currently, SSE does not sufficiently disclose emissions by energy source, which means taxonomy alignment cannot be assessed. • Whether SHET's network remains taxonomy aligned will depend on future arrangements for its 	<p>promotes equality in developing competence and accessibility to benefit from smart grids.</p>	

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
	<p>gas-fired power plants and hydro operations, where reporting on CO₂ emissions from individual plants will be key to assess taxonomy alignment.</p>		
SSEN Distribution			
<ul style="list-style-type: none"> • SSEN Distribution operates lower voltage distribution of electricity to customer premises in the north of Scotland and the south of England. <p>Represents 12% of overall revenue.</p>	<ul style="list-style-type: none"> • Distribution activities are subject to the same 100gCO₂e/kWh taxonomy threshold as the transmission activities described above. As SSE distributes energy from both renewable and non-renewable resources, and the non-renewable share of SSE's energy generation is around 65%, its distribution activities may not yet be fully considered as an activity which enables climate change mitigation or adaptation under the taxonomy. • In October 2021, the segment became the first UK distribution network operator to set a science-based carbon reduction target in line with a 1.5°C pathway. 	<ul style="list-style-type: none"> • SSEN Distribution will also be guided by the Just Transition Strategy as its business operations change to support the net-zero transition. • SSEN Distribution also contributed to the Centre for Sustainable Energy's 'Smart and Fair' project, which addresses consumer capability in accessing smart grids. SSEN Distribution is now funding the next phase of this project, that will support the spread the benefits of flexible electricity systems widely. • With regards to fair pricing, SSEN Distribution is also 	3

Entity Analysis

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
		ensuring proposals for the next price control period (2023 to 2028), are developed with significant stakeholder engagement throughout and with social equity built in from the start.	
SSE Thermal			
<ul style="list-style-type: none"> SSE Thermal's business activities include generation of electricity from thermal plants and the group's interests in multifuel assets in the UK and Ireland, as well as underground gas storage. <p>Represents 8% of overall revenue.</p>	<ul style="list-style-type: none"> SSE Thermal's facilities are subject to the same g100CO₂e/kWh taxonomy threshold as the transmission and distribution activities. SSE's facilities (gas and renewable) operated at 255gCO₂/kWh in the period March 2020 - March 2021. SSE does not disclose CO₂ emissions by segment, meaning the emissions of its thermal operations cannot be calculated, however based on the overall metric provided, it is likely that its thermal operations are currently above the threshold for a taxonomy eligible activity. 	<ul style="list-style-type: none"> SSE's Thermal segment will also be guided by the Just Transition Strategy as its business operations change to support the net-zero transition. The strategy is of particular relevance to this segment as it addresses retraining and re-deploying employees in high-carbon jobs. 	4

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
	<ul style="list-style-type: none"> SSE have set a target to reduce the overall carbon intensity of its electricity generation to 67gCO₂e/kWh by 2030. The reduction required is significant and will be key progress on the company's net-zero trajectory if achieved. SSE has not set a specific carbon intensity target for each of its thermal facilities. The carbon intensity of each facility would need to be below 100gCO₂e/kWh to be compliant with the taxonomy threshold. SSE could improve its emissions disclosures and give more information on its considerations of the taxonomy threshold. The taxonomy further specifies that facilities that will incorporate abatement (e.g. CCS, co-firing) will have to show that the abatement activity is eligible under the taxonomy. This will affect SSE, as most of its older plants will 		

Entity Analysis

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
	<p>undergo some form of abatement by 2030, with focus on CCS and hydrogen.</p> <ul style="list-style-type: none"> Storage of thermal energy is currently eligible under the taxonomy as it contributes to power grid stabilisation. SSE's storage assets can play an important role in supporting security of supply in the net-zero transition once energy storage in coal stocks are lost. SSE also mentions plans to repurpose storage facilities for other lower carbon gases such as hydrogen, however this is still in the ideation stage and will be monitored going forward. 		
Customers (Business Energy & Airtricity)			
<ul style="list-style-type: none"> The customers segment includes both business energy, the supply of energy and related services to businesses, households and the public sector in Great Britain; and airtricity, the supply of the same in the Republic of Ireland and Northern Ireland. <p>Represents 44% of overall revenue.</p>	<ul style="list-style-type: none"> The SSE business energy and airtricity departments serve both SSE Renewables and SSE Thermal, where its thermal-related activities are subject to the taxonomy threshold of 100gCO₂/kWh. However, the segment plays an important role 	<ul style="list-style-type: none"> SSE's customers segment will also be guided by the Just Transition Strategy. The framework is of particular relevance to this segment as it includes SSE's principles for consumer fairness. 	3

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
	<p>in SSE Renewable's growth plan, for example, the launch of its 'Next Generation' green supply product to help businesses meet their own net zero targets.</p>	<p>The principles address issues such as fuel poverty, advocating a whole system analysis that properly reflects both the costs and benefits to energy consumers and supports a more equitable allocation of costs amongst those consumers.</p>	
SSE Enterprise			
<ul style="list-style-type: none"> The enterprise segment covers the integrated provision of services in competitive markets for industrial and commercial customers including distributed energy, electrical contracting, heat and private energy networks, lighting services and SSE's share of telecoms capacity and bandwidth. <p>Represents 5% of overall revenue.</p>	<ul style="list-style-type: none"> SSE Enterprise plays an important role in research and exploration of new opportunities, and its focus is largely related to SSE's renewable energy and decarbonisation plans. SSE states that the department's primary focus going forward will be distributed energy and developing whole system thinking solutions to support decarbonisation, including distributed generation, energy optimisation, heat and cooling networks, electrical networks, 	<ul style="list-style-type: none"> The enterprise segment works to enable technologies that will support the expansion and access to renewable energy infrastructure. As it is guided by SSE's just transition framework, aspects such as equal energy access should be considered also by this segment. 	2

Entity Analysis

Business Activities

Company Material Core Contributions	Fitch's View		
	Environmental	Social	ESG Rating
	<p>smart buildings and EV charging.</p> <ul style="list-style-type: none"> SSE Enterprise is also developing offerings in solar and has plans to develop over 500MW of battery storage across the UK. However, the segment serves both SSE Renewables and SSE Thermal, where its thermal-related activities are subject to the taxonomy threshold as described above. SSE could expand on the granularity of its disclosures, including segment-level emissions disclosures, to give an idea of the potential environmental impact of its enterprise segment. 		
Energy Portfolio Management (EPM)			
<ul style="list-style-type: none"> The EPM segment works to optimise SSE's electricity, gas and other commodity requirements. <p>Represents 20% of overall revenue.</p>	<ul style="list-style-type: none"> The EPM segment serves both SSE Renewables and SSE Thermal, where its thermal-related activities are subject to the taxonomy threshold as described above. 	<ul style="list-style-type: none"> While SSE's Just Transition Strategy is group wide, EPM has not been considered as directly aligned with or contributing to social impact. 	4

Business Activities

Company Material Core Contributions	Fitch's View			
	Environmental	Social	ESG Rating	
Group services	<ul style="list-style-type: none"> Group services' is the operational segment responsible for strategy, innovation, regulatory activity and reporting, financing and general operations. <p>Represents 1% of overall revenue.</p>	<ul style="list-style-type: none"> Group services' is the operational segment responsible for strategy, innovation, regulatory activity and reporting, financing and general operations. 	<ul style="list-style-type: none"> The group services segment will also be guided by the Just Transition Strategy, which is particularly relevant to areas such as retaining employee trust and retraining and redeploying people from high-carbon jobs within SSE. 	3
Gas production	<ul style="list-style-type: none"> The gas production segment was responsible for production and processing of gas and oil from North Sea fields. This business segment has now been discontinued, but still generated 0.2% of revenue during the financial year ending March 2021 (FY21). <p>Represents 0% of overall revenue.</p>	<ul style="list-style-type: none"> The gas production segment was responsible for production and processing of gas and oil from North Sea fields. This business segment has now been discontinued, but still generated 0.2% of revenue during the financial year ending March 2021 (FY21). 	<ul style="list-style-type: none"> As a discontinued segment it's not covered by or relevant to SSE's Just Transition Strategy and is not generating a specific social impact. 	4
Source: SSE plc annual report 2021	Source: Sustainable Fitch, based on SSE plc annual report 2021			

Entity Analysis

Environmental View

Profile	Fitch's View	ESG Rating
Policies	<ul style="list-style-type: none"> The SSE group's policies cover key environmental topics, including resource efficiency, water use, biodiversity and pollution prevention. SSE also has a sustainability policy and a climate change policy in place. It is noted that SSE's policies are high-level and could be built out with more details in each policy on specific measures that govern processes, risk monitoring and steps to improvement, particularly in impact areas that are highly relevant to SSE's operations, such as land use, biodiversity, pollution prevention, circular economy and waste management. 	3
Disclosure	<ul style="list-style-type: none"> Scope 1 and Scope 2 emissions disclosures are available in aggregate but not by business segment. Disclosure of emissions by segment, or results from any lifecycle emission assessment for at least its energy generation and hydropowers activities, would allow comparison to the taxonomy emission thresholds. Scope 3 emissions are disclosed but also not clearly broken down into emissions by business segment. SSE's sustainability strategy recognises challenges of Scope 3 emissions reporting, and confirms that SSE is working to improve its Scope 3 emissions disclosures. Disclosing Scope 3 emissions by business segment, for at least its energy generation and transmission segments, would allow further insight into the emissions, particularly in terms of the taxonomy. SSE provides relevant disclosures on water use, energy use, waste, and recycling. Disclosures on land use are not available despite this being a relevant area to SSE's business. 	3
Evolution	<ul style="list-style-type: none"> In 2020, aggregate emissions (scope 1, scope 2 and scope 3) were reduced by almost 12% compared to the previous year. This reduction was largely a result from a transformational change as SSE closed its last remaining coal-fired power station in March 2020, which led to a 14% reduction in Scope 1 generation emissions and a 45% reduction in Scope 2 emissions. Since at least 2018, SSE's aggregate emissions have gradually reduced each year, with the exception of an increase between 2019-2020. Despite the increase, the 2019 emissions still represented a 16% decrease compared to 2018. The average carbon intensity of SSE's generated electricity was at 255gCO₂e/kWh in the most recent reporting year (ending March 2021). Between March and September 2021, the carbon intensity increased to 	2

Environmental View

Profile	Fitch's View	ESG Rating
	<p>292gCO₂e/kWh. The increase was due to unfavourable weather conditions for renewables.</p> <ul style="list-style-type: none"> SSE's metrics on natural resource use have followed an increasingly positive trend, though the reduction seems to be gradual rather than due to transformative business decisions. SSE has reported general positive progress on all its sustainability-related core business goals in 2021. However, with regards to its renewable energy target, SSE's renewable generation output decreased between the financial year 2019 and 2020 from 11.4TWh to 10.2TWh. SSE reports that this was mainly due to unfavourable weather conditions across both wind and hydro, and that renewable generation output in 2020/21 still represented an increase of 4% compared to the 2017/18 baseline. The significant capital investments planned through its Net-Zero Acceleration programme is likely to support an increase in renewable capacity by 2026, also resulting in increased output. 	
Targets and supply chain	<ul style="list-style-type: none"> Environmental targets are directly integrated into SSE's strategy, which is closely linked to the SDGs, science-based targets and an overall net zero by 2050 target. In 2021, SSE updated its science-based targets to align with a 1.5°C pathway. The new targets are ambitious and include reducing Scope 1 emissions intensity by 78.2% per gCO₂e/kWh between 2017/18 and 2030 to about 67gCO₂e/kWh, and reducing absolute Scope 1 and Scope 2 emissions by 72.5% between 2017/18 and 2030. It is positive to see SSE update its targets to the stricter 1.5°C pathway, and that targets are set for both absolute emissions and emissions intensity. The Scope 3 emissions target is to reduce absolute emissions from use of products sold by 50% by 2034 from a 2017/18 base year, and to engage with 50% of suppliers (by spend) to set a science-based target by 2024. SSE has set four core business goals for 2030, where three are considered environmental targets aligned with SDGs 13, 7, and 9: <ul style="list-style-type: none"> cut carbon intensity by 60%; treble renewable energy output; help accommodate 10 million electric vehicles; and champion fair tax and a real living wage. 	2

Entity Analysis

Environmental View

Profile	Fitch's View	ESG Rating
	<ul style="list-style-type: none"> Progress on the core goals is linked to the variable portion of executive remuneration with a 20% weighting (compared to the 50% of financial measures). This is an impressive weighting which demonstrates that delivery of the SDGs are a core motivation for the company. SSE has a sustainable procurement code in place which sets out clear expectations on SSE's suppliers and contractors, and their supply chains. SSE has taken a firm position in making many of the codes' requirements mandatory. An area of improvement would be to provide information on how supplier's reporting is managed and incorporated in SSE's decision making, as well as knowing whether suppliers who do not comply with mandatory requirements are excluded. SSE has disclosed its climate change related risks and opportunities in line with the TCFD for the past four years, which means they can seamlessly adapt to the transition from voluntary to mandatory TCFD disclosures in FY2022. SSE began to disclose according to the SASB Electric Utilities and Power Generators Standard in 2021. SSE's other environment-related disclosures are aligned with external frameworks, such as the Carbon Disclosure Project's Water Security Questionnaire. 	
Risks and incident treatment	<ul style="list-style-type: none"> SSE has reported zero worst-level incidents and one major environmental incident in 2019 and 11 serious incidents in 2020. SSE also reported four environmental permit breaches in 2020. There is a lack of information on what the incidents related to and why they were classified as major and serious. 	3

Source: Sustainable Fitch, based on 2021 sustainability report, half-year sustainability statement 2021

Entity Analysis

Social View

Profile	Fitch's View	ESG Rating
Human rights	<ul style="list-style-type: none"> SSE has policies to govern human rights and social issues, in line with the UN Guiding Principles on Business and Human Rights, and the UN Global Compact. This is a key area to keep monitoring considering known issues in the wider energy sector supply chain, highly relevant to renewable energy expansion. The SSE Group has taken a leading role on addressing social issues in the energy sector by releasing its Just Transition Strategy. 	1
Labour rights	<ul style="list-style-type: none"> SSE aligns its business practices with ILO, and is a member of the Institute of Business and Ethics. It also sets out to ensure there are proper reporting channels in place for any employee concerns with its 'Doing the Right Thing' guide. SSE has reported no fatal incidents for employees or contractors since 2017, which is an outcome of the work it is doing in accident prevention. In 2021, SSE's total recordable injury rate (TRIR) decreased to 0.15, making it its best year on record for safety performance. SSE's reporting covers employees and contractors only, so it could be improved by also reporting on its wider supply chain. In addition, SSE reported 20 high potential incidents in FY21, which SSE would be encouraged to investigate to ensure continued accident prevention. 	1
Diversity	<ul style="list-style-type: none"> The gender diversity across SSE's organisation is on par with the utilities industry where the proportion of women is relatively low compared to other industries. This, despite SSE placing a large focus on gender diversity in its reporting and strategy. An issue worth noting, raised in SSE's Just Transition Strategy is the trade-off between redeploying employees from the high-carbon sector, where a smaller ratio of employees are female, and increasing the diversity of the workforce. With a gender pay gap of 16.5%, SSE is positioned just above the average for the industry. SSE is addressing the issue of the gender pay gap in detail in its reporting. Further disclosure on the gender pay gap at the senior level is required for more analysis. SSE could also disclose more information on other types of diversity within the group, not just gender. 	4

Social View

Profile	Fitch's View	ESG Rating
Community and customers	<ul style="list-style-type: none"> SSE runs many community focused programmes, such as trialling fairness of flexible energy services. In 2019/20 SSE reported that 9% of its employees were involved in community volunteering initiatives, and that SSE had invested GBP10 million in communities in FY21. SSE provides little information on the level of customer satisfaction. SSE would be encouraged to disclose customer satisfaction metrics, particularly as it provides qualitative information on initiatives to improve consumer experience and maintain electricity supply. 	4
Targets and supply chain	<ul style="list-style-type: none"> One of SSE's 2030 core business goals, considered a social target aligned with SDG 8, was to champion fair tax and a real living wage. Executive remuneration is linked to maintaining its Fair Tax Mark and the Living Wage accreditations, to keeping the TRIR below 0.15, and to reducing the gender pay gap. The two final targets were achieved in 2021. SSE is encouraged to set new targets where it has met its current ones. SSE should set clear targets for managing positive community relationships, reducing disruptions to energy supply for consumers, and initiatives to reduce fuel poverty, as these are increasingly pressing issues in the renewable energy transition. SSE's sustainable procurement code clearly sets out the requirements and expectations on suppliers in terms of human rights, security and ethics. Additional information on how supplier's reporting is managed and incorporated into SSE's decision making is required to ensure it is appropriately taken into account. SSE reports on its positive social impact, including metrics on electricity provided to consumer, jobs created, and relevant safety and wellbeing metrics. The reporting on social impact is integrated into SSE's sustainability report, which does not specify whether the impact is measured based on any relevant frameworks. The information provided around social impact is to a significant extent qualitative. 	3

Entity Analysis

Social View

Profile	Fitch's View	ESG Rating
Risks and incident treatment	<ul style="list-style-type: none"> During the pandemic, the SSE Group implemented a crisis management plan to ensure energy supply to key industries such as healthcare. SSE has not reported any major disruptions to its service during 2020/21. 	1

Source: Sustainable Fitch, based on 2021 annual report, 2021 sustainability report

Entity Analysis

Governance View

Profile	Fitch's View	ESG Rating
Financials and reporting	<ul style="list-style-type: none"> SSE has not reported any investigations or relevant remarks in regards to its financial reporting between 2019-2021. 	1
Top management and control	<ul style="list-style-type: none"> It is noted that diversity, particularly beyond gender, is low at the SSE board level. It is worth noting that SSE dedicates great attention to improving gender diversity across all levels which is positive. An area of improvement could be to set targets for diversity at SSE's executive level, not limited to gender diversity. Four out of ten members of the board are independent, non-executive directors. A point of improvement would be to maintain at least 50% of board members as independent. There is no employee representative on the board, however, one board member is responsible for employee engagement. SSE's audit committee provides an internal audit function and sits separately from the chief executive and non-independent board members. 	3
Remuneration	<ul style="list-style-type: none"> SSE has a remuneration committee which is chaired by an independent non-executive director of the board. Remuneration at the executive level is linked to SSE's purpose and strategy, across multiple areas including financial performance and sustainability. The CEO-to-employee pay ratio is significant, and increased in FY21 from 59:1 to 71:1. However, the main reason for the increase is due to an increase in variable pay for the chief executive following a strong performance year and the formulaic increase in pension value from a pay freeze in FY19. SSE did not access any of the UK government's Covid-19-related funding, did not furlough any employees, created new jobs during the period and made an additional GBP400 payment to all employees. 	3
Risk management	<ul style="list-style-type: none"> SSE has a risk management framework, which is part of its system of internal control. The risk management 	1

Governance View

Profile	Fitch's View	ESG Rating
	<p>framework is in place to identify and mitigate risk across all business units which was last reviewed in 2020.</p> <ul style="list-style-type: none"> SSE has not reported any incidents with regards to compliance or cyber security between 2019-2021. SSE has in place relevant policies relating to corruption and financial crime prevention, regulatory management, taxation and cyber security. Similar to its environmental and social policies, its governance related policies are relatively high level, however they do provide an acceptable level of detail regarding the processes to manage risks and actions in these areas. 	
Tax management	<ul style="list-style-type: none"> SSE has reported no fines with regards to its tax management and has been accredited with the Fair Tax Mark since 2014. 	1

Source: Sustainable Fitch, based on 2021 annual report, 2021 sustainability report

Entity Analysis

Relevant UN Sustainable Development Goals – Entity

- 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix.
 - 7.3: By 2030, double the global rate of improvement in energy efficiency.
-
- 8.5: By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.
-
- 9.4: By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.
-
- 13.2: Integrate climate change measures into national policies, strategies and planning.
 - 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.



Source: Sustainable Fitch, United Nations

Appendix A: Key Terms

Term	Definition
Debt types	
Green	Proceeds will be used for green projects and/or environmental-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Green Bond Principles or other principles, guidelines or taxonomies.
Social	Proceeds will be used for social projects and/or social-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Social Bond Principles or other principles, guidelines or taxonomies.
Sustainability	Proceeds will be used for a mix of green and social projects and/or environmental and social-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Sustainability Bond Guidelines or other principles, guidelines, taxonomies.
Sustainability-linked	Financial and/or structural features are linked to the achievement of pre-defined sustainability objectives. Such features may be aligned with ICMA Sustainability Bond Guidelines or other principles, guidelines or taxonomies. The instrument is often referred to as an SLB (sustainability-linked bond) or SLL (sustainability-linked loan).
Conventional	Proceeds are not destined for any green, social or sustainability project or activity, and the financial or structural features are not linked to any sustainability objective.
Other	Any other type of financing instrument or a combination of the above instruments.

Term	Definition
Standards	
Transition	A term applied to green, social, sustainable or sustainability-linked instruments, only when the purpose of the debt instrument is to enable the issuer to achieve a climate change-related strategy according to Fitch criteria or methodology.
ICMA	International Capital Market Association. The "ICMA" credential on page 1 refers to alignment with ICMA's Green Bond Principles: a series of principles and guidelines for green, social, sustainability and sustainability-linked (or KPI-linked) instruments.
EU Green Bond Standard	A set of voluntary standards created by the EU to "enhance the effectiveness, transparency, accountability, comparability and credibility of the green bond market".
Other terms	
ESG debt	Green, social, sustainability and sustainability-linked types of debt.
Short term	Within five years.
Long term	At least six years away.
Entity's business activity overlap with use of proceeds	The share of the entity's total business activities that can use proceeds from the debt instrument in question.
NACE	An industry standard classification system for economic activities in the EU, based on the United Nations' International Standard Industrial Classification of All Economic Activities (ISIC).
Source: Sustainable Fitch, ICMA, UN, EU Technical Expert Group	

Appendix B: Methodology and ESG Rating Definitions

Fitch's ESG Ratings are designed to indicate an entity's Environmental, Social and Governance (ESG) performance and commitment, as well as its integration of ESG considerations into its business, strategy and management, with a focus on actions and outcomes rather than purely on policies and broader commitments.

There are three ratings: the ESG Entity Rating (ESG ER), ESG Instrument Rating (ESG IR) and, for debt instruments linked to ESG key performance indicators (KPIs) and/or use of proceeds, the ESG Framework Rating (ESG FR). ESG Ratings are on a scale from one to five, where one represents full alignment with ESG best practice. Behind each rating sit scores of zero to 100, as well as sub-scores for even greater granularity.

Sustainable Fitch's analysts assess all the business activities of an entity and more than 40 additional headline factors, covering all three ESG pillars. For debt instruments, they assess use of proceeds and more than 20 additional headline factors.

Fitch provides individual datasets with grades and commentary through a feed. The score and sub-score database allows direct comparison of entities and instruments, on a full ESG basis or on selected fields.

ESG ERs consider the issuer's strategy, how it relates to sustainability, and how sustainability is embedded in the issuer's business, including ESG policies, procedures and outcomes. The entity is broken down into constituent business units, with NACE codes, for a granular assessment of E and S factors. Fitch assesses G aspects at the company level.

ESG FRs consider any type of bond, with varying analysis if there is a defined use of proceeds, KPI-linked coupon or conventional bond. The rating aims to identify the strength of the bond framework on a standalone basis, separate to the entity, regardless of any self-assigned descriptions. Fitch analysts categorise bonds as Green, Social or Sustainability (GSS) types independently, based on their view of the main area covered by the use of proceeds, rather than automatically using the entity's categorisation. They will also determine if the bond should be classed as a transition bond and if it aligns with the EU Green Bond Standard and ICMA principles. Analysis considerations include the use of proceeds and sustainability-linked targets that form the primary purpose of the instrument, and the structure and effectiveness of the framework being used to further that purpose.

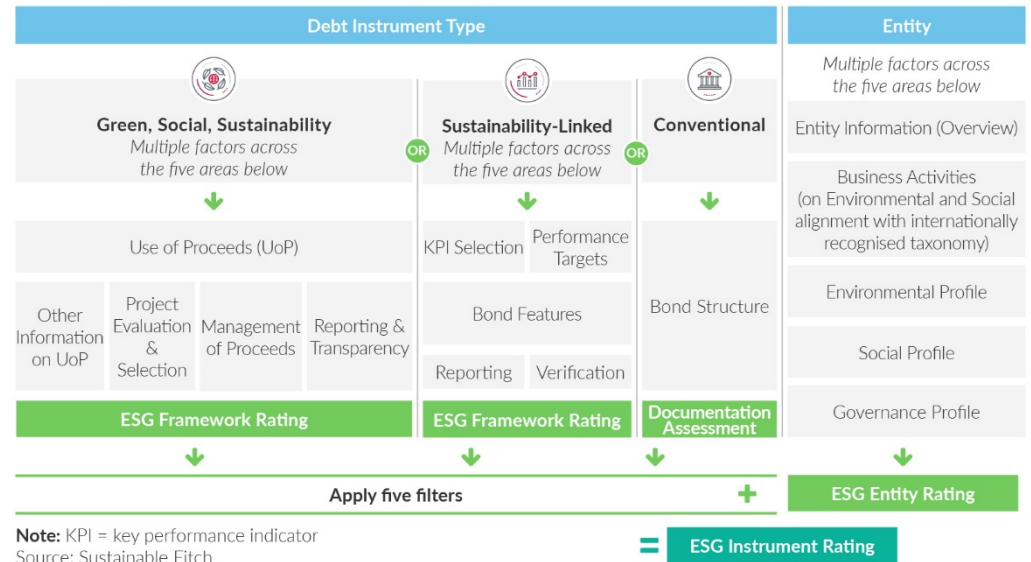
ESG IRs consider different types of debt instruments in the context of the issuing entity, enabling absolute ESG credentials comparisons for similar types of instruments issued by different types of entities, different types of instruments issued by different issuers, as well as different types of instruments issued by a single entity.

Analytical Process

Analysis considers all available relevant information (ESG and financial), including the entity's ESG report. Fitch's ESG Rating Reports transparently display the sources of information analysed for each section and provide a line-by-line commentary on the sub-factors analysed.

Fitch's ESG Rating Process

A visual guide to our debt and entity analysis



An important part of the analysis is the assessment of the E and S aspects of the use of proceeds and business activities. In considering those aspects, the rating framework is inspired by major taxonomies (e.g. the EU taxonomy for E aspects, and the UN Sustainable Development Goals for S aspects). Once the analyst has completed the model, with commentary for the related ESG Ratings, it is submitted to the approval committee, which reviews the model for accuracy and consistency. ESG Ratings are monitored annually or more frequently if new information becomes available.

Use Cases

Sustainable Fitch's ESG Ratings can help inform decisions related to:

- Investment strategy
- Asset allocation and portfolio construction
- Benchmarking and index construction
- Risk management and stress testing
- Identification of transition bonds
- Disclosure and reporting.

Appendix B: Methodology and ESG Rating Definitions

Rating Scale and Definitions

	ESG Entity	ESG Instrument	ESG Framework
1	<p>ESG ER of '1' indicates that the entity analysed evidences an excellent ESG profile.</p> <p>Entity is excellent both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '1' indicates that the debt instrument in the context of the ultimate issuing entity evidences an excellent ESG profile.</p> <p>Entity is excellent both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is excellent in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '1' indicates that the framework for the instrument evidences an excellent ESG profile.</p> <p>Framework structure is excellent in terms of alignment with ambitious best practises and proceeds are dedicated to excellent environmental and/or social activities/projects according to taxonomies of reference.</p>
2	<p>ESG ER of '2' indicates that the entity analysed evidences a good ESG profile.</p> <p>Entity is good both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '2' indicates that the debt instrument in the context of the ultimate issuing entity evidences a good ESG profile.</p> <p>Entity is good both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is good in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '2' indicates that the framework for the instrument evidences a good ESG profile.</p> <p>Framework structure is good in terms of alignment with ambitious best practises and proceeds are dedicated to good environmental and/or social activities/projects according to taxonomies of reference.</p>
3	<p>ESG ER of '3' indicates that the entity analysed evidences an average ESG profile.</p> <p>Entity is average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '3' indicates that the debt instrument in the context of the ultimate issuing entity evidences an average ESG profile.</p> <p>Entity is average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is average in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '3' indicates that the framework for the instrument evidences an average ESG profile.</p> <p>Framework structure is average in terms of alignment with ambitious best practises and proceeds are dedicated to average environmental and/or social activities/projects according to taxonomies of reference.</p>
4	<p>ESG ER of '4' indicates that the entity analysed evidences a sub-average ESG profile.</p> <p>Entity is sub-average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '4' indicates that the debt instrument in the context of the ultimate issuing entity evidences a sub-average ESG profile.</p> <p>Entity is sub-average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is sub-average in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '4' indicates that the framework for the instrument evidences a sub-average ESG profile.</p> <p>Framework structure is sub-average in terms of alignment with ambitious best practises and proceeds are dedicated to sub-average environmental and/or social activities/projects according to taxonomies of reference.</p>
5	<p>ESG ER of '5' indicates that the entity analysed evidences a poor ESG profile.</p> <p>Entity is poor both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '5' indicates that the debt instrument in the context of the ultimate issuing entity evidences a poor ESG profile.</p> <p>Entity is poor both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is poor in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '5' indicates that the framework for the instrument evidences a poor ESG profile.</p> <p>Framework structure is poor in terms of alignment with ambitious best practises and proceeds are dedicated to poor environmental and/or social activities/projects according to taxonomies of reference.</p>

Source: Sustainable Fitch

Appendix C: ICMA Principles and Guidelines

ICMA Labelled: Green Bond

Four Pillars	
1) Use of proceeds (UoP)	Yes
2) Project evaluation & selection	Yes
3) Management of proceeds	Yes
4) Reporting	Yes
Independent External Review Provider	
Second-party opinion	Yes
Verification	Yes
Certification	No
Scoring/rating	No
Other	n.a.
1) Use of Proceeds (UoP)	
UoP	
Renewable energy	Yes
Energy efficiency	Yes
Pollution prevention and control	No
Environmentally sustainable management of living natural resources and land use	No
Terrestrial and aquatic biodiversity conservation	No
Clean transportation	No
Sustainable water and wastewater management	No
Climate change adaptation	No
Eco-efficient and/or circular economy adapted products, production technologies and processes	No
Green buildings	No
Unknown at issuance but currently expected to conform with green bond principles (GBP) categories, or other eligible areas not yet stated in GBPs	No
Other	n.a.
2) Project Evaluation & Selection	
Evaluation & Selection	
Credentials on the issuer's environmental sustainability objectives	Yes

ICMA Labelled: Green Bond

Documented process to determine that projects fit within defined categories	Yes
Defined and transparent criteria for projects eligible for green bond proceeds	Yes
Documented process to identify and manage potential ESG risks associated with the project	No
Summary criteria for project evaluation and selection publicly available	Yes
Other	n.a.
Evaluation & Selection/Responsibility & Accountability	
Evaluation/selection criteria subject to external advice or verification	No
In-house assessment	Yes
Other	n.a.
3) Management of Proceeds	
Tracking of Proceeds	
Green bond proceeds segregated or tracked by the issuer in an appropriate manner	Yes
Disclosure of intended types of temporary investment instruments for unallocated proceeds	Yes
Other	n.a.
Additional Disclosure	
Allocations to future investments only	No
Allocations to both existing and future investments	Yes
Allocation to individual disbursements	Yes
Allocation to a portfolio of disbursements	No
Disclosure of portfolio balance of unallocated proceeds	Yes
Other	n.a.
4) Reporting	
UoP Reporting	
Project-by-project	Yes
On a project portfolio basis	No
Linkage to individual bond(s)	Yes

Appendix C: ICMA Principles and Guidelines

ICMA Labelled: Green Bond

Other	
UoP Reporting/Information Reported	
Allocated amounts	Yes
Green bond-financed share of total investment	Yes
Other	n.a.
UoP Reporting/Frequency	
Annual	Yes
Semi-annual	No
Other	n.a.
Impact Reporting	
Project-by-project	Yes
On a project portfolio basis	No
Linkage to individual bond(s)	Yes
Other	n.a.
Impact Reporting/Information Reported (exp. ex-post)	
GHG emissions/savings	Yes
Energy savings	No
Decrease in water use	No
Other ESG indicators	Energy output
Impact Reporting/Frequency	
Annual	Yes
Semi-annual	No
Other	n.a.
Means of Disclosure	
Information published in financial report	No
Information published in ad hoc documents	Yes
Information published in sustainability report	No
Reporting reviewed	Yes
Other	Information on SSE's green bonds is published in its annual green bond reports

ICMA Labelled: Green Bond

Note: n.a. – not applicable.
 Source: Sustainable Fitch, ICMA

Appendix D: Debt Record

Use of Proceeds – Eligible Projects

Use of Proceeds	NACE Section-Level Code
Wind Farms Offshore Equity Investments	D35.11
Onshore wind farm investments	D35.11
Renewable Energy Transmission Network Infrastructure	D35.12

Source: Sustainable Fitch

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United Utilities PLC

ESG Ratings

	ESG Rating ^a	Score	Analysis Type
Entity	2	71	Full entity
Instrument	2	80	Integrated debt
Framework	2	74	Sustainability

^aESG Rating of 1-5, where 1 is the strongest. Date ESG Rating and Score assigned: 20 May 2021
 Note: For Framework, analysis types can be green, social, sustainability, sustainability-linked, conventional or other

Credentials



Transition



ICMA



EU Green Bond Standard

See Appendix A for definitions of Transition and ICMA; other details

Key Debt Details

Instrument	Issue Date	Currency	Amount	Coupon	Maturity Date	Type ^a
Bond	28 Jan 2021	GBP	300m	0.88%	28 Oct 2029	Sustainability

^a As defined by issuer. Note: Issued by United Utilities Water Finance PLC. Guaranteed by United Utilities Water Limited.
 ISIN: XS2291328735.

Instrument Relevance

(%)	Instrument	Debt of the Same Type	Any ESG-Related Debt
Versus gross lease-adjusted debt ^a	4.2	4.2	4.2
Versus capex	48.7	48.7	48.7
Versus CFO	41.1	41.1	41.1

^aExcluding non-recourse debt. CFO – cash flow from operations.

Business Activity Overlap with Use of Proceeds

100%

Note: Share of the entity's total business activities that can use proceeds from the instrument above. Based on revenue.

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The Entity – Highlights

United Utilities PLC (UU) is the holding company of United Utilities Water Limited (Uuw). It collects, treats and supplies water to customers in northwest England. It also supplies wastewater services through collection, treatment and recycling.

Sustainability plays a major part in the overall strategy, and the company's AMP7 plan (Ofwat regulated, mandatory 2020-2025 plan) includes environmental targets that go above and beyond those of the broader UK water and wastewater industry.

UU shows evidence of ESG risk assessment through the "principal risks" section of its annual report. This shows whether the risk has increased, decreased or stayed the same as in the previous year, and what the mitigation plans are for the risk.

There is a good general level of sustainability reporting, with recognised metrics used, for example alignment to the Task Force on Climate-Related Financial Disclosures (TCFD) and good visual demonstration of figures.

There is good engagement with the UN Sustainable Development Goals (SDGs), with the annual report demonstrating where they have impact. Focusing on the specific targets/indicators could improve this further.

UU received "self-assured" status from Ofwat for the years 2017-2020, reflecting the level of transparency and reporting.

It received three out of four stars overall from the Environment Agency (EA) in 2019, but achieved better performance than target for serious pollution incidents in the UK industry every year during 2011-2019. This has not been achieved by any other UK water company.

Combined sewer overflows (CSOs) are a relief mechanism for water companies to legally discharge rainwater, and untreated sewage into rivers and the sea, when persistent rain occurs and the sewers would otherwise back up. United Utilities declared 2,273 uses of CSOs with permits in 2020, which is around 40% higher than the UK water company average. UU reports that it has 21pp more combined sewers than the UK average (54% of its sewers versus 33% average) and that it receives 28% more rainfall than the average for England and Wales.

UU also reported a high number of spill events in 2020 (113,940) relative to other UK water companies. UU states that one reason for this is spills being counted that are overflows into its own storm tanks (so not the environment) before treatment. It is currently conducting a review of how it captures and reports data, and is working with the EA on the matter.

Source: Sustainable Fitch, annual report 2020, United Utilities EPA data report 2019

The Transaction – Highlights

- The sustainability bond issued by UU is intended to give investors the opportunity to invest directly in the progress towards UU's sustainability objectives, particularly the transition to a lower-carbon economic model in the provision of water and wastewater services and related environmental benefits.

Source: Sustainable Fitch, final terms, sustainable finance framework 2020

Framework Analysis

Use of Proceeds – Eligible Projects

ESG Rating: 2

Company Material	Fitch's View
Sustainable water and wastewater management	
<ul style="list-style-type: none"> The criteria include projects that reduce pollution and the impact of water abstraction, projects that improve water quality, projects that reduce water losses from the system, and flooding mitigation projects. 	<ul style="list-style-type: none"> Projects that reduce pollution and improve water quality or reduce leakage all contribute to the minimising of harm from UU's key business activities. They therefore have environmental benefits and improve alignment with EU taxonomy.
Renewable energy	
<ul style="list-style-type: none"> The criteria include investments and/or expenditures relating to solar PV or wind power installations, investments and/or expenditures relating to construction and operation of biogas-powered combined heat and power (CHP) plants. 	<ul style="list-style-type: none"> Solar PC and wind power installations are eligible without thresholds under the EU taxonomy, so this is positive from an environmental point of view. Construction and operation of biogas-powered CHP plants is eligible under the EU taxonomy, but has a combined heat/cool and power threshold of 100 gCO₂e/kWh. It is not clear whether this would be met.
Energy efficiency	
<ul style="list-style-type: none"> The criteria include investments and/or expenditures relating to establishment of renewable energy storage capacity, investments and/or expenditures relating to improvement in the energy efficiency of the water system. 	<ul style="list-style-type: none"> Improving renewable energy capacity and energy efficiency of the water system directly contributes to alignment to the EU taxonomy, through improving/reducing average energy consumption per cubic metre of water supply.
Pollution prevention and control	
<ul style="list-style-type: none"> The criteria include investments and/or expenditures relating to projects that reduce waste, and increase the proportion of waste materials recycled and/or from which energy is recovered. 	<ul style="list-style-type: none"> Projects reducing waste and recover energy from waste have environmental value through an overall decreased need for energy in new material production.
Environmentally sustainable management of living natural resources and land use	
<ul style="list-style-type: none"> The criteria include investments and/or expenditures relating to projects that deliver an increase in natural capital value, investments and/or expenditures relating to projects that contribute to avoiding deterioration of designated areas. 	<ul style="list-style-type: none"> There is environmental value in this use of proceeds due to mitigation of damage. For example, projects such as wetland creation, sustainable drainage systems, catchment management and moorland restoration contribute to better water quality and

Use of Proceeds – Eligible Projects

ESG Rating: 2

Company Material	Fitch's View
	management, protection of habitats and potentially improve biodiversity.
Terrestrial and aquatic biodiversity conservation	
<ul style="list-style-type: none"> The criteria include investments and/or expenditures relating to projects that deliver improved conservation outcomes, and investments and/or expenditures relating to river quality improvements. 	<ul style="list-style-type: none"> Improvements in conservation outcomes and river quality have value both environmentally (for biodiversity) and socially (for recreational use of rivers).
Clean transportation	
<ul style="list-style-type: none"> The criteria include investments and/or expenditures relating to acquisition and deployment of battery electric vehicles and associated charging infrastructure. 	<ul style="list-style-type: none"> Urban and suburban transport by land is eligible and aligned to the EU taxonomy if the vehicles are not carbon emitting. There is not enough information to establish whether all vehicles purchased are carbon free, but it is still positive from an environmental point of view.
Access to essential services	
<ul style="list-style-type: none"> The criteria include investments and/or expenditures relating to programmes that enable vulnerable customers to maintain access to water and other supplies. 	<ul style="list-style-type: none"> Facilitating access to these essential services through financial support adds social value. This contributes to SDG target 6.1 – By 2030, achieve universal and equitable access to safe and affordable drinking water for all.
Source: Sustainable finance framework 2020	Source: Sustainable Fitch

Use of Proceeds – Other Information

ESG Rating: 3

Company Material	Fitch's View
<ul style="list-style-type: none"> An amount at least equal to the net proceeds from the issuance of the sustainable financing instruments, will be used to finance or refinance, in whole or in part, new or existing projects that meet the project eligibility criteria. Eligible projects are those where expenditure has occurred within the three-year period before the issuance year of the sustainable financing instruments, and/or where 	<ul style="list-style-type: none"> No information is available on the split between financing new projects and refinancing existing projects. Eligible projects are those where expenditure has occurred during the three-year before the bond issue, and the two years after issuance.

Framework Analysis

Use of Proceeds – Other Information

ESG Rating: 3

Company Material	Fitch's View
<p>expenditure has occurred within a two-year period following the issuance.</p> <ul style="list-style-type: none"> The following uses of proceeds are specifically excluded: financing of any fossil-fuel, nuclear, or large hydropower generation projects; and financing of any activities involving tobacco, alcohol, gambling or defence. 	<ul style="list-style-type: none"> Use of proceeds constraints are mentioned in the final terms and defined in the sustainable financing framework. There is no ban on controversial projects, but there is a clear definition of which activities can be financed, and Sustainable Fitch considers these non-controversial.
Source: Sustainable finance framework 2020	Source: Sustainable Fitch

Evaluation and Selection

ESG Rating: 1

Company Material	Fitch's View
<ul style="list-style-type: none"> UU has a comprehensive, integrated, forward-looking, objective and quantitative project risk assessment process. This process aligns to the International Risk Management Standard (ISO 31000), and links to the company's wholesale risk and asset planning approach, which aligns with the International Standard for Asset Management (ISO 55000). The identification of risks and issues, monitoring of strategic performance requirements and prioritisation of investment and operational management are aligned through these processes. 	<ul style="list-style-type: none"> The sustainable financing framework clearly states that "eligible sustainable investments" will fall within social eligible categories or green eligible categories. This gives some confidence that all projects must fit the company's broader sustainability goals. The project evaluation and selection process is laid out clearly, with the governance demonstrated involving more depth than competitors. The review and approval process is well explained, with key stages mentioned and governance in place. There is a programme approval committee that approves funding for each stage of a project, while a programme management office and corporate audit teams provide further levels of assurance. The sustainable finance committee consists of treasury, sustainability, finance and regulated business members. They are responsible for ensuring alignment of proposed projects with their recognised categories, approving changes to register of eligible projects if they no longer meet

Evaluation and Selection

ESG Rating: 1

Company Material	Fitch's View
	<p>criteria and reviewing and approving allocation and impact reports.</p> <ul style="list-style-type: none"> They meet semi-annually or more frequently as required. The treasury function holds overall responsibility for allocation decisions.
Source: Sustainable finance framework 2020	Source: Sustainable Fitch

Management of Proceeds

ESG Rating: 3

Company Material	Fitch's View
<ul style="list-style-type: none"> The net proceeds arising from the issuance under this framework will be managed by the company's treasury function, and will be wholly allocated to finance, refinance or invest in eligible projects. The treasury team will ensure on a best-efforts basis that the portfolio of eligible projects exceeds, or at least is equal to, the amount of sustainable financing instruments raised under this framework. Pending allocation, proceeds will be invested on a temporary basis in accordance with the relevant internal policies, in cash, cash equivalents or similar instruments. 	<ul style="list-style-type: none"> There is little information on proceeds tracking methodology, but it is confirmed that the treasury team will ensure on a best-efforts basis that the portfolio of eligible projects exceeds or is equal to the amount of sustainable financing raised. A more rigorous form of segregation would be positive for the assessment, but due to the nature of financing "business as usual activities", this is more difficult. Unallocated proceeds are held in accordance with the relevant internal policies. Investing unallocated proceeds in line with the bond's sustainability objectives would add further additionality for investors. There is limited information available on allocation monitoring. Transparency would benefit from clarification. UU has an independent review by an external auditor.
Source: Sustainable finance framework 2020	Source: Sustainable Fitch

Framework Analysis

Report and Transparency

ESG Rating: 3

Company Material	Fitch's View
<ul style="list-style-type: none"> • UU already operates a comprehensive sustainability reporting framework, and anticipates that existing reporting arrangements will continue to provide a comprehensive overview of the environmental and social impacts generated by its activities, investments and expenditures. Within one year of issuance, and annually thereafter until full allocation of the sustainable financing instrument net proceeds, it will publish an external report. • The external report will include: (i) an allocation report; and (ii) an impact report, subject to the availability of suitable information and data. These reports will be made available publicly at www.unitedutilities.com • It is anticipated that the allocation report will include: <ul style="list-style-type: none"> – total amount of proceeds allocated to eligible projects, per category; – the proportion of the proceeds allocated to refinancing of existing eligible projects; and – unallocated proceeds. • UU will also report on selected impacts of its eligible projects based on environmental and social performance data. 	<ul style="list-style-type: none"> • There is mention of allocation reporting within the sustainable finance framework, but at the time of analysis there were no reports available. • UU has committed to an external report including allocation and impact report within one year of issuance, but this deadline has not yet passed. • Example metrics that may be demonstrated in the report are; average energy consumption of the system (GWh), operational emissions per megalitre of treated water (KGC0₂e/ML), system energy consumption (percentage reduction), leakage reduction, percentage improvement in key water quality parameters, avoided emissions from renewable electricity generated. • The company has committed to disclosing how much financing raised has been allocated to the proceeds raised for each category. This will be a useful addition. • Its is not clear if the specific capex allocated to each project will be available, but there are industry standard metrics within each category, that should enable to demonstration of the impact of holding the bond successfully.
Source: Sustainable finance framework 2020	Source: Sustainable Fitch

Framework Analysis

Relevant UN Sustainable Development Goals – Instrument

- 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all.
- 6.4: By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.
- 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix.
- 9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.



Source: Sustainable Fitch, United Nations

Entity Analysis

Broader Perspective on Sector

Sector Trajectory	Fitch's View
Short term	<ul style="list-style-type: none"> The water and sewerage industries are essential components of the overall utilities sector. Supplying clean, safe drinking water to consumers around the world is an essential activity that caters for the most basic of physical needs. Sewage collection, treatment and disposal/recycling is another essential activity that is relied on to maintain basic sanitation, and generate minimal damage from the disposal of sewage waste. In the short term, companies operating in these sectors should be meeting EU directives for environmental impact and biodiversity standards as well as any more specific national standards. Average energy consumption of the front-to-end water supply system should be improving, and leakage of the water supply network decreasing. EU taxonomy thresholds should be the short-term targets at minimum. Within sewage treatment, emphasis should be placed on doing no significant harm from wastewater treatment emissions to water, sewer overflow, sludge treatment and detrimental impact to ecosystems. CSOs are a feature of the combined sewer systems (CSSs) in the UK, where sewage and storm water are carried in one sewer to a centralised waste water treatment plant. CSOs are only legal when specific conditions are met, (e.g. persistent rain) and must be reported. However, they also sometimes occur due to blockages and operational issues. Ofwat launched an investigation into CSOs to establish whether companies are complying with their statutory and licence obligations in November 2021 following reports of widespread unpermitted releases of sewage into the environment by water and wastewater companies. In addition, Ofwat reports that "new information, and analysis by the Environment Agency, suggests that water and wastewater companies may have released sewage into rivers and waterways when they were not legally allowed to do so". The EA is now investigating potential breaches of environmental law. The results of this investigation will be actively considered within the analysis once they are known, with scoring being assessed based upon severity.

Broader Perspective on Sector

Sector Trajectory	Fitch's View
Long term	<ul style="list-style-type: none"> In the long term, companies in this sector should have ambitious targets that go well beyond EU taxonomy thresholds, and strive for zero negative incidents to the environment, as well as continually increasing efficiency of systems. These targets could also be used to help facilitate improvements in less developed societies, where the treatment of water and sewage is significantly less advanced. Beyond this, progress should be made on improving the diversity of the workforce, of a male-dominated sector at both employee and management level. In addition to companies in this sector proactively managing the reduction of CSOs, focus should be maintained on transparency for investors and other stakeholders when overflows and spills occur. This is due to the irrefutable building of public interest and concern on the matter.

Source: Sustainable Fitch

Entity Analysis

Broader Perspective on Company

Company Direction	Fitch's View
Short term	<ul style="list-style-type: none"> As a business focused primarily on the treatment and supply of clean water, and the treatment and disposal of sewage, UU should be focusing on the most pressing sustainability issues of carbon intensity, water leakages and sewage spills. There is good evidence to show improvements and targets across these three areas, particularly in comparison to competitors. It held the best record on pollution incidents among UK water companies during 2017-2020. Continued focus should be held on minimising pollution incidents, in addition to reducing CSOs and spills where possible, and committing to reporting them accurately and transparently.
Long term	<ul style="list-style-type: none"> Relative to other UK water and wastewater companies, UU has a good long-term record, and positive ambitions for the future. It has committed to the shared industry targets, as well as going "above and beyond" in some areas. To continue making progress towards its goals it needs to maintain its pollution incidents record, aim for zero category one and two pollution incidents (which it has previously achieved) and retain some of the lowest category three and four incident numbers in the UK. Its level and depth of reporting is better than many peers, and renewable energy generation at 23.8% is also strong. It will need to keep reporting with the same level of rigour and build on these metrics to maintain its positive ESG profile.

Source: Sustainable Fitch

Entity Analysis

Business Activities

Company Material Core Contributions	Fitch's View			ESG Rating
	Environmental	Social		
Water Collection, Treatment and Supply; Wastewater Collection, Wastewater Treatment and Recycling				
<ul style="list-style-type: none"> UU collects, treats and supplies water to customers in northwest England. It also supplies wastewater services through collection, treatment and recycling. <p>Represents 100% of overall revenue.</p>	<ul style="list-style-type: none"> Water collection, treatment and supply is aligned with the taxonomy, but UU does not appear to meet one of the two thresholds: <ul style="list-style-type: none"> net average energy consumption for abstraction and treatment equal to or less than 0.5 kWh per cubic meter of produced water supply; or the Infrastructure Leakage Index rating method with the threshold value equal to or lower than 1.5. Centralised wastewater treatment is aligned to the EU taxonomy but needs to meet thresholds for net energy consumption of the waste water treatment plant. It is not clear whether these are met from the reporting. Anaerobic digestion of sewage sludge is an eligible activity. Fitch's analysis considers the recent Environment Agency data on pollution 	<ul style="list-style-type: none"> The collection, treatment and clean supply of water has an inherent social benefit to the general population, as it is an essential service. 		2

Business Activities

Company Material Core Contributions	Fitch's View			ESG Rating
	Environmental	Social		
	incidents, as well as CSOs.			
Renewable Energy Generation				
<ul style="list-style-type: none"> UU generates its own renewable energy through CHP, solar, wind, hydro and biomethane. <p>Represents 0% of overall revenue.</p>	<ul style="list-style-type: none"> Renewable energy generation from biogas is an eligible activity under the taxonomy if it generates an 80% reduction in carbon emissions compared to the substitute fossil fuel. We are comfortable that this reduction has been achieved based on the average greenhouse gas emissions from biogas compared to natural gas. 	<ul style="list-style-type: none"> Generation of renewable energy is contributing to a more sustainable world, giving social benefit to the general population. 		1
Source: annual report 2020	Source: Sustainable Fitch, based on annual report 2020			

Entity Analysis

Environmental View

Profile	Fitch's View	ESG Rating
Policies	<ul style="list-style-type: none"> Water use is a core part of UU's business model, and so received more attention through policies and commitments than other areas such as biodiversity, land use, waste and pollution. It has had a comprehensive sustainable catchment management programme since 2005 to maintain the quality of the land around its reservoirs. There is some attention to biodiversity, with one target being "no net loss of biodiversity across capital programmes", and a brief natural environment policy. The company's environmental performance would benefit from more attention being given to this, especially in areas where there have been pollution incidents and/or impact from other water/waste activities. There is attention given to resource efficiency and waste, with clear indications of how much waste is produced and how this is managed. 	1
Disclosure	<ul style="list-style-type: none"> Scope 1 and Scope 2 emission figures are available, and broken down across various categories, separating emissions from sludge disposal and burning of fossil fuels from activities such as transport and business travel. Scope 3 emissions are available, and show emissions from sludge disposal, grid electricity purchased, business travel and avoided emissions across renewable electricity and biomethane exported. Market and location-based figures are given for purchase of grid electricity. Scope 1, Scope 2 and Scope 3 data is available for different categories, but transparency would be improved by data on the quantity of emissions from the water and wastewater activities separately at each of the scope levels. 	3
Evolution	<ul style="list-style-type: none"> Gross GHG emissions reduced by 60% from 2017-2018 to 2019-2020. UU has met its leakage target (it has done so for 15 consecutive years). The company passed the majority of its AMP6 performance commitments in 2019/20, ultimately receiving a GBP21.1 million outperformance reward. Its natural gas usage increased from 33.0 GWh in 2018-2019 to 40 GWh in 2020-2021. 	2

Environmental View

Profile	Fitch's View	ESG Rating
Targets and supply chain	<ul style="list-style-type: none"> Targets are in place for 2025 across pollution, leakages and sewer flooding, and the Environment Agency's performance assessment. The company's environmental performance would benefit if this rigour were expanded to areas of growing importance, such as biodiversity. UU is committed to supporting the UK water industry's target of net zero carbon emissions by 2030 ambition, but there is little evidence of specific emission reductions within this time. Assessment of UU's progress against this goal would benefit from meeting this target through emissions reduction rather than carbon offsetting. Category 1 and 2 (serious) pollution incidents have been at an industry-leading low in recent history. The company aims to reduce this further. 	2
Risks and incident treatment	<ul style="list-style-type: none"> UU has had the lowest "serious" (category 1) pollution incidents in the UK water and wastewater industry since 2015. It has also performed better than nearly all competitors for category three/four incidents (not serious). United Utilities declared 2,273 CSOs in 2020, which is around 40% higher than UK water company average. UU report that it has 21pp more combined sewers than the UK average (54% of its sewers are combined versus the UK average 33%) and that it receives 28% more rainfall than the average for England and Wales. Media reports based on data from the Environment Agency suggest that UU had the highest number of CSO spill events in 2020, at 113,940 for a duration of 726,450 hours. UU has confronted this data, and states that this also reflects spills being counted that are overflows into its own storm tanks (so not the environment) before treatment. It is currently conducting a review of how data is captured and reported, and is working with the EA on the matter. 	2

Source: Sustainable Fitch, based on annual report 2020

Entity Analysis

Social View

Profile	Fitch's View	ESG Rating
Human rights	<ul style="list-style-type: none"> UU has clear policies related to human rights, slavery and human trafficking. It clearly recognises and supports the rights and comments set out in the UN Human Rights declaration, as well as the International Labour Organization declaration. 	1
Labour rights	<ul style="list-style-type: none"> It is an accredited living wage employer. There are also clear examples of efforts to improve social mobility, for example, working with external companies to create learning modules and guides to help people into apprenticeship roles. It is a signatory to the Social Mobility Pledge, and was recognised in the 2019 UK Social Mobility Awards. There are no reported serious employee incidents, and the accident frequency rate has been stable at 0.110-0.165 incidents per 100 people – this is satisfactory, but the company's ambition that by 2030 no one will be harmed while working on its behalf is positive in this regard. 	2
Diversity	<ul style="list-style-type: none"> Thirty-four percent of employees are female. This is above average and better than many competitors in the UK water and waste industry, and above average for the utilities sector industry more broadly. A proxy was taken for the gender diversity at senior management score of the upper quartile (highest paid), equal to 30% female representation. This is also relatively high relative to other competitors. The gender pay gap across all levels is 15.3%, which is relatively consistent with the median bonus gap of 14.4%. These could be improved, but are relatively similar to competitors. Diversity metrics are also published across BAME representation and percentage of employees with disabilities. It would be useful for UU to also publish gender representation at senior management level. 	4
Community and customers	<ul style="list-style-type: none"> UU has extensively involved the community in its 2020-2025 plans, in line with Ofwat's instructions for all UK water companies. UU achieved 88/100 under the water industry's Service Incentive Mechanism (SIM) score in 2018-2019, the equivalent of a customer 	1

Social View

Profile	Fitch's View	ESG Rating
	satisfaction score. The average for the UK water and sewerage companies was 84, so UU is slightly above.	
Targets and supply chain	<ul style="list-style-type: none"> UU engages well on social topics such as diversity, but there is still a lack of social targets relative to other UK water companies. This could be addressed through short- and long-term social targets for areas such as employee satisfaction, under-represented gender/races and social mobility. Performance is tracked against various employee engagement metrics; these cover topics such as learning and development and talent attraction and retention (no specific metric on retention given). Metrics on employee turnover would be useful. 	4
Risks and incident treatment	<ul style="list-style-type: none"> We have taken external incidents into consideration. For example, wastewater treatment plant failings dating back to 2015 and the potential indirect consequences of them. 	3

Source: Sustainable Fitch, based on annual report 2020

Entity Analysis

Governance View

Profile	Fitch's View	ESG Rating
Financials and reporting	<ul style="list-style-type: none"> There have been no major remarks in the past three years. UU aligns its financial reporting to IFRS. 	1
Top management and control	<ul style="list-style-type: none"> Thirty percent of the executive team is made up of women, while the direct reports of the executive team are 61% male and 39% female. The company conforms to provision 10 of the 2018 UK corporate governance code, with at least half of the board (excluding the chair) composed of non-executive directors (independent). Six of the eight directors are independent. No information was found on employee representation at board level. Our analysis would benefit from reporting on this information. The CEO and chairman positions are held by different people. UU has an internal audit function that is independent from management, and overseen by the audit committee. There have been no major remarks in the previous three years. There are nomination, corporate responsibility, treasury, remuneration and audit committees. In combination with the principal management committees of the executive team, group audit and risk board, quarterly business review, political and regulatory group and capital group investment, there are comprehensive layers of governance to enable strong oversight and accountability. 	3
Remuneration	<ul style="list-style-type: none"> Remuneration structure for the executive directors is well defined and transparently reported. Sixty-seven percent of executive directors' pay is performance linked, whilst 33% is fixed. Targets are 50% short term and 50% long term. Each of the executive directors and senior executives is required to defer a proportion of their bonus into shares for three years. The annual bonus outcome in 2019/20 was 70.7% of the maximum. The maximum award of base salary is 130%. 	3

Governance View

Profile	Fitch's View	ESG Rating
	<ul style="list-style-type: none"> There is no specific reference to linking of ESG targets to executive directors' remuneration. The CEO pay ratio is quite large in comparison to competition, at 55.8x the median employee. This is worse than the FTSE100 utilities sector average in 2018 (CIPD) at 42:1. 	
Risk management	<ul style="list-style-type: none"> Principal risks are clearly mapped out, with changes from the previous year demonstrated and treatment plans to mitigate these. There have been no major examples of cyber/IT incidents in the past three years. Cyber risk is clearly identified within the principal risks, with mitigations such as policies, insurance and collaboration with security bodies. 	1
Tax management	<ul style="list-style-type: none"> UU has the Fair Tax Mark independent certification. All the group's profits are taxable in the UK (other than previous profits relating to the group's 35.3% holding in Tallinn Water, which is fully taxable in Estonia on distribution, and which was sold in April 2021). UU does not use tax havens for tax avoidance purposes and maintains a governance and risk management framework to ensure that tax policies and objectives are fully complied with and applied at all levels. 	1

Source: Sustainable Fitch, based on annual report 2020

Entity Analysis

Relevant UN Sustainable Development Goals – Entity

- 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all.
- 6.4: By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.
- 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix.
- 9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.
- 15.3: By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world.



6

CLEAN WATER AND
SANITATION



7

AFFORDABLE AND CLEAN
ENERGY



9

INDUSTRY, INNOVATION
AND INFRASTRUCTURE



15

LIFE ON LAND

Source: Sustainable Fitch, United Nations

Appendix A: Key Terms

Term	Definition
Debt types	
Green	Proceeds will be used for green projects and/or environmental-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Green Bond Principles or other principles, guidelines or taxonomies.
Social	Proceeds will be used for social projects and/or social-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Social Bond Principles or other principles, guidelines or taxonomies.
Sustainability	Proceeds will be used for a mix of green and social projects and/or environmental and social-related activities as identified in the instrument documents. The instrument may be aligned with ICMA Sustainability Bond Guidelines or other principles, guidelines, taxonomies.
Sustainability-linked	Financial and/or structural features are linked to the achievement of pre-defined sustainability objectives. Such features may be aligned with ICMA Sustainability Bond Guidelines or other principles, guidelines or taxonomies. The instrument is often referred to as an SLB (sustainability-linked bond) or SLL (sustainability-linked loan).
Conventional	Proceeds are not destined for any green, social or sustainability project or activity, and the financial or structural features are not linked to any sustainability objective.
Other	Any other type of financing instrument or a combination of the above instruments.

Term	Definition
Standards	
Transition	A term applied to green, social, sustainable or sustainability-linked instruments, only when the purpose of the debt instrument is to enable the issuer to achieve a climate change-related strategy according to Fitch criteria or methodology.
ICMA	International Capital Market Association. The "ICMA" credential on page 1 refers to alignment with ICMA's Green Bond Principles: a series of principles and guidelines for green, social, sustainability and sustainability-linked (or KPI-linked) instruments.
EU Green Bond Standard	A set of voluntary standards created by the EU to "enhance the effectiveness, transparency, accountability, comparability and credibility of the green bond market".
Other terms	
ESG debt	Green, social, sustainability and sustainability-linked types of debt.
Short term	Within five years.
Long term	At least six years away.
Entity's business activity overlap with use of proceeds	The share of the entity's total business activities that can use proceeds from the debt instrument in question.
NACE	An industry standard classification system for economic activities in the EU, based on the United Nations' International Standard Industrial Classification of All Economic Activities (ISIC).
Source: Sustainable Fitch, ICMA, UN, EU Technical Expert Group	

Appendix B: Methodology and ESG Rating Definitions

Fitch's ESG Ratings are designed to indicate an entity's Environmental, Social and Governance (ESG) performance and commitment, as well as its integration of ESG considerations into its business, strategy and management, with a focus on actions and outcomes rather than purely on policies and broader commitments.

There are three ratings: the ESG Entity Rating (ESG ER), ESG Instrument Rating (ESG IR) and, for debt instruments linked to ESG key performance indicators (KPIs) and/or use of proceeds, the ESG Framework Rating (ESG FR). ESG Ratings are on a scale from one to five, where one represents full alignment with ESG best practice. Behind each rating sit scores of zero to 100, as well as sub-scores for even greater granularity.

Sustainable Fitch's analysts assess all the business activities of an entity and more than 40 additional headline factors, covering all three ESG pillars. For debt instruments, they assess use of proceeds and more than 20 additional headline factors.

Fitch provides individual datasets with grades and commentary through a feed. The score and sub-score database allows direct comparison of entities and instruments, on a full ESG basis or on selected fields.

ESG ERs consider the issuer's strategy, how it relates to sustainability, and how sustainability is embedded in the issuer's business, including ESG policies, procedures and outcomes. The entity is broken down into constituent business units, with NACE codes, for a granular assessment of E and S factors. Fitch assesses G aspects at the company level.

ESG FRs consider any type of bond, with varying analysis if there is a defined use of proceeds, KPI-linked coupon or conventional bond. The rating aims to identify the strength of the bond framework on a standalone basis, separate to the entity, regardless of any self-assigned descriptions. Fitch analysts categorise bonds as Green, Social or Sustainability (GSS) types independently, based on their view of the main area covered by the use of proceeds, rather than automatically using the entity's categorisation. They will also determine if the bond should be classed as a transition bond and if it aligns with the EU Green Bond Standard and ICMA principles. Analysis considerations include the use of proceeds and sustainability-linked targets that form the primary purpose of the instrument, and the structure and effectiveness of the framework being used to further that purpose.

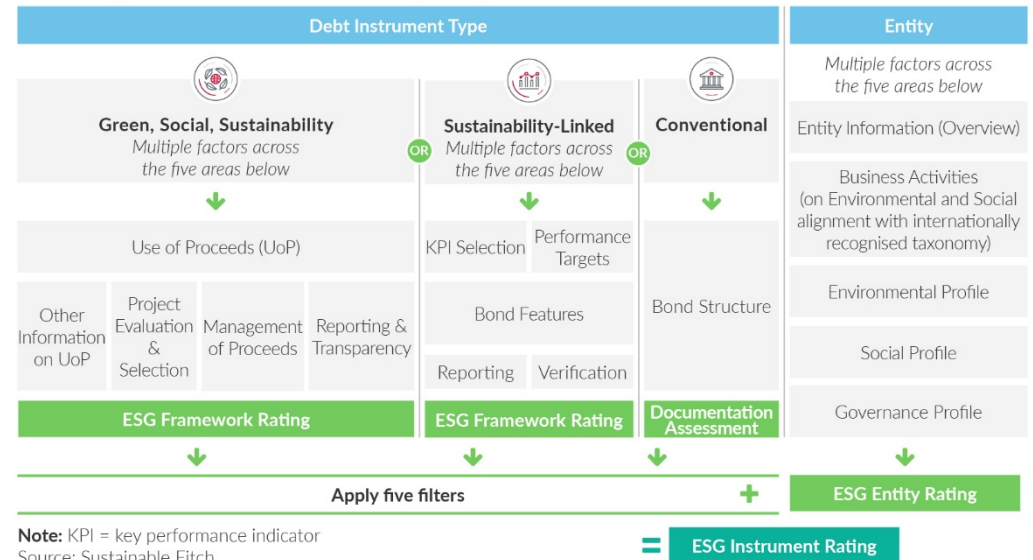
ESG IRs consider different types of debt instruments in the context of the issuing entity, enabling absolute ESG credentials comparisons for similar types of instruments issued by different types of entities, different types of instruments issued by different issuers, as well as different types of instruments issued by a single entity.

Analytical Process

Analysis considers all available relevant information (ESG and financial), including the entity's ESG report. Fitch's ESG Rating Reports transparently display the sources of information analysed for each section and provide a line-by-line commentary on the sub-factors analysed.

Fitch's ESG Rating Process

A visual guide to our debt and entity analysis



An important part of the analysis is the assessment of the E and S aspects of the use of proceeds and business activities. In considering those aspects, the rating framework is inspired by major taxonomies (e.g. the EU taxonomy for E aspects, and the UN Sustainable Development Goals for S aspects). Once the analyst has completed the model, with commentary for the related ESG Ratings, it is submitted to the approval committee, which reviews the model for accuracy and consistency. ESG Ratings are monitored annually or more frequently if new information becomes available.

Use Cases

Sustainable Fitch's ESG Ratings can help inform decisions related to:

- Investment strategy
- Asset allocation and portfolio construction
- Benchmarking and index construction
- Risk management and stress testing
- Identification of transition bonds
- Disclosure and reporting.

Appendix B: Methodology and ESG Rating Definitions

Rating Scale and Definitions

	ESG Entity	ESG Instrument	ESG Framework
1	<p>ESG ER of '1' indicates that the entity analysed evidences an excellent ESG profile.</p> <p>Entity is excellent both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '1' indicates that the debt instrument in the context of the ultimate issuing entity evidences an excellent ESG profile.</p> <p>Entity is excellent both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is excellent in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '1' indicates that the framework for the instrument evidences an excellent ESG profile.</p> <p>Framework structure is excellent in terms of alignment with ambitious best practises and proceeds are dedicated to excellent environmental and/or social activities/projects according to taxonomies of reference.</p>
2	<p>ESG ER of '2' indicates that the entity analysed evidences a good ESG profile.</p> <p>Entity is good both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '2' indicates that the debt instrument in the context of the ultimate issuing entity evidences a good ESG profile.</p> <p>Entity is good both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is good in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '2' indicates that the framework for the instrument evidences a good ESG profile.</p> <p>Framework structure is good in terms of alignment with ambitious best practises and proceeds are dedicated to good environmental and/or social activities/projects according to taxonomies of reference.</p>
3	<p>ESG ER of '3' indicates that the entity analysed evidences an average ESG profile.</p> <p>Entity is average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '3' indicates that the debt instrument in the context of the ultimate issuing entity evidences an average ESG profile.</p> <p>Entity is average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is average in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '3' indicates that the framework for the instrument evidences an average ESG profile.</p> <p>Framework structure is average in terms of alignment with ambitious best practises and proceeds are dedicated to average environmental and/or social activities/projects according to taxonomies of reference.</p>
4	<p>ESG ER of '4' indicates that the entity analysed evidences a sub-average ESG profile.</p> <p>Entity is sub-average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '4' indicates that the debt instrument in the context of the ultimate issuing entity evidences a sub-average ESG profile.</p> <p>Entity is sub-average both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is sub-average in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '4' indicates that the framework for the instrument evidences a sub-average ESG profile.</p> <p>Framework structure is sub-average in terms of alignment with ambitious best practises and proceeds are dedicated to sub-average environmental and/or social activities/projects according to taxonomies of reference.</p>
5	<p>ESG ER of '5' indicates that the entity analysed evidences a poor ESG profile.</p> <p>Entity is poor both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management.</p>	<p>ESG IR of '5' indicates that the debt instrument in the context of the ultimate issuing entity evidences a poor ESG profile.</p> <p>Entity is poor both in terms of alignment of the activities with taxonomies of reference and integration of ESG considerations into the business, strategy and management. Instrument is poor in terms of framework structure and proceeds destination.</p>	<p>ESG FR of '5' indicates that the framework for the instrument evidences a poor ESG profile.</p> <p>Framework structure is poor in terms of alignment with ambitious best practises and proceeds are dedicated to poor environmental and/or social activities/projects according to taxonomies of reference.</p>

Source: Sustainable Fitch

Appendix C: ICMA Principles and Guidelines

ICMA Labelled: Sustainability Bond

Four Pillars	
1) Use of Proceeds (UoP)	Yes
2) Project Evaluation & Selection	Yes
3) Management of Proceeds	Yes
4) Reporting	Yes
Independent External Review Provider	
Second-party opinion	Yes
Verification	No
Certification	No
Scoring/Rating	No
Other	n.a.
1) Use of Proceeds (UoP)	
UoP as per Green Bond Principles (GBP)	
Renewable energy	Yes
Energy efficiency	Yes
Pollution prevention and control	Yes
Environmentally sustainable management of living natural resources and land use	Yes
Terrestrial and aquatic biodiversity conservation	Yes
Clean transportation	Yes
Sustainable water and wastewater management	Yes
Climate change adaptation	No
Eco-efficient and/or circular economy adapted products, production technologies and processes	No
Green buildings	No
Unknown at issuance but currently expected to conform with GBP categories, or other eligible areas not yet stated in GBP	No
Other	n.a.
Use of Proceeds as per Social Bond Principles (SBP)	
Affordable basic infrastructure	No
Access to essential services	Yes
Affordable housing	No

ICMA Labelled: Sustainability Bond

Employment generation (through SME financing and microfinancing)	No
Food security	No
Socioeconomic advancement and empowerment	No
Unknown at issuance but currently expected to conform with SBP categories, or other eligible areas not yet stated in SBP	Yes
Other	n.a.
Target Populations	
Living below the poverty line	No
Excluded and/or marginalised populations and /or communities	No
People with disabilities	No
Migrants and/or displaced persons	No
Undereducated	No
Underserved, owing to a lack of quality access to essential goods and services	No
Unemployed	No
Women and/or sexual and gender minorities	No
Aging populations and vulnerable youth	No
Other vulnerable groups, including as a result of natural disasters	No
Other	n.a.
2) Project Evaluation & Selection	
Evaluation & Selection	
Credentials on the issuer's social and green objectives	Yes
Documented process to determine that projects fit within defined categories	Yes
Defined and transparent criteria for projects eligible for sustainability bond proceeds	Yes
Documented process to identify and manage potential ESG risks associated with the project	Yes
Summary criteria for project evaluation and selection publicly available	Yes
Other	n.a.
Evaluation & Selection/Responsibility & Accountability	

Appendix C: ICMA Principles and Guidelines

ICMA Labelled: Sustainability Bond

Evaluation/selection criteria subject to external advice or verification	No
In-house assessment	Yes
Other	n.a.

3) Management of Proceeds

Tracking of Proceeds

Sustainability bond proceeds segregated or tracked by the issuer in an appropriate manner	Yes
Disclosure of intended types of temporary investment instruments for unallocated proceeds	No
Other	n.a.

Additional Disclosure

Allocations to future investments only	No
Allocations to both existing and future investments	Yes
Allocation to individual disbursements	No
Allocation to a portfolio of disbursements	Yes
Disclosure of portfolio balance of unallocated proceeds	Yes
Other	n.a.

4) Reporting

UoP Reporting

Project-by-project	No
On a project portfolio basis	Yes
Linkage to individual bond(s)	No
Other	n.a.

UoP Reporting/Information Reported

Allocated amounts	Yes
Sustainability bond-financed share of total investment	No
Other	n.a.

UoP Reporting/Frequency

Annual	Yes
Semi-annual	No
Other	n.a.

ICMA Labelled: Sustainability Bond

Impact Reporting

Project-by-project	No
On a project portfolio basis	Yes
Linkage to individual bond(s)	No
Other	n.a.

Impact Reporting/Information Reported (exp. Ex-post)

GHG emissions/savings	Yes
Energy savings	Yes
Decrease in water use	Yes
Number of beneficiaries	No
Target populations	No
Other ESG indicators	n.a.

Impact Reporting/Frequency

Annual	Yes
Semi-annual	No
Other	n.a.

Means of Disclosure

Information published in financial report	No
Information published in ad hoc documents	Yes
Information published in sustainability report	Yes
Reporting reviewed	No
Other	n.a.

Note: n.a. – not applicable.
 Source: Sustainable Fitch, ICMA

Appendix D: Debt Record

Use of Proceeds – Eligible Projects

Use of Proceeds	NACE Section-Level Code
Sustainable water and wastewater management	E36.0
Renewable energy	D35.1
Energy efficiency	NA
Pollution prevention and control	E37.0
Environmentally sustainable management of living natural resources and land use	A01.6
Terrestrial and aquatic biodiversity conservation	A03.2
Clean transportation	H49.39
Access to essential services	F64.92
Source: Sustainable Fitch	

An ESG Rating is an assessment of the Environmental, Social and Governance (“E”, “S” and “G”) qualities of financial instruments and/or entities. An ESG Rating is not a credit rating. ESG Ratings are provided by Sustainable Fitch, a separate division of Fitch Ratings. Sustainable Fitch has established certain policies and procedures intended to avoid creating conflicts of interest and compromising the independence or integrity of Fitch Ratings’ credit rating activities, as well as its ESG rating activities. For a description of the methodology, limitations and disclaimers of Sustainable Fitch’s ESG Ratings, please use this link: www.sustainablefitch.com.

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