°CICERO Shades of Green

Yara
Green Financing Second Opinion

July 12, 2022

Yara is one of the world's largest producers of nitrogen-based fertilizers, listed on the Oslo Stock Exchange and headquartered in Oslo. Yara has around 17,800 employees, 28 production sites on six continents, and activities in over 60 countries. While the core of Yara's operations is the production and sale of nitrogen fertilizers, it also provides environmental solutions (e.g. for nitrogen oxide abatement, and scrubber technology for reducing maritime emissions).

Proceeds under the framework can be allocated to i) sites or projects producing green ammonia, ii) maintenance and growth CAPEX and OPEX for plants producing Yara's premium fertilizers, and iii) investments in carbon capture and storage technologies. Initially, most proceeds will be allocated to the premium fertilizers category. These fertilizers have significantly lower process emissions compared to alternatives, and higher agronomic efficiency which likely results in lower on-field emissions. Nonetheless, ammonia is a key input, and its production is energy intensive and currently involves large amounts of natural gas (grey ammonia). There are no restrictions on the energy or emissions intensity of the grey ammonia used in Yara's premium fertilizers. While the production or purchase of grey ammonia is excluded, its use creates risks of market and regulatory actions, and a dependency on natural gas poses a transition risk.

Green ammonia and ammonia produced in combination with the use carbon capture and storage (blue ammonia) can contribute significantly to the decarbonization of the fertilizer industry (and other sectors such as shipping). Investments in these forms of ammonia also contribute to the mitigation of certain climate risks mentioned in the paragraph above. Yara aims to use the majority of green ammonia in its fertilizers (in 2021, fertilizers accounted for 80% of products based on its own ammonia), or sell it for use as shipping fuel or co-firing coal power plants. Other potential end-uses are unknown and may include uses that do not fully correspond with the 2050 solution or are otherwise negatively environmentally impactful.

Yara's general approach to environmental governance is impressive and it can point to efforts to improve this further in recent years. Scope 3 emissions, especially from fertilizer use, represent a large portion of Yara's emissions. We therefore welcome that Yara will include a Scope 3 target in the Science Based Targets it intends to set this year. Yara's reporting commitments under the framework are sound, though it could more expressly commit to (verified) impact reporting beyond full allocation.

Based on the overall assessment of the project types in Yara's framework, governance and transparency considerations, the framework receives an overall **CICERO Medium Green** shading and a governance score of **Excellent.**

SHADES OF GREEN

Based on our review, we rate the Yara's green financing framework **CICERO Medium Green.**

Included in the overall shading is an assessment of the governance structure of the green financing framework. CICERO Shades of Green finds the governance procedures in Yara's framework to be **Excellent**.

GREEN BOND AND LOAN PRINCIPLES

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

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Contents

1 Terms and methodology

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

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

Expressing concerns with 'Shades of Green'

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

CICERO Shades of Green	Examples
Dark green is allocated to projects and solutions that correspond to the long-term vision of a low carbon and climate resilient future. Fossil-fueled technologies that lock in long-term emissions do not qualify for financing. Ideally, exposure to transitional and physical climate risk is considered or mitigated.	Wind energy projects with a strong governance structure that integrates environmental concerns
Medium green is allocated to projects and solutions that represent steps towards the long-term vision, but are not quite there yet. Fossil-fueled technologies that lock in long-term emissions do not qualify for financing. Physical and transition climate risks might be considered.	Bridging technologies such as plug-in hybrid buses
Light green is allocated to projects and solutions that are climate friendly but do not represent or contribute to the long-term vision. These represent necessary and potentially significant short-term GHG emission reductions, but need to be managed to avoid extension of equipment lifetime that can lock-in fossil fuel elements. Projects may be exposed to the physical and transitional climate risk without appropriate strategies in place to protect them.	Efficiency investments for fossil fuel technologies where clean alternatives are not available

Sound governance and transparency processes facilitate delivery of the client's climate and environmental ambitions laid out in the framework. Hence, key governance aspects that can influence the implementation of green financing instruments are carefully considered and reflected in the overall shading. CICERO Green considers four factors in its review of the client's governance processes: 1) the policies and goals of relevance to the green financing framework; 2) the selection process used to identify and approve eligible projects under the framework, 3) the management of proceeds and 4) the reporting on the projects to investors. Based on these factors, we assign an overall governance grade: Fair, Good or Excellent. Please note this is not a substitute for a full evaluation of the governance of the issuing institution, and does not cover, e.g., corruption.

2 Brief description of Yara's green financing framework and related policies

Yara International ASA is one of the world's largest producers of mineral nitrogen fertilizer, listed on the Oslo Stock Exchange and headquartered in Oslo. The company has around 17,800 employees, 28 production sites on six continents, operations in more than 60 countries and sales to about 160 countries. About half of Yara's production capacity, and about 40% of its markets, are in Europe.

Yara produces both commodity and premium products, but primarily targets growth in the latter. Yara produces all upgrade steps of fertilizers based on ammonia, which it uses to produce urea, nitric acid, nitrates as well as nitrogen-based compound fertilizers (NPK). Yara is the second largest producer of ammonia globally and the largest producer of NPK.

Yara also sells urea, technical ammonium nitrate and calcium nitrate for industrial applications, including for mining applications, as well as industrial nitrates. Yara also has a portfolio of environmental solutions, which includes total solutions for NOx abatement for industrial plants and both land and sea transport.

Yara has identified the production of green ammonia as a strategic business opportunity and tool for mitigating certain transition risks. It established a clean ammonia unit in 2021 to develop this area of business, and a Joint Venture has been established to realize Europe's first full scale green ammonia project in Porsgrunn, Norway, with pilot projects in the Netherlands, Norway and Australia also live.

Environmental Strategies and Policies

The production and use of fertilizers is energy and emissions intensive. Yara aligns its emissions reporting with the GHG Protocol: in 2021, Yara's Scope 1, 2 and 3 emissions totaled 75.4 $MtCO_2e$. Scope 1 emissions totaled 16.5 $MtCO_2e$, Scope 2 emissions totaled 1 $MtCO_2e$, and Scope 3 emissions totaled 57.8 $MtCO_2e$.[1,2] The main source of Scope 1 emissions was the production of mineral fertilizers, mainly due to the use of natural gas in the production of ammonia. Indeed, almost 80% of Yara's direct emissions relate to ammonia production, and 86% of the 270 million GJ of energy it consumed was as feed or fuel in ammonia production. As for Scope 3 emissions, 81% of these are attributed to the use (and over-use) of fertilizers, while other material sources of Scope 3 emissions are transportation and purchased fuels.

Yara has medium and long-term targets in place, with demonstrable strategies and measurable KPIs in place for their achievement. Specifically, Yara's aspiration is to become climate neutral by 2050 (Scope 1, 2 and 3). Relevant intermediate targets include:

1) reducing CO_2e emissions intensity from production by 10% by 2025 (2018 baseline) for Scope 1, 2, and upstream Scope 3 emissions from purchased ammonia only,
2) reducing absolute Scope 1 and 2 emissions by 30% by 2030 compared to 2019,
3) achieving an energy intensity in the production of ammonia of 32.7 GJ/tonne, and
4) set Science Based Targets for Scopes 1, 2 and 3 by 2022.

[1] Scope 2 emissions include only market based (and not location based) Scope 2 emissions.
[2] Yara reports on five GHG Protocol categories for Scope 3: categories 1 (GHG emissions from purchased goods and services), 3 (GHG emissions from fuel and energy related activities), 4 and 9 (GHG emissions from upstream and downstream transportation and distribution), and 11 (GHG emissions from the use of sold products).

In February 2022, Yara, along with Nutrien and the World Business Council for Sustainable Development, began to develop a methodology for a Sectoral Decarbonization Approach (SDA) analysis for the fertilizer industry, and which is expected to provide an emissions intensity reduction pathway aligned with a 1.5 degree scenario. This process is expected to form the basis of Yara's Scope 3 emissions target. Yara additionally targets 150 million hectares under active management by 2025, which measures hectares owned by farmers who have registered them in Yara's digital tool(s) (which, among other things, allow for improved fertilizer optimization through, for example, use of data and sensors, and provides training on regenerative agricultural practices).

Yara has undertaken materiality assessments since 2015 and has moved to mitigate the identified risks with changes to its core business processes. Yara operates an enterprise risk assessment process, covering both climate transition and physical risks. In this process, risk assessments are carried out on capital value projects, such as major investments, acquisitions, and joint ventures. Such assessments are also carried out on all production sites and business units. Yara has also undergone its first iteration of a climate scenario analysis process which considers transition and physical risk. According to Yara, it expects to publish the results shortly after its integrated reporting in 2022 and that the outcomes of the first phase of the assessment have been integrated into its enterprise risk assessment process.

Yara's activities rely to a large extent on the sourcing of scarce resources (e.g. natural gas, phosphorus and potash) which feature significant emissions and other adverse environmental impacts. According to Yara's CDP disclosure for 2021, good environmental practice is built into its contracts with suppliers due to the inclusion of its Business Code of Conduct in agreements. Among other things, this sets out that the use of environmentally friendly technologies, products and services are expected, aiming at optimizing the use of natural resources, energy and water and minimizing negative impact to air, water, soil, biodiversity, and the climate. Notwithstanding, we understand that Yara does not have any specific emissions or climate criteria in respect of key materials (e.g. emissions or energy intensity thresholds for purchased ammonia). Yara is in the process of developing a Sustainable Procurement Policy which will, according to Yara, make environmental screening of suppliers more active.[3] At the time of writing this Second Opinion, in response to Russia's invasion of Ukraine, the company has also in mid-March 2022 stopped all sourcing from suppliers linked to entities and persons that have been sanctioned.

Yara has a long-standing track-record of reporting key environmental indicators: it produces an annual sustainability report and integrated annual report prepared in accordance with the GRI Standard and TCFD recommendations. Additionally, Yara reports to the CDP on Climate and Water.

Use of proceeds

Proceeds under the green financing framework will finance or refinance investments or assets concerning green ammonia, premium fertilizer products, and carbon capture and storage. For the production of premium fertilizer products, both CAPEX and OPEX can be financed. Yara initially expects premium fertilizers to receive most proceeds, while the share of proceeds to clean ammonia and carbon capture and storage will increase over time. According to Yara, financing of new projects will initially prevail, however there will also be refinancing of premium fertilizer activities (a three-year lookback period applies to refinancing).

[3] According to Yara, its direct investments in Russia and Ukraine are limited, but it has sourced phosphate, potash, and ammonia from Russia, and purchases significant volumes of natural gas for its production in Europe. Yara has stopped all sourcing from suppliers linked to Russian sanctioned entities and persons. It is reviewing the impact of sanctions on an ongoing basis, and may continue sourcing from Russia to the extent practically possible and compliant with applicable sanctions and its own guidelines.

Selection

The selection process is a key governance factor to consider in CICERO Green's assessment. CICERO Green typically looks at how climate and environmental considerations are considered when evaluating whether projects can qualify for green finance funding. The broader the project categories, the more importance CICERO Green places on the governance process.

Yara has established a Sustainable Working Group that is responsible for the evaluation and selection process, and which meets at least annually and makes decisions by consensus. The Sustainable Working Group consists of members from a range of departments, including sustainability governance, and energy and environment. Yara's Group Executive Board have oversight of the Sustainable Working Group, and are responsible for final approval.

As well as the processes under the framework, Yara has a Capital Value Process in place, whereby all investments must comply with its risk assessment principles (including consideration of transition and physical risks). For larger projects, this involves a risk assessment performed by relevant expert functions, while for smaller maintenance investments, these are carried out at the regional/plant level.

Management of proceeds

CICERO Green finds the management of proceeds in Yara's green financing framework to be in accordance with the Green Bond Principles and the Green Loan Principles.

Yara has set up an internal tracking system to monitor the allocation of proceeds under the green financing framework and will earmark an amount equivalent to the net proceeds of each green financing instrument under the green financing framework for allocation to eligible projects.

Pending allocation of proceeds to eligible projects, Yara will keep unallocated proceeds as cash and cash equivalents. Yara intends to allocate all proceeds to eligible projects within two years of issuance of each green financing instrument under the green financing framework.

Reporting

Transparency, reporting, and verification of impacts are key to enable investors to follow the implementation of green finance programs. Procedures for reporting and disclosure of green finance investments are also vital to build confidence that green finance is contributing towards a sustainable and climate-friendly future, both among investors and in society.

Yara will publish an annual allocation and impact report on its website until full allocation of proceeds, though impact reporting may also continue beyond full allocation of proceeds.

Allocation reporting will include i) allocation per project category, ii) balance of unallocated net proceeds, iii) portion of financing and refinancing, and iv) examples of projects (re)financed by proceeds from green financing instruments issued under the framework. According to Yara, allocation reporting will be attributable to individual finance instruments.

Impact reporting will include i) attributable GHG emissions avoided/reduced from green ammonia compared to conventional ammonia in tonnes CO_2e, ii) attributable GHG emissions avoided/reduced from carbon capture and storage in tonnes CO_2e, iii) volume of green and blue ammonia produced, iv) volume of premium fertilizers produced, and v) carbon capture capacity. Yara informs us that emission reductions will be available on a project

basis (i.e. differentiating between e.g. green ammonia and carbon capture and storage projects) and that baselines and methodologies used will be reported.

Yara intends to seek limited assurance of its allocation reporting and will include the auditor's report in its reporting. If its auditor can do so, the auditor's report will also include assurance on/verification of impact reporting.

3 Assessment of Yara's green financing framework and policies

The framework and procedures for Yara's green financing instruments are assessed and their strengths and weaknesses are discussed in this section. The strengths of an investment framework with respect to environmental impact are areas where it clearly supports low-carbon projects; weaknesses are typically areas that are unclear or too general. Pitfalls are also raised in this section to note areas where Yara should be aware of potential macro-level impacts of investment projects.

Overall shading

Based on the project category shadings detailed below, and consideration of environmental ambitions and governance structure reflected in Yara's green financing framework, we rate the framework **CICERO Medium Green.**

Eligible projects under the Yara's green financing framework

At the basic level, the selection of eligible project categories is the primary mechanism to ensure that projects deliver environmental benefits. Through selection of project categories with clear environmental benefits, green financing instruments aim to provide investors with certainty that their investments deliver environmental returns as well as financial returns.

Category	Eligible project types	Green Shading and some concerns
Green Ammonia that aims at producing carbon-free fertilizers or decarbonized shipping fuel	• Investments in sites/projects that produce fully decarbonised ammonia, i.e., ammonia produced from green hydrogen including investments in conversion of conventional Ammonia production into Green Ammonia.	**Dark Green** ✓ Ammonia production is currently highly energy intensive and involves large volumes of natural gas. Green ammonia, where hydrogen input is produced through electrolysis using renewable energy (rather than natural gas), can therefore have a potentially transformative impact on the decarbonization of the fertilizer sector (and others such as the shipping sector). ✓ Yara currently has projects for developing green ammonia capability in three countries: Australia, Netherlands, and Norway. It has confirmed that the use of by-product hydrogen from the petrochemical industry is

excluded from this project category (the use of such hydrogen in ammonia production occurs at some of Yara's other sites).

✓ The criterion does not include any lifecycle GHG emissions thresholds, however Yara informed us it expects its hydrogen input to comfortably be within the 3 tons of CO2 eq. per ton of hydrogen currently indicated in the EU Taxonomy. We encourage Yara to be transparent about lifecycle emissions if data is available.

✓ Yara has confirmed that the end use of the green ammonia is not limited to carbon free fertilizer or as decarbonized shipping fuel. As such, the ammonia may be used for end-uses that do not fully correspond with the 2050 solution or are otherwise negatively environmentally impactful. Yara aims to use the majority of green ammonia in its fertilizers, or sell it for use as shipping fuel or co-firing coal power plants. Yara has moreover informed us that green ammonia will also initially complement grey ammonia used in production processes.

✓ Yara currently envisages wind, solar and hydropower to be used for its hydrogen electrolysis (nuclear has been excluded, according to Yara).

✓ Yara has informed us that it does not take construction emissions into account at present, nor consideration of, for example, embedded emissions in construction materials.

Premium fertilizer production assets (e.g. Nitrates, NPKs) 	Maintenance and growth CAPEX and OPEX for the plants that produce premium fertilisers, including intermediate products. While these plants are today operating using fossil-based ammonia, these plants can operate as they are, also in a decarbonized future on basis of blue or green ammonia. This category excludes production of conventional Ammonia, urea, and non-fertilizer products. Nitric acid production which is above 0.038 CO2e/t N threshold is also excluded. Examples of eligible fertilizer production assets: 1. Nitrate plants, for example producing: • Calcium ammonium nitrate (CAN) is a mixture of ammonium nitrate (AN) and calcium/magnesium carbonate. It contains 25 to 28 percent nitrogen, that can be immediately absorbed by plants. • AN is a more concentrated source of nitrogen containing 33.5 percent to 34.5 percent N. 2. NPKs and phosphate plants: the products supply several chemically combined major nutrients, mainly nitrogen (N), phosphorus (P) and potassium (K). Some NPKs also contain secondary and micronutrients. NPK products have consistent size and mass, which makes accurate spreading easier. 3. Fertigation plants: fertigation is the combined application of water and nutrients to a crop – a mix of fertilizing and irrigating.	**Medium Green** ✓ Yara expects this project category to receive the most proceeds initially. ✓ Because of N_2O catalyst technology applied in the production process, Yara's production of nitrates and NPK entails approximately 90% less N_2O process emissions. Moreover, Yara has provided information on the superior agronomic efficiency of ammonium nitrate and calcium ammonium nitrate compared to urea, and informs us that NPKs have similar efficiency, which likely results in lower on-field emissions. ✓ With Yara's N_2O catalyst technology now implemented across its sites, Yara must look for opportunities to reduce process emissions further. To this end, it informed us of opportunities to reduce emissions through i) improvements/upgrade of catalyst technology, and ii) burner modification/replacement. ✓ In a 2050 future, fertilizers must not only be produced with significantly less emissions but also be coupled with effective means for reducing emissions related to the (over) use of fertilizers. This presents a significant challenge to the industry. ✓ Yara has clarified that OPEX primarily refers to maintenance costs, and will not be used for the purchase of ammonia or other raw materials.

- ✓ While the purchase or production of ammonia is excluded, ammonia remains a key input in the production of the fertilizers. Ammonia produced with natural gas is currently used. Production of ammonia from natural gas generates high emissions and carries transition risk.

- ✓ Proceeds can be used for 'intermediate products'. Yara has confirmed this is limited to the treatment and processing of intermediate products at the fertilizer production sites (e.g. transformation of phosphate rock), however the use of proceeds cannot extend to the purchase of these materials.

- ✓ Though these cannot be purchased using proceeds, other raw material inputs in fertilizers nonetheless entail climate and environmental risks. The mining of potash can, for example, entail environmental and physical-climate risks, while the decreasing availability of scarce resources (e.g. phosphate rock) can lead to transition risk.

- ✓ Yara has no emissions or climate criteria in respect of key materials, including third party produced ammonia. Main suppliers of potash and phosphate have, however, been screened as part of its climate scenario analysis process for transition and physical risk.

- ✓ Not all Yara's premium fertilizer sites are dedicated solely to the production of such fertilizers (e.g. they also produce ammonia). Yara states that it can track proceeds to ensure no investments in ammonia production at such sites, however

		we understand from Yara that these site shares some infrastructure. This gives rise to the risk of proceeds being used on infrastructure that serves processes excluded under the framework. ✓ Yara informed us that it does not take construction emissions into account at present, nor consideration of, for example, embedded emissions in construction materials.
Carbon Capture and Storage (CCS) 	Investments in carbon capture and storage technologies that allow Yara's brown ammonia production sites to capture and permanently store CO_2 emissions and thus produce blue ammonia.	**Dark Green** ✓ Carbon capture and storage is a critical component of a sustainable low carbon future, and its use in ammonia production can significantly contribute to the decarbonization of the fertilizer sector. ✓ Carbon capture and storage can entail technology risks, given a lack of viable current projects, while transportation via pipeline or boat, which Yara informs us is envisaged, can entail environmental risks and fossil fuel use. ✓ Other risks identified by Yara in respect of carbon capture and storage include leakage during transportation and from the sequestration area.

Table 1. Eligible project categories

Background

Fertilizer companies face policy risks due to GHG emissions associated with fertilizer production (e.g. CO2 emissions from ammonia production) and N2O emissions from use of nitrogen fertilizers. Nitrogen fertilizer production is exposed to market and regulatory actions linked to being highly energy intensive, and on current

production technology, CO2 intensive. A dependency on natural gas poses a transition risk, particularly in the context of eventual economy wide transition away from fossil fuels.

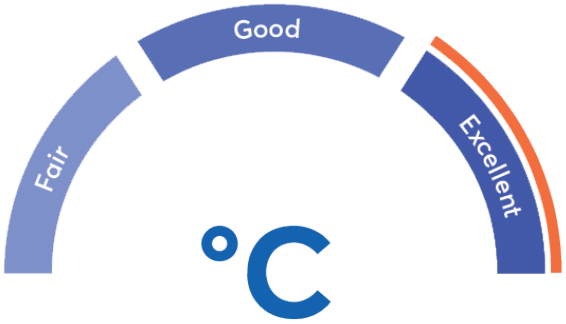
The production and (over) use of fertilizers can entail risks of air and water pollution. Issues around water availability, soil health and biodiversity loss can impact on the regulation, consumption, and demand of fertilizers. The mining of raw materials used in the production process, e.g. phosphate rock, can lead to local environmental and biodiversity issues.

Fertilizer companies are naturally exposed to physical risks associated with climate change, such as more extreme precipitation events and associated flooding, drought, stronger winds, increased heat, and sea level rise for production facilities close to the ocean. As agriculture is especially vulnerable to physical risks, fertilizer companies are also exposed to indirect physical climate risks through their customers' exposure to such risks. Whereas increased physical climate risks are already certain due to current levels of global warming, a lack of ambitious policies at a global level to rapidly reduce greenhouse gas emissions will further increase the frequency of extreme events and increase the probability of physical damage to production facilities and associated infrastructure.

Governance Assessment

Four aspects are studied when assessing Yara's governance procedures: 1) the policies and goals of relevance to the green financing framework; 2) the selection process used to identify eligible projects under the framework; 3) the management of proceeds; and 4) the reporting on the projects to investors. Based on these aspects, an overall grading is given on governance strength falling into one of three classes: Fair, Good or Excellent. Please note this is not a substitute for a full evaluation of the governance of the issuing institution, and does not cover, e.g., corruption.

Yara's general approach to environmental governance is impressive. For example, it has medium and long-term targets in place, with demonstrable strategies and measurable KPIs in place for their achievement, and shows a commitment to identifying and mitigating climate risks (physical and transition). Yara can also point to steady, further improvements in its environmental governance in recent years (e.g. carrying out of its first climate scenario analysis process and reporting in accordance with TCFD recommendations).



Yara's selection process involves environmental competence, and decision making is by consensus. All investments under the framework also pass through its Capital Value Process, which includes assessment of transition and physical risks. Yara's reporting commitments are sound, though it could more expressly commit to impact reporting beyond full allocation and verification of its impact reporting.

The overall assessment of Yara's governance structure and processes gives it a rating of **Excellent.**

Strengths

It is a strength that one of Yara's project categories relates to the largest source of its direct emissions: in 2021, around 80% of Yara's direct emissions related to ammonia production, and investment in green ammonia is

therefore crucial to its emission reduction efforts. Investments in green ammonia will help to mitigate the clear climate risks that come from the current use of grey ammonia, while also representing a clear business opportunity.

Yara's inclusion of carbon capture and storage is a further strength. Alongside the development of green ammonia operations, the development of blue ammonia capabilities also has significant decarbonization potential. The development of viable carbon capture and storage projects has proven both economically and technologically difficult, and the movement of large and established industry players in this field is important.

Weaknesses

We find no material weaknesses in Yara's green financing framework.

Pitfalls

Yara's production of green ammonia has large decarbonization potential, however the end use of the ammonia is not known (and can be outside of Yara's control), and it therefore may be used for end-uses that do not fully correspond with the 2050 solution or are otherwise negatively environmentally impactful. Yara aims to use the majority of green ammonia in its fertilizers,[4] or sell it for use as shipping fuel or co-firing coal power plants.

All types of ammonia can be used as inputs to produce premium fertilizers under the framework. Grey ammonia – which uses large volumes of fossil fuel and generates high emissions – currently dominates. This creates risk of market and regulatory actions, and a dependency on natural gas poses a transition risk. The ammonia used can also be purchased from third parties, and Yara does not have climate thresholds for such ammonia (e.g. an energy or emissions intensity threshold). It is worth noting that investments under the framework into green ammonia can contribute to mitigating these risks, and that no proceeds can be used to produce or source grey ammonia.

The production of premium fertilizer requires other scarce materials such as phosphate and potash. The sourcing of these can involve significant emissions, embedding these in the final product, as well as other adverse environmental impacts. The production of premium fertilizers is also exposed to transition risk attached to these scarce products (e.g. the decreasing global quantities of phosphate rock).

Most emissions from fertilizers arise during use. While the reduction of input and process emissions is vital, focus on use phase emissions is equally critical, remains a big challenge for the industry, and gives rise to regulatory risks.

[4] In 2021, fertilizers accounted for 80% of products based on its own ammonia.

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Appendix 1: Referenced Documents List

Document Number	Document Name	Description
1	Green Financing Framework (July 2022)	
2	Yara Sustainability Report 2020	
3	Yara Sustainability Report 2021	
4	Yara Integrated Report 2020	
5	Yara Integrated Report 2021	
6	Code of Conduct for Yara's Business Partners	

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Appendix 2:
About CICERO Shades of Green

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

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

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