

Second-Party Opinion

O-I Green Financing Framework



Evaluation Summary

Use of Proceeds Instruments

Green Bond Principles 2021 and Green Loan Principles 2021

Sustainalytics is of the opinion that the O-I Green Financing Framework is credible and impactful and aligns with the four core components of the Green Bond Principles 2021 and Green Loan Principles 2021. The eligible categories for the use of proceeds – Renewable Energy, Energy Efficiency, Sustainable Water and Wastewater Management, Environmentally Friendly Production Technologies and Processes, Circular Economy and Environmentally Friendly Adapted Products – are aligned with those recognized by the Green Bond Principles 2021 and Green Loan Principles 2021. Sustainalytics considers that investments in the project categories are expected to deliver positive environmental impact and considers them to be credible from a transition perspective.

Climate Transition Finance Handbook

Sustainalytics has evaluated O-I’s transition governance, strategy, decarbonization targets, and intentions to report on transition progress and finds O-I to be partially aligned with the recommendations of the Climate Transition Finance Handbook 2020.¹ O-I is involved in a carbon-intensive sector and has established GHG emission reduction targets validated to be in line with the 2°C scenario of the SBTi. O-I has developed an implementation plan designed to decarbonize its operations and meet emissions reduction targets.

Evaluation Date	October 5, 2022 ²
Issuer/Borrower Location	Ohio, US

The UoPs contribute to the following SDGs:



¹ Sustainalytics notes that the Company is partially aligned with the third and fourth components of the Climate Transition Finance Handbook 2020, namely “Climate transition strategy to be ‘science-based’ including targets and pathways” and “Implementation transparency”, and fully aligned with the remaining two components.

² Sustainalytics’ Second-Party Opinion on Owens-Illinois, Inc.’s Green Bond Framework of 2019 is available at: https://mstar-sustops-cdn-mainwebsite-s3.s3.amazonaws.com/docs/default-source/spos/owens-illinois-green-bond-second-party-opinion.pdf?sfvrsn=747bdee8_3

Table of Contents

Evaluation Summary	1
Table of Contents	2
Scope of Work and Limitations	3
Introduction	5
Sustainalytics’ Opinion	6
Section 1: Sustainalytics’ SPO on the Alignment of the Framework with Relevant Market Standards	6
Alignment with Use of Proceeds Principles.....	6
Alignment with the Climate Transition Finance Handbook 2020.....	11
Section 2: Assessment of O-I’s Sustainability Strategy	13
Section 3: Impact of the Use of Proceeds	15
Conclusion	17
Appendix 1 Green Bond / Green Bond Programme - External Review Form	18
Disclaimer	24
About Sustainalytics, a Morningstar Company	25

Scope of Work and Limitations

Sustainalytics' Second-Party Opinion reflects Sustainalytics' independent³ opinion on the alignment of the O-I Green Financing Framework with current market standards. As part of the Second-Party Opinion, Sustainalytics assessed the following:

- The Framework's alignment with the Green Bond Principles 2021 and Green Loan Principles 2021^{4,5} (the "Principles");
- The credibility and anticipated positive impacts of the use of proceeds and SPTs;
- The Issuer's sustainability strategy, performance and sustainability risk management; and
- The alignment with the recommendations of the Climate Transition Finance (CTF) Handbook 2020⁶;

As part of this engagement, Sustainalytics held conversations with various members of O-I's management team to understand the sustainability impact of their business processes and the core components of the Framework. O-I representatives have confirmed that:

- (1) They understand it is the sole responsibility of O-I to ensure that the information provided is complete, accurate or up to date;
- (2) They have provided Sustainalytics with all relevant information; and
- (3) Any provided material information has been duly disclosed in a timely manner.

Sustainalytics also reviewed relevant public documents and non-public information. This document contains Sustainalytics' opinion of the Framework and should be read in conjunction with that Framework. Any update of the present Second-Party Opinion will be conducted according to the agreed engagement conditions between Sustainalytics and O-I.

Sustainalytics' Second-Party Opinion assesses alignment of the Framework with current market standards, but does not provide any guarantee of alignment nor warrants alignment with any future versions of such standards. Regarding the portion of the Second-Party Opinion which assesses:

- use of proceeds categories, O-I is encouraged to update the associated parts of the Framework after 24 (twenty-four) months from the evaluation date, if necessary, and seek an update to this Second-Party Opinion to ensure ongoing alignment of the Framework with market standards and expectations.
- sustainability-linked instruments, this Second-Party Opinion is valid for issuances aligned with the Framework for up to 24 (twenty-four) months or until one of the following occurs: (1) a material change to the external benchmarks against which targets were set; (2) a material corporate action (such as a material M&A or change in business activity) which has a bearing on the achievement of the SPTs or the materiality of the KPIs.

For use of proceeds instruments, Sustainalytics relied on its internal taxonomy, version 1.11, which is informed by market practice and Sustainalytics' expertise as an ESG research provider. This Second-Party Opinion:

- addresses the anticipated impacts of eligible projects but does not measure their actual impact. Reporting and measuring impact of projects financed under the Framework is the responsibility of the Framework owner.
- opines on the potential allocation of proceeds but does not guarantee their realized allocation towards eligible activities.

For sustainability-linked instruments, the Second-Party Opinion:

- addresses the anticipated SPTs of KPIs but does not measure progress on the KPIs. Measuring and reporting on KPIs is the responsibility of the Framework owner.

³ When operating multiple lines of business that serve a variety of client types, objective research is a cornerstone of Sustainalytics and ensuring analyst independence is paramount to producing objective, actionable research. Sustainalytics has therefore put in place a robust conflict management framework that specifically addresses the need for analyst independence, consistency of process, structural separation of commercial and research (and engagement) teams, data protection and systems separation. Last but not the least, analyst compensation is not directly tied to specific commercial outcomes. One of Sustainalytics' hallmarks is integrity, another is transparency.

⁴ The bond Principles, Guidelines and Handbooks are administered by the International Capital Market Association and are available at: <https://www.icmagroup.org/sustainable-finance/the-principles-guidelines-and-handbooks/>

⁵ The loan Principles and Guidelines are administered by the Loan Market Association, Asia Pacific Loan Market Association and Loan Syndications & Trading Association and are available at: https://www.lsta.org/content/?_industry_sector=guidelines-memos-primary-market

⁶ The Climate Transition Finance Handbook is administered by the International Capital Market Association and is available at: <https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Climate-Transition-Finance-Handbook-December-2020-091220.pdf>

No information Sustainalytics provides under the present Second-Party Opinion shall be considered as being a statement, representation, warrant or argument in favour or against the truthfulness, reliability or completeness of any facts or statements and related circumstances that O-I may have disclosed to Sustainalytics for the purpose of this Second-Party Opinion.

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Introduction

O-I Glass, Inc. (“O-I”, the “Issuer” or the “Company”) is a manufacturer of glass containers for beverages, food, cosmetics and pharmaceutical industries. Established in 1903, O-I is headquartered in Ohio, USA. The Company has 70 manufacturing plants in 19 countries and operates with approximately 24,000 employees as of December 2020.⁷

O-I has developed the O-I Green Financing Framework (the “Framework”) under which it intends to issue green bonds and loans. O-I engaged Sustainalytics to review the Framework, dated September 2022, and provide a Second-Party Opinion on the Framework’s alignment with the Principles, and the recommendations of the Climate Transition Finance (CTF) Handbook 2020. The Framework has been published in a separate document.⁸

Under the Framework, O-I intends to use the proceeds to finance and refinance, in whole or in part, existing and future projects that are expected to reduce the environmental impact of O-I’s facilities, processes and products, thereby supporting the Company’s transition to low-carbon, energy-efficient operations. The Framework defines eligibility criteria in six categories:

1. Renewable Energy
2. Energy Efficiency
3. Sustainable Water and Wastewater Management
4. Environmentally friendly production technologies and processes
5. Circular Economy
6. Environmentally Friendly Adapted Products

⁷ O-I Green Financing Framework

⁸ The O-I Green Financing Framework is available on O-I’s website at: www.o-i.com/sustainability/

Sustainalytics' Opinion

Section 1: Sustainalytics' Opinion on the Alignment of the Framework with Relevant Market Standards

Alignment with Use of Proceeds Principles

Sustainalytics is of the opinion that the O-I Green Financing Framework is credible, impactful and aligns with the Principles. For detailed information please refer to Appendix 1: Green Bond/Green Bond Programme External Review Form. Sustainalytics highlights the following elements of the O-I Green Financing Framework:



Use of Proceeds

Overall Assessment of Use of Proceeds

Use of Proceeds	Activity	Classification	Description and Sustainalytics' Assessment
Renewable Energy	Projects and investments aimed at increasing utilization of renewable energy	Transition	<ul style="list-style-type: none"> - Investments in on-site and off-site solar photovoltaic systems and wind generation projects. - Procurement of renewable energy from wind, hydro or solar power sources via long-term (minimum tenor of five years) and project-tied power purchase agreements (PPAs). Sustainalytics considers the long-term nature of the PPAs as providing greater assurance of positive impact. - Sustainalytics notes that more than 50% of emissions from production are classified as scope 1 emissions⁹ since about 75-85% of the total energy required to produce glass is consumed when the raw materials are heated within a furnace to temperatures of more than 1500°C.¹⁰ Investments in renewable energy projects and PPAs address primarily scope 2 emissions and therefore are expected to have relatively low mitigation potential for glass production as it does not address the emissions inherent to the production process. Nevertheless, Sustainalytics is of the opinion that such expenditures are suitable for transition finance given that O-I has a transition plan in place that addresses the most carbon intensive aspects (such as energy consumption) of production and includes all production units that will be supported by expenditures in this category.
Energy Efficiency	Investments in energy efficient solutions in offices, plants and warehouse	Green	<ul style="list-style-type: none"> - Investments in energy efficient solutions including LED lighting for use in offices which Sustainalytics considers to be suitable for green financing.

⁹ Assessing Low Carbon Transition, "Glass Sector Methodology", (2021) at: https://actinitiative.org/wp-content/uploads/pdf/2021-08-02_act-glass-for-roadtest.pdf

¹⁰ Furszyfer Del Rio, D, et al., (2022), "Decarbonizing the glass industry: A critical and systematic review of developments, sociotechnical systems and policy options", Renewable and Sustainable Energy Reviews, at: <https://www.sciencedirect.com/science/article/abs/pii/S1364032121011527>

		Transition	<ul style="list-style-type: none"> - Investments in energy efficient solutions including upgrades to high-efficiency heating, ventilation and air-conditioning (HVAC) systems, and energy monitoring and management systems such as smart meters (including smart gas meters). - Sustainalytics notes that typical glass melting furnaces operate with an overall efficiency of 50 to 60%.¹¹ While recognizing the environmental benefits of investments in energy monitoring and management systems such as smart meters that aim to reduce scope 1 emissions, Sustainalytics notes that the investments will be tied to natural gas and associated components and systems such as smart gas meters prolong fossil fuel consumption, creating a risk of fossil fuel lock-in. Nonetheless Sustainalytics is of the opinion that such expenditures are suitable for transition finance given that O-I has a transition plan in place that addresses the most carbon intensive aspects of the glass production process and includes all production units that will be supported by expenditures in this category.
Sustainable Water and Wastewater Management	Use of new technologies aimed at reducing potable water consumption in the manufacturing process	Transition	<ul style="list-style-type: none"> - Investments in the following technologies and projects: (i) installation of closed-loop systems that reuse water, (ii) use of recycled or reclaimed water in the cullet washing processes, (iii) rainwater collection systems, and (iv) water metering and monitoring devices. - Sustainalytics notes that the most significant water use in the glass production process occurs during the cooling and cullet cleaning phase and that closed-water process systems should be implemented to minimize water loss.¹² Sustainalytics is of the opinion that investments in technologies to reduce potable water consumption in the manufacturing process are suitable for transition finance given that there is a transition plan in place which addresses all production units that will be supported by expenditures in this category.
Environmentally friendly production technologies and processes	Furnace production	Transition	<ul style="list-style-type: none"> - Investments to improve the efficiency of the glass furnace operations. Furnaces are heated by gas and electricity to 1500°C to melt cullet, silica sand, soda ash and limestone during the glass manufacturing process.¹³ Investments include: (i) the deployment of gas-oxygen advancement technology furnaces,¹⁴ and (ii) the installation of equipment or upgrades for automatic process control. - Sustainalytics notes that investments to improve efficiency of the glass furnace operations are expected to address scope 1 emissions and that utilization of gas-oxygen advancement technology has the potential to reduce nitrous oxide emissions by 70% and CO₂ emissions by 40%.¹⁵ Sustainalytics recognizes the benefits of such investments and considers them to be suitable for transition finance given that there is a transition plan in place which addresses the most carbon intensive aspects of production. O-I has communicated to Sustainalytics that is has a transition strategy in place which addresses all production units that will be supported by expenditures in this category.

¹¹ Industrial Efficiency Technology Database, "Glass", at: <http://www.iipinetwork.org/wp-content/letd/content/glass.html>

¹² World Bank Group, "Environmental, Health and Safety Guidelines for Glass Manufacturing", (2007), at: <https://documents1.worldbank.org/curated/en/890101490072833164/pdf/113621-WP-ENGLISH-Glass-Manufacturing-PUBLIC.pdf>

¹³ O-I, "How Glass Bottles and Jars are Made", at: <https://www.o-i.com/our-story/how-glass-bottles-and-jars-are-made/>

¹⁴ Gas-oxygen advancement technology uses oxygen created onsite to replace air-fuel combustion applications to increase heat transfer and result in melting or softening glass faster and more efficiently.

¹⁵ O-I, "Sustainability Report 2021", at: <https://www.o-i.com/sustainability/>

	Alternative fuel sources	<ul style="list-style-type: none"> - Investments in the substitution or integration of alternative fuel sources including oxygen, hydrogen, biogas or synthetic gas. O-I has communicated to Sustainalytics that the substitution of alternative fuel sources involves research and development (R&D) expenditures, which will be limited to 10% of the net proceeds from each issuance. Sustainalytics notes that O-I will not finance the procurement or production of alternative fuel sources. - Hydrogen fuel will include both green and grey hydrogen since it is not yet feasible to fully utilize green hydrogen in glass production. - O-I has communicated that biogenic gas will involve gas from waste or landfills, which will be injected into a natural gas stream. Synthetic gas will involve waste heat reclamation. - Sustainalytics notes that the glass manufacturing sector is characterized by a very high use of natural gas and that the replacement of natural gas with alternative fuel sources has the potential to reduce overall emissions. Additionally, in the future, while the proportion of grey hydrogen usage is expected to decrease through the increased use of green hydrogen as the glass industry move towards its transition journey, Sustainalytics is of the opinion that such expenditures are suitable for transition finance given that there is a transition plan in place which addresses the most carbon intensive aspects of production. O-I has communicated to Sustainalytics that the integration of alternative fuel sources will be limited to facilities which are on a strategy-driven decarbonization pathway.
	Re-use of waste heat	<ul style="list-style-type: none"> - Projects that aim to reduce and or re-use waste heat for cullet pre-heating or use in electricity production through Organic Rankine Cycle generators.¹⁶ - Sustainalytics notes that glass production represents a significant source of waste heat since furnaces operate at temperatures of over 1500°C for 24 hours a day and seven days a week. Therefore, investments to reduce or re-use waste heat are expected to address scope 1 emissions and increase operational efficiency. Sustainalytics is of the opinion that such expenditures should be considered suitable for transition finance given that there is a transition plan in place which addresses the most carbon intensive aspects of production. O-I has communicated to Sustainalytics that is has a transition plan in place which covers all production units that will be supported by expenditures in this category.
	Environmentally friendly technologies	<ul style="list-style-type: none"> - Investments in technologies to monitor and manage emissions including: (i) sensors to monitor or control emissions compliance, (ii) dust collection including filters or dust abatement, and (iii) abatement equipment such as scrubbers. - Sustainalytics notes that significant sulfur oxide and nitrous oxide emissions can be generated during the production of glass.¹⁷ Sustainalytics is of the opinion that investments in technologies to monitor and reduce emissions are suitable for transition finance given that there is a transition plan in place which addresses the most carbon intensive aspects of production. O-I has communicated to Sustainalytics that is has a transition strategy in place which addresses all production units that will be supported by expenditures in this category.

¹⁶ An organic Rankine Cycle generator is an electric generator that further transforms waste heat into useful energy to power systems within facility.

¹⁷ Assessing Low Carbon Transition, "Glass Sector Methodology", (2021) at: https://actinitiative.org/wp-content/uploads/pdf/2021-08-02_act-glass-for-roadtest.pdf

Circular Economy	Increasing cullet processing capacity	Transition	<ul style="list-style-type: none"> - Investments to increase the cullet processing capacity and glass recycling processing through: (i) direct investments in new and existing cullet processing facilities (ii) investments for new and upgrades to equipment for glass collection with waste aggregators, and (iii) the possible acquisition of ownership interest in select cullet processing operations. - Sustainalytics notes that the use of recycled content in the production of glass can reduce the use of raw materials such as silica sand, soda ash and limestone, and reduce the generation of GHG emissions. Sustainalytics is of the opinion that investments in technologies to increase cullet processing capacity and supply are suitable for transition finance given that there is a transition plan in place which addresses the most carbon intensive aspects of production. O-I has confirmed that these facilities will be vertically integrated under this Framework, indicating that the financed facilities will be required to have a credible and strategy-driven decarbonization pathway in place.
	Use of recycled materials	Transition	<ul style="list-style-type: none"> - Investment in recycled materials including: (i) purchase of raw material from crushed glass including cullet or other glass, and (ii) sourcing waste products from other industries as an alternative source of recycled input. The Company has communicated such alternative recycled inputs may include tube scale and slag from the steel industry and sand from casting foundries. - Sustainalytics notes that the use of recycled content in the production of glass has the potential to reduce the use of raw materials such as silica sand, soda ash and limestone, and can further help reduce GHG emissions. Sustainalytics is of the opinion that investments in recycled materials to be used in the production of glass are suitable for transition finance given that there is a transition plan in place which addresses the most carbon intensive aspects of production. O-I has communicated to Sustainalytics that waste products will be limited to facilities which have demonstrated that they have a credible and strategy-driven decarbonization pathway in place.
	Sustainable packing solutions	Green	<ul style="list-style-type: none"> - Investments in returnable packaging projects that enable the reuse of glass bottles without further requirement of pre-processing, including the use of laser-based 2D permanent barcodes on glass bottles to allow tracking and reuse of bottles. Sustainalytics considers projects that enable reuse of glass to be suitable for green financing.
Environmentally Friendly Adapted Products	Projects aimed at decreasing the use of raw material, and using sustainable raw material to produce environmentally friendly products	Transition	<ul style="list-style-type: none"> - R&D and capex investments for light weight bottles including: (i) optimizing the shape of bottles, and (ii) improvements in glass chemistry and treatment to optimize material use. O-I has communicated to Sustainalytics that R&D expenditures will be limited to 10% of the net proceeds from each issuance. - Sustainalytics notes that investments in environmentally friendly adapted products are expected to reduce GHG emissions by reducing material use and lowering transportation costs. Sustainalytics is of the opinion that such expenditures are suitable for transition finance given that there is a transition plan in place which addresses the most carbon intensive aspects of production. O-I has communicated to Sustainalytics that is has a transition strategy in place which covers all production units that will be supported by expenditures in this category.

Additional Considerations on Use of Proceeds

- The Framework has established a look-back period of 24 months for refinancing activities. Sustainalytics considers this to be in line with market practice.
- Sustainalytics recognizes the glass sector as well-suited for transition finance, as it is carbon-intensive, important for the economy and human needs, and faces technological barriers to rapid decarbonization.
- The eligible projects financed under the Framework are expected to contribute to the Company's target to reduce GHG emissions by 25% by 2030.¹⁸
- In Sustainalytics' opinion, expenditures that support any given production unit should be considered suitable for transition finance only if there is a transition plan in place that includes that production unit and addresses its most carbon-intensive aspects. O-I has communicated to Sustainalytics that it has a transition strategy in place covering all production units and that all its facilities are on a decarbonization pathway. The Company intends to support its decarbonization plan through the expenditures financed under the Framework.



Project Evaluation and Selection

- O-I's Vice President in charge of Sustainability, the Global Sustainability Leader and the Corporate Treasurer will meet on a quarterly basis to identify, evaluate and select eligible projects in line with the Framework's eligibility criteria.
- O-I has implemented a company-wide Integrated Business Planning process under which the Company assesses environmental, health and safety risks and opportunities which may be associated with potential projects or investments. Sustainalytics considers these environmental and social risk management systems to be adequate and aligned with market expectations. For additional detail see Section 2.
- Based on the established process for project selection and the presence of risk management systems, Sustainalytics considers this process to be in line with market practice.



Management of Proceeds

- O-I's Global Sustainability team in combination with the Treasury team will be responsible for the management of net proceeds and will track the allocation using an internal Green Financing Register. Net proceeds will be deposited in a general bank account and the net proceeds will be earmarked for allocation to eligible projects.
- O-I intends to allocate all proceeds within 24 months of each issuance. In line with the Company's liquidity management policy, unallocated proceeds will temporarily be held or invested in cash or cash equivalents or other short-term liquid marketable instruments. Sustainalytics notes that O-I may also temporarily utilize unallocated proceeds to refinance debt and has confirmed its intention to exclude the refinancing of debt associated with carbon-intense assets and activities.
- Based on the use of an internal tracking system and disclosure of temporary use of proceeds, Sustainalytics considers this process to be in line with market practice.



Reporting

- O-I intends to report on the allocation and impact of proceeds through either its Corporate Social Responsibility Report or a standalone press release on its website on an annual basis until full allocation. Allocation reporting will include details on allocated and unallocated proceeds, the proportion of financing versus refinancing and the proportion of proceeds used for operating versus capital expenditures.

¹⁸ O-I, "Sustainability Report", (2022), at: https://www.o-i.com/wp-content/uploads/2022/04/O-I_SustainabilityReport_032222.pdf

- The impact reporting is expected to be based on category-level indicators such as capacity of renewable energy installed or purchased, GHG emissions avoided, energy savings, water consumption reduced, or volume of crushed glass used as a percentage of total raw glass material.
- Based on the commitment to both allocation and impact reporting, Sustainalytics considers this process to be in line with market practice.

Alignment with the Climate Transition Finance Handbook 2020

Sustainalytics has assessed O-I’s transition governance, strategy, decarbonization targets, and intentions to report on transition progress and finds O-I to be partially aligned with the recommendations of the Climate Transition Finance Handbook 2020. Sustainalytics highlights the following key elements of the assessment:

Key Elements	ICMA Recommendation	Sustainalytics’ Assessment	
Issuer’s climate transition strategy and governance	<ul style="list-style-type: none"> - Transition strategy to address climate-related risks and contribute to alignment with the goals of the Paris Agreement - Relevant interim targets on the trajectory towards long-term goal - Governance of transition strategy 	<ul style="list-style-type: none"> - O-I’s path to net-zero focuses on incorporating lower-carbon fuels, as they become commercially available, into operations. O-I’s transition strategy consists of leveraging product and process innovations including utilizing existing sustainability benefits of its technology and electrification to achieve its decarbonization objectives.¹⁹ - O-I has developed relevant interim targets, including a 10% reduction in emissions by 2025 and a 25% reduction by 2030 from a base year of 2017, towards achieving net-zero along a 2-degree pathway. - O-I’s transition strategy is overseen by its Nominating/Corporate Governance Committee, a standing committee of the Company’s board of directors. This Committee is responsible for overseeing the SBTi-verified emissions targets for 2030, short to mid-term goals and recognition of O-I’s long-term ambition of achieving net-zero including preliminary views on the steps to achieve it. - The Company’s Audit Committee and the Board are responsible for assessing enterprise risks related to energy and emissions while the Global Energy Team oversees energy and emissions reduction efforts alongside collaboration with internal stakeholders. The implementation of the Total System Cost (“TSC”) programme²⁰ contributes towards emissions reduction goals. - See detailed assessment in Section 2. 	Aligned
Business model environmental materiality	<ul style="list-style-type: none"> - Transition trajectory should be relevant to the environmentally-material parts of the issuer’s business model 	<ul style="list-style-type: none"> - As the glass-manufacturing process, the core part of O-I’s business, is energy and carbon intensive. O-I’s transition strategy, therefore, directly addresses the environmental impact its core business d through its key levers. 	Aligned
Climate transition strategy to be ‘science-based’ including targets and pathways	<ul style="list-style-type: none"> - Transition strategy should reference science-based targets and transition pathways 	<ul style="list-style-type: none"> - O-I has established short and medium-term absolute emissions reduction targets that are aligned with SBTi’s minimum two-degree decarbonization pathway. The Company has not set a time-bound long-term decarbonization target. - See detailed assessment in Section 2. 	Partially Aligned

¹⁹ O-I, “Vision, Innovation, Transformation – Sustainability Report 2021”, at: https://www.o-i.com/wp-content/uploads/2022/04/O-I_SustainabilityReport_032222.pdf

²⁰ The Total System Cost programme is an optimization system for energy consumption where employees can share information on best practices and solutions that enable cost savings and decreases energy use and emissions. More details can be found in O-I’s annual sustainability report.

<p>Implementation transparency</p>	<ul style="list-style-type: none"> - Disclosure of capex and opex plans - Climate-related outcomes and impacts that expenditures are intended to result in 	<ul style="list-style-type: none"> - O-I intends to report on the outcomes of decarbonization and transition strategy through its annual sustainability report, which is publicly available on O-I’s website. The Company has not committed to periodically report on the capex and opex related to its transition activities. - Through its annual sustainability scorecard²¹ and within the sustainability report, O-I will disclose performance against KPIs relevant to its transition strategy. - Until the net proceeds have been allocated in full, information regarding O-I’s allocation will be published through a press release or its Corporate Social Responsibility Report on its website and will reflect the amount allocated to projects, on the share of financing and refinancing and the proportion of proceeds used for capex and opex. Additionally, O-I will report on relevant KPIs where feasible in its allocation report.²² - O-I adheres to various reporting guidelines for carbon emissions and initiative where feasible including CDP (Climate Change Response submission), recommendations by the Task Force on Climate-Related Financial Disclosures, Global Reporting Initiative and the SASB Standards. 	<p>Partially Aligned</p>
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²¹ O-I, “O-I Glass Sustainability Scorecard”, at: <https://www.o-i.com/sustainability/our-sustainability-scorecard/>

²² O-I, “Green Bond Net Proceeds Fully Allocated to Qualifying Eligible Sustainable Projects”, (2021), at: <https://www.o-i.com/news/o-i-issues-2021-green-bond-allocation-update/>

Section 2: Assessment of O-I's Sustainability Strategy

Credibility of Climate Transition Strategy

Emission-Reduction Targets

O-I has established a medium-term target of reducing its absolute scope 1, 2 and 3 GHG emissions from its operations and manufacturing process by 25% by 2030 from a base year of 2017, with a short-term target of reducing emissions by 10% by 2025.²³ As part of its roadmap to decarbonization, O-I aims to both reduce energy consumption by 9%, and ensure that at least 40% of its energy demand is fulfilled through renewable energy sources by 2030.²⁴ In 2020, SBTi validated O-I's 2030 emissions target to be in line with the 2°C scenario for the Containers and Packaging sector.²⁵ In the long-term or beyond 2030, O-I aims to achieve net-zero GHG emissions. Sustainalytics considers the medium-term set targets set to be consistent with O-I the Company's goal to align with the well-below 2°C scenario decarbonization pathway for its sector and encourages O-I to establish long-term time-bound, quantitative targets for reduction in carbon emissions to support the decarbonization of its operations beyond 2030 and transparently report on its progress.

Decarbonization Pathway and Implementation Plan

The glass manufacturing sector is carbon intensive, emitting at least 86 million tonnes of CO₂ globally on an annual basis. The melting process during manufacturing uses a large amount of energy, therefore decarbonizing the process will significantly reduce carbon emissions from the sector.^{26,27} In this context, O-I has adopted a decarbonization roadmap to meet its 2025 and 2030 emissions reduction targets. The Company focuses on transitioning to low-carbon fuels as they become commercially available, and reducing the overall energy demand throughout its operations in an effort to reduce GHG emissions. Overall, the decarbonization plan will include investments, technological innovation, procurement efforts and R&D transformation. O-I intends to achieve its targets through the following four key levers, outlined in its sustainability report:²⁸

1. Energy reduction and efficiency
2. Sourcing renewable electricity
3. Increasing (the use of) recycled content
4. Gas-oxy advancement technology

O-I aims to reduce energy consumption and create efficiencies in the melting and refining process, which accounts for 85% of its energy use. By reducing energy consumption by 9% by 2030 relative to 2017, O-I estimates to save over 560 MJ of energy per MT of glass produced. The Company plans to capture and reuse furnace waste heat, use gas-oxy furnaces,²⁹ preheat ingredients, the TSC programme,³⁰ and use more efficient electricity-powered equipment. O-I's furnaces are also tracked and metered through a programme that enables better resiliency and efficiency. Through the Total Systems Cost programme, an optimization system for energy consumption, employees can share information on best practices and solutions that enable cost savings and decreased energy use and emissions. In 2020, O-I reported a reduction of 21,000 tonnes of CO₂ emissions from operations.³¹

Secondly, O-I is investing in renewable energy certificates and project-tied purchase agreements to procure renewable energy³² for its operations. The Company is also financing energy projects that are connected to grids with renewable electricity. In addition,

²³ O-I, "Vision, Innovation, Transformation – Sustainability Report 2021", at: https://www.o-i.com/wp-content/uploads/2022/04/O-I_SustainabilityReport_032222.pdf

²⁴ Ibid.

²⁵ Johnson, K. (2020), "Contributing to a Healthier World: O-I Receives Approval for Science-Based Emissions Reduction Targets", O-I, at: <https://www.o-i.com/news/contributing-to-a-healthier-world/#:~:text=SBTi%20is%20a%20collaboration%20between,by%20issuing%20a%20Green%20Bond>.

²⁶ The International Journal of Science – Nature, "Glass is the hidden gem in a carbon-neutral future", (2021), at: <https://www.nature.com/articles/d41586-021-02992-8>

²⁷ Muijsenberg, E. (2022), "The Future of Glass Melting", Intelligent Glass Solutions, at: <https://igsmag.com/features/the-future-of-glass-melting/>

²⁸ O-I, "Vision, Innovation, Transformation – Sustainability Report 2021"

²⁹ A gas-oxy furnace replaces air with oxygen in the combustion mix to melt glass. According to O-I, this will allow the Company to reduce nitrous oxide emissions by 70%. More details can be found in O-I's annual sustainability report.

³⁰ The TSC programme is an optimization system for energy consumption where employees can share information on best practices and solutions that enable cost savings and decreases energy use and emissions. More details can be found in O-I's annual sustainability report

³¹ As per O-I's annual sustainability report.

³² O-I, "O-I Green Financing Framework", (2022)

the Company is investing in R&D of green hydrogen, produced from renewable energy sources,³³ and intends to increase its use throughout O-I's operations.³⁴ As of 2020, renewable energy certificates covered 13% of O-I's global electricity consumption.

The increased use of recycled content has the potential to reduce carbon emissions in the glass manufacturing sector. Increasing the use of cullet³⁵ by 10% in a furnace, for example, can reduce carbon emissions by 5% in comparison to making glass from raw materials.³⁶ O-I identifies increasing recycled content as a strategy for decarbonization. The Company intends to increase the use of circular material, for example cullet, as an alternative to virgin material as it melts at lower temperatures and usually releases no CO₂ upon melting. By increasing cullet usage by 10%, O-I has reported that it can decrease its emissions by 5%.

The Company has invested in the gas-oxy advancement technology which makes the melting process more efficient through its use of oxygen and recycled heat. O-I estimates that the advancement technology has the potential to reduce the Company's emissions by 40%. Currently, 36 furnaces are planned for deployment between 2022 and 2030. O-I plans to roll out Modular Advanced Glass Manufacturing Asset, a melting technology that enables rapid capacity expansion to meet growing demand while improving energy impact and resource efficiency.

O-I has also established an Energy Management System that follows the ISO 50001 standard to ensure continual improvement on the energy performance of its operations.

Sustainalytics considers O-I's transition strategy to be credible and supportive of O-I's decarbonization targets.

O-I's Environmental and Social Risk Management

Sustainalytics recognizes that the use of proceeds from the Framework will be directed towards eligible projects that are anticipated to have positive environmental impact. However, Sustainalytics is aware that such eligible projects could also lead to negative environmental and social outcomes. Some potential environmental and social risks associated with the eligible projects include occupational health and safety, land use and biodiversity issues associated with construction projects, waste generated from operations, community relations, and stakeholder participation.

Sustainalytics is of the opinion that O-I is able to manage or mitigate potential risks through implementation of the following:

- At a Framework level, O-I employs integrated business planning (IBP) to ensure its decision making, policies and procedures are aligned with market and regulatory trends. The Company also uses the IBP process to assess environmental, health and safety (EHS) risks and opportunities while evaluating new projects and investments.
- To address occupational health and safety risks, O-I offers Occupational Health and Industrial Hygiene programmes as a proactive step to prevent both injuries and long-term health risks for employees and conducts mandatory health checks. Additionally, O-I has set out a zero-injury ambition, which includes a goal to reach 50% improvement in the total recordable incident rate (TRIR) by 2030 from a 2019 baseline, and a 35% improvement in the three-year rolling average TRIR by 2025. These goals compare to a 30% year-on-year reduction in TRIR in 2020. O-I works towards this ambition through a global EHS function that sets and oversees EHS policies, procedures, practices, and metrics. The EHS ambitions are guided through by EHS business plans that identify key priorities and initiatives to reduce EHS risks and incidents at each manufacturing plant.³⁷ The Company also requires its contractors and suppliers to share its commitment to health and safety and requires them to adopt general safety practices and comply with laws and regulations pertaining to workplace health and safety, as highlighted in its Supplier Guiding Principles.³⁸
- O-I addresses land use and biodiversity risks through its Environmental Management Systems (EMS) which consider various environmental risks associated with its operations and lays out a baseline and a plan to improve environmental performance through resource management, waste reduction and water conservation. To this end, O-I follows the ISO 14001 standard which provides a framework for continual improvement in resource efficiency and waste reduction, having had 50% of its plants certified under the standard.³⁹
- O-I's operations generate hazardous and non-hazardous waste which the Company manages through its Waste Management Fundamental. This policy establishes procedures to prevent, minimize, recycle and reuse waste generated. It also includes waste characterization to ensure proper waste collection and disposal. The Company's EHS Center of Excellence Team provides overall guidance on waste management and conducts global audits on the waste

³³ Marchant, N. (2021), "Grey, blue, green – why are there so many colours of hydrogen?", World Economic Forum, at: <https://www.weforum.org/agenda/2021/07/clean-energy-green-hydrogen/>

³⁴ O-I has communicated to Sustainalytics that given the nature of the manufacturing process, the use of only green hydrogen will not be feasible and thus, will use a mix of green and grey hydrogen.

³⁵ Cullet is crushed recycled glass. More detailed can be found at: <https://www.nature.com/articles/d41586-021-02992-8>

³⁶ Nature, "Glass is the hidden gem in a carbon-neutral future", (2021), at: <https://www.nature.com/articles/d41586-021-02992-8>

³⁷ O-I, "2020-21 Sustainability Report", at: https://www.o-i.com/wp-content/uploads/2022/04/O-I_SustainabilityReport_032222.pdf

³⁸ O-I, "Supplier Guiding Principles", at: <https://investors.o-i.com/static-files/f1c76927-69d2-48cf-b260-8d2f0d36ef48>

³⁹ O-I, "2020-21 Sustainability Report", at: https://www.o-i.com/wp-content/uploads/2022/04/O-I_SustainabilityReport_032222.pdf

management procedure and its implementation to ensure compliance with local legislation, environmental permits, safety and ISO 14001 standards, where applicable.

- O-I also manages its relations with various stakeholder groups such as customers, suppliers and local communities through continual engagement, including open dialogue, surveys and an Ethics and Compliance Helpline to identify and address material concerns amongst these groups.⁴⁰ The Company also fosters community relations through investments that support health, safety, education, arts and culture, social and environmental good in the communities in which the Company operates. These community-based causes and investments include promoting glass recycling through various partnerships, such as the Glass Recycling Foundation and The Glass Recycling Coalition,⁴¹ and promoting STEM education,⁴² particularly amongst young girls.
- Sustainalytics also notes that all financing under the Framework will take place in the US which is on the list of Designated Countries under the Equator Principles, indicating that environmental and social governance legislation systems and institutional capacity are sufficient to ensure mitigation of the common environmental and social risks.⁴³

Based on these policies, standards and assessments, Sustainalytics is of the opinion that O-I has implemented adequate measures and is well positioned to manage and mitigate environmental risks commonly associated with the eligible categories.

Section 3: Impact of the Use of Proceeds

All six use of proceeds categories are aligned with those recognized by the GBP or the GLP. Sustainalytics has focused on two below where the impact is specifically relevant in the local context.

Importance of supporting a circular economy and technological improvements for the glass manufacturing industry

According to the International Resource Panel,⁴⁴ 62% of the global GHG emissions, excluding emissions from land use and forestry, are released during the “extraction, processing and manufacturing of goods”. As per a UN report, a projected increase of 28% in global population by 2050 is expected to increase the use of resources per capita by 71%. This increase in the global use of natural resources, such as metals, biomass, minerals, sand, etc. establishes the need for a more efficient use of resources through circularity and technological improvements in the manufacturing sector.^{45, 46}

A circular economy aims to promote the reduction, reuse and recycling of materials in an industry. Glass as a packaging material is considered infinitely circular, as it can be recycled 100% without losing its quality, strength and functionality.⁴⁷ Globally, glass manufacturing produces 86 million tonnes of CO₂ in a year, which can be reduced with recycled glass or cullet as a raw material. Unlike the melting of other raw materials in the glass manufacturing process, cullet does not release any CO₂ when melted, nor does it require excessive heat for melting, which leads to further carbon savings. According to the European Container Glass Federation, 10% more cullet in a furnace lowers CO₂ emissions by 5% versus glass made entirely from raw materials⁴⁸ and the Glass Packaging Institute and TerraGlass estimate that the use of cullet can bring 25-30% in energy efficiency in the glass manufacturing process when compared to the use of conventional raw materials.^{49,50} Additionally, the use of cullet also reduces the amount of non-renewable resources such as soda ash, limestone and sand that are otherwise used in the glass manufacturing process. It is estimated that cullet can replace as much as 95% of raw materials in the glass making process, and for every tonne of cullet used, over a tonne of natural resources can be saved.⁵¹

The glass container industry in the US is committed to improving the domestic rate of recycling glass, with a pledge to reach a recycling rate of 50% by 2030 versus a baseline of 31% in 2018. To this end, the Glass Packaging Institute and its member companies have set out a roadmap which includes three pillars: (i) Leave No Bottle Behind, to ensure the cost of recycling glass bottles for consumers is lower than the cost of disposal; (ii) Recycling System Transformation, to setup infrastructure to enable

⁴⁰ O-I, “2020-21 Sustainability Report”, at: https://www.o-i.com/wp-content/uploads/2022/04/O-I_SustainabilityReport_032222.pdf

⁴¹ O-I, “2020-21 Sustainability Report”, at: https://www.o-i.com/wp-content/uploads/2022/04/O-I_SustainabilityReport_032222.pdf

⁴² Ibid.

⁴³ Equator Principles, “Designated Countries”, (2020) at: <https://equator-principles.com/about-the-equator-principles/designated-countries/>

⁴⁴ UNFCCC, “Circular Economy is Crucial for Climate Protection”, at: <https://unfccc.int/news/circular-economy-is-crucial-for-climate-protection-patricia-espinoza>

⁴⁵ Climate Action, “Smarter Use of Natural Resources Can Inject \$2 Trillion into Global Economy by 2050”, at:

https://www.climateaction.org/news/smarter_use_of_resources_to_add_2_trillion_to_global_economy_according_to_u

⁴⁶ UN Environment Programme, “With Resource Use Expected to Double by 2050, Better Natural Resource Use Essential for a Pollution-Free Planet”, at: <https://www.unep.org/news-and-stories/press-release/resource-use-expected-double-2050-better-natural-resource-use>

⁴⁷ Glass Packaging Institute, “Glass Container Recycling Loop”, at: <https://www.gpi.org/glass-recycling-facts>

⁴⁸ Nature, “Glass is the Hidden Gem in a Carbon-Neutral Future”, at: <https://www.nature.com/articles/d41586-021-02992-8>

⁴⁹ Glass Packaging Institute, “Glass Container Recycling Loop”, at: <https://www.gpi.org/glass-recycling-facts>

⁵⁰ TerraGlass, “Why Glass Cullet”, at: <https://www.terraglass.in/why-use-cullet>

⁵¹ CitizenSustainable, “Is Recycling Glass Worth It?”, at: <https://citizensustainable.com/recycling-glass/>

sorting, processing and transport of recycled glass or cullet to manufacturing plants; and (iii) Drive Collection Action, to foster public-private partnership towards recycling.⁵²

In addition to the circularity of inputs, technological advancements are imperative to reducing energy and materials consumed by the glass manufacturing industry, having already helped to reduce the energy per pound of glass being “pulled” through furnaces along with improving glass quality and reducing costs.⁵³ As per the Glass Technology Services, reducing the average glass container weight by 10% can yield 150,000 tonnes less waste.⁵⁴ Newer advancements such as the “light-weighting” technology of glass containers help reduce the amount of raw materials required for production of each container as well as reduce the waste that is sent to landfill.⁵⁵

Sustainalytics notes that under the Framework, O-I intends to finance investments aimed at increasing circularity through improvements in cullet processing capacity and glass recycling facilities. The Company also intends to finance technologies aimed at reducing the use of raw materials in the manufacturing process. Sustainalytics believes that such investments can have positive environmental impacts, including conserving natural resources, reducing energy use and carbon emissions, thereby supporting the US’ climate goals.

Importance of increasing the share of renewable energy in glass manufacturing

The electricity sector is the second largest source of GHG emissions in the US, accounting for 25% of total GHG emissions in 2019.⁵⁶ As of 2020, 60% of electricity generated in the US was derived from fossil fuels, such as natural gas, coal and petroleum, and 20% from nuclear energy.⁵⁷ Between 1990 and 2019, GHG emissions from electricity generation decreased by 12% as a result of the increase in renewable energy use and energy efficiency.⁵⁸ Although renewable energy generation in the US has experienced significant growth since 2008, it accounted for approximately 20% of the country’s total electricity mix in 2021.^{59,60}

Current projections show that renewable sources are likely to provide approximately 33% of the total US electricity generation in 2030, but these figures still fall short of the US government’s goal of having 80% electricity from renewable sources by the end of 2030.⁶¹ Consequently, significant investments in renewable energy in the US are required in order to meet the Paris Agreement climate target of limiting temperature increases to well below 2°C.⁶² In April 2021, the US federal government set a goal to generate 100% carbon-free electricity by 2035,⁶³ which is expected to further add to the renewable energy momentum in the US. In January 2022, the US federal government outlined additional initiatives to support the country’s move towards expanding its renewable energy capacity, including the Building a Better Grid Initiative, a programme to build out transmission lines to connect more households to renewable energy; and the auction of federal waters for offshore wind farms to install 30 GW of offshore wind capacity by 2030.⁶⁴

⁵² Glass Packaging Institute, “GPI Celebrates 2021 Glass Recycling Efforts on America Recycles Day”, at: <https://www.gpi.org/news/gpi-celebrates-2021-glass-recycling-efforts-on-america-recycles-day>

⁵³ Glass Bulletin, “Information Technology Transforms Glass Industry”, at: <https://glassbulletin.com/technical-articles/6706/#:~:text=Technological%20advances%20in%20glassmaking%20over%20the%20last%2025,manufacturers%20to%20design%20a%20better%2C%20user-friendly%20end%20product.>

⁵⁴ Glass Technology Services, “Light-weight Glass Containers – the Route to Effective Waste Minimisation”, at: <https://www.glass-ts.com/research-development/container-lite-light-weight-glass-containers-the-route-to-effective-waste-minimisation/>

⁵⁵ Glass Technology Services, “Container Lite Light-weight Glass Containers – The Route to Effective Waste Minimisation FINAL REPORT”, (2006), at: https://www.glass-ts.com/site/assets/files/1015/2006_-_wrap_container_lite_-_container_lite_-_light-weight_glass_containers_-_the_route_to_effective_waste_minimisation.pdf

⁵⁶ US Environmental Protection Agency, “Sources of Greenhouse Gas Emissions”, at: <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions#electricity>

⁵⁷ US Energy Information Administration, “Electricity Explained”, at: <https://www.eia.gov/energyexplained/electricity/electricity-in-the-us.php>

⁵⁸ US Environmental Protection Agency, “Sources of Greenhouse Gas Emissions”, at: <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions#electricity>

⁵⁹ US Energy Information Administration, “US Primary Energy Consumption by Energy Source”, (2020), at: <https://www.eia.gov/energyexplained/us-energy-facts/>

⁶⁰ US Energy Information Administration, “What is US Electricity Generation by Source”, at: <https://www.eia.gov/tools/faqs/faq.php?id=427&t=3>

⁶¹ Renewables Now, “Renewables on track to provide 33-50% of US 2030 electricity, Biden’s 80% goal still possible”, (2021) at: <https://www.renewablesnow.com/news/renewables-on-track-to-provide-33-50-of-us-2030-electricity-bidens-80-goal-still-possible-748426/>

⁶² International Renewable Energy Agency, “Renewable energy: a key climate solution”, (2017) at: https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2017/Nov/IRENA_A_key_climate_solution_2017.pdf?la=en&hash=A9561C1518629886361D12EFA11A051E004C5C98

⁶³ The White House, “FACT SHEET: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies”, (2021) at: <https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-president-biden-sets-2030-greenhouse-gas-pollution-reduction-target-aimed-at-creating-good-paying-union-jobs-and-securing-u-s-leadership-on-clean-energy-technologies/>

⁶⁴ The White House, “FACT SHEET: Biden-Harris Administration Races to Deploy Clean Energy that Creates Jobs and Lowers Costs” (2022); at: <https://www.whitehouse.gov/briefing-room/statements-releases/2022/01/12/fact-sheet-biden-harris-administration-races-to-deploy-clean-energy-that-creates-jobs-and-lowers-costs/>

The energy-intensive glass industry relies heavily on natural gas, which accounts for 75-85% of the CO₂ emissions from the glass manufacturing process.⁶⁵ Promoting the use and share of renewable energy in glass manufacturing is considered essential for the industry to be sustainable, with ongoing research suggesting the use of electrically operated furnaces,⁶⁶ hydrogen gas or biofuels as renewable energy sources that can potentially reduce reliance on natural gas.⁶⁷

Considering the above, Sustainalytics believes that the investments in renewable energy under the Framework are expected to increase the share of renewable energy use in the energy-intensive glass manufacturing industry, and subsequently support the clean energy transition in the US.

Alignment with/contribution to SDGs

The Sustainable Development Goals were adopted in September 2015 and form part of an agenda for achieving sustainable development by 2030. The O-I Green Financing Framework is expected to advance the following SDGs and targets:

Use of Proceed	SDG	SDG Target
Renewable Energy	7. Affordable and clean energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
Energy Efficiency	7. Affordable and clean energy	7.3 By 2030, double the global rate of improvement in energy efficiency
Sustainable Water and Wastewater Management	6. Clean water and sanitation	6.3 By 2030, improve water quality by reducing pollution, eliminating dumping, and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater, and substantially increasing recycling and safe reuse globally
Environmentally friendly production technologies and processes	9. Industry, innovation and infrastructure	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
Circular Economy	12. Responsible consumption and production	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse
Environmentally Friendly Adapted Products	12. Responsible consumption and production	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse

Conclusion

O-I has developed the O-I Green Financing Framework under which it may issue bonds and loans and use the proceeds to finance or refinance, in whole or in part, existing or future eligible projects. Sustainalytics considers that the projects funded by the green financing proceeds are expected to provide positive environmental impact and support the decarbonization of O-I’s operations.

The O-I Green Financing Framework outlines a process for tracking, allocating and managing proceeds, and makes commitments for O-I to report on the allocation and impact of the use of proceeds. Furthermore, Sustainalytics believes that the O-I Green Financing Framework is aligned with the overall sustainability strategy of the Company and that the use of proceeds will contribute to the advancement of the UN Sustainable Development Goals 6, 7, 9 and 12. Additionally, Sustainalytics is of the opinion that O-I has adequate measures to identify, manage and mitigate environmental and social risks commonly associated with the eligible projects.

Based on the above, Sustainalytics is of the opinion that O-I is adequately positioned to issue green financing instruments and that the Framework is robust, transparent and in alignment with the four core components of the Green Bond Principles (2021) and Green Loan Principles (2021). Sustainalytics has also assessed O-I’s alignment with the recommendations of the Climate Transition Finance Handbook and considers the Company’s transition strategy to be partially aligned.

⁶⁵ Nature, “Glass is the Hidden Gem in a Carbon-Neutral Future”, at: <https://www.nature.com/articles/d41586-021-02992-8>

⁶⁶ Phys Org, “Glass and the Energy Reform: Sustainable Production Thanks to Electricity?”, at: <https://phys.org/news/2022-05-glass-energy-reform-sustainable-production.html>

⁶⁷ AZO Materials, “Why Reducing Gas Combustion for Glass Production is Increasingly Essential”, at: <https://www.azom.com/article.aspx?ArticleID=20866>

Appendix 1 Green Bond / Green Bond Programme - External Review Form

Section 1. Basic Information

Issuer name:	O-I Glass, Inc.
Green Bond ISIN or Issuer Green Bond Framework Name, if applicable:	O-I Green Financing Framework
Review provider's name:	Sustainalytics
Completion date of this form:	October 5, 2022
Publication date of review publication: <i>Original publication date [please fill this out for updates].</i>	

Section 2. Review overview

SCOPE OF REVIEW

The following may be used or adapted, where appropriate, to summarise the scope of the review.

The review assessed the following elements and confirmed their alignment with the GBP:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Use of Proceeds | <input checked="" type="checkbox"/> Process for Project Evaluation and Selection |
| <input checked="" type="checkbox"/> Management of Proceeds | <input checked="" type="checkbox"/> Reporting |

ROLE(S) OF REVIEW PROVIDER

- | | |
|---|--|
| <input checked="" type="checkbox"/> Consultancy (incl. 2 nd opinion) | <input type="checkbox"/> Certification |
| <input type="checkbox"/> Verification | <input type="checkbox"/> Rating |
| <input type="checkbox"/> Other <i>(please specify)</i> : | |

Note: In case of multiple reviews / different providers, please provide separate forms for each review.

EXECUTIVE SUMMARY OF REVIEW and/or LINK TO FULL REVIEW *(if applicable)*

Please refer to Evaluation Summary above.

Section 3. Detailed review

Reviewers are encouraged to provide the information below to the extent possible and use the comment section to explain the scope of their review.

1. USE OF PROCEEDS

Overall comment on section *(if applicable)*:

The eligible categories for the use of proceeds – renewable energy, energy efficiency, sustainable water and wastewater management, environmentally friendly production technologies and processes, circular economy, and environmentally friendly adapted products – are aligned with those recognized by the Green Bond Principles and Green Loan Principles. Sustainalytics considers that investments in the project categories will lead to positive environmental impacts and considers the activities under the use of proceeds project categories to be credible from a transition perspective.

Use of proceeds categories as per GBP:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Renewable energy | <input checked="" type="checkbox"/> Energy efficiency |
| <input type="checkbox"/> Pollution prevention and control | <input type="checkbox"/> Environmentally sustainable management of living natural resources and land use |
| <input type="checkbox"/> Terrestrial and aquatic biodiversity conservation | <input type="checkbox"/> Clean transportation |
| <input checked="" type="checkbox"/> Sustainable water and wastewater management | <input type="checkbox"/> Climate change adaptation |
| <input checked="" type="checkbox"/> Eco-efficient and/or circular economy adapted products, production technologies and processes | <input type="checkbox"/> Green buildings |
| <input type="checkbox"/> Unknown at issuance but currently expected to conform with GBP categories, or other eligible areas not yet stated in GBP | <input type="checkbox"/> Other <i>(please specify)</i> : |

If applicable please specify the environmental taxonomy, if other than GBP:

2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Overall comment on section *(if applicable)*:

O-I's Vice President in charge of Sustainability, the Global Sustainability Leader and the Corporate Treasurer will meet on a quarterly basis to identify, evaluate and select eligible projects in line with the Framework's eligibility criteria. O-I has implemented a company-wide Integrated Business Planning process under which the Company assesses environmental, health and safety risks and opportunities which may be associated with potential projects or investments. Sustainalytics considers these environmental and social risk management systems to be adequate and aligned with market expectations. For additional detail see Section 2. Based on the established process for project selection and the presence of risk management systems, Sustainalytics considers this process to be in line with market practice.

Evaluation and selection

- | | |
|--|---|
| <input checked="" type="checkbox"/> Credentials on the issuer's environmental sustainability objectives | <input checked="" type="checkbox"/> Documented process to determine that projects fit within defined categories |
| <input checked="" type="checkbox"/> Defined and transparent criteria for projects eligible for Green Bond proceeds | <input checked="" type="checkbox"/> Documented process to identify and manage potential ESG risks associated with the project |
| <input checked="" type="checkbox"/> Summary criteria for project evaluation and selection publicly available | <input type="checkbox"/> Other (<i>please specify</i>): |

Information on Responsibilities and Accountability

- | | |
|--|--|
| <input checked="" type="checkbox"/> Evaluation / Selection criteria subject to external advice or verification | <input type="checkbox"/> In-house assessment |
| <input type="checkbox"/> Other (<i>please specify</i>): | |

3. MANAGEMENT OF PROCEEDS

Overall comment on section (*if applicable*):

O-I's Global Sustainability team in combination with the Treasury team will be responsible for the management of net proceeds and will track the allocation using an internal Green Financing Register. Net proceeds will be deposited in a general bank account and the net proceeds will be earmarked for allocation to eligible projects. O-I intends to allocate all proceeds within 24 months of each issuance. In line with the Company's liquidity management policy, unallocated proceeds will temporarily be held or invested in cash or cash equivalents or other short-term liquid marketable instruments. Sustainalytics notes that O-I may also temporarily utilize unallocated proceeds to refinance debt and has confirmed its intention to exclude the refinancing of debt associated with carbon-intense assets and activities. Based on the use of an internal tracking system and disclosure of temporary use of proceeds, Sustainalytics considers this process to be in line with market practice.

Tracking of proceeds:

- | |
|---|
| <input checked="" type="checkbox"/> Green Bond proceeds segregated or tracked by the issuer in an appropriate manner |
| <input checked="" type="checkbox"/> Disclosure of intended types of temporary investment instruments for unallocated proceeds |
| <input type="checkbox"/> Other (<i>please specify</i>): |

Additional disclosure:

- | | |
|--|---|
| <input type="checkbox"/> Allocations to future investments only | <input checked="" type="checkbox"/> Allocations to both existing and future investments |
| <input checked="" type="checkbox"/> Allocation to individual disbursements | <input type="checkbox"/> Allocation to a portfolio of disbursements |

- Disclosure of portfolio balance of unallocated proceeds
- Other *(please specify)*:

4. REPORTING

Overall comment on section (if applicable):

O-I intends to report on the allocation and impact of proceeds through either its Corporate Social Responsibility Report or a standalone press release on its website on an annual basis until full allocation. Allocation reporting will include details on allocated and unallocated proceeds, the proportion of financing versus refinancing and the proportion of proceeds used for operating versus capital expenditures. The impact reporting is expected to be based on category-level indicators such as capacity of renewable energy installed or purchased, GHG emissions avoided, energy savings, water consumption reduced, or volume of crushed glass used as a percentage of total raw glass material. Based on the commitment to both allocation and impact reporting, Sustainalytics considers this process to be in line with market practice.

Use of proceeds reporting:

- Project-by-project
- On a project portfolio basis
- Linkage to individual bond(s)
- Other *(please specify)*:

Information reported:

- Allocated amounts
- Green Bond financed share of total investment
- Other *(please specify)*:

Frequency:

- Annual
- Semi-annual
- Other (please specify):

Impact reporting:

- Project-by-project
- On a project portfolio basis
- Linkage to individual bond(s)
- Other (please specify):

Information reported (expected or ex-post):

- GHG Emissions / Savings
- Energy Savings
- Decrease in water use
- Other ESG indicators (please specify): reduction of pollutants discharge, improvement in carbon intensity of production, volume of crushed glass used, volume of waste/

bottles collected and recycled, reduction of raw materials used

Frequency

- Annual
- Semi-annual
- Other (please specify):

Means of Disclosure

- Information published in financial report
- Information published in sustainability report
- Information published in ad hoc documents
- Other (please specify): Information published in the Company’s Corporate Social Responsibility Report or a standalone press release on its website
- Reporting reviewed (if yes, please specify which parts of the reporting are subject to external review):

Where appropriate, please specify name and date of publication in the useful links section.

USEFUL LINKS (e.g. to review provider methodology or credentials, to issuer’s documentation, etc.)

SPECIFY OTHER EXTERNAL REVIEWS AVAILABLE, IF APPROPRIATE

Type(s) of Review provided:

- Consultancy (incl. 2nd opinion)
- Certification
- Verification / Audit
- Rating
- Other (please specify):

Review provider(s):

Date of publication:

ABOUT ROLE(S) OF INDEPENDENT REVIEW PROVIDERS AS DEFINED BY THE GBP

- i. Second-Party Opinion: An institution with environmental expertise, that is independent from the issuer may issue a Second-Party Opinion. The institution should be independent from the issuer’s adviser for its Green Bond framework, or appropriate procedures, such as information barriers, will have been implemented within the institution to ensure the independence of the Second-Party Opinion. It normally entails an assessment of the alignment with the Green Bond Principles. In particular, it can include an assessment of the issuer’s overarching objectives, strategy, policy and/or processes relating to environmental sustainability, and an evaluation of the environmental features of the type of projects intended for the Use of Proceeds.
- ii. Verification: An issuer can obtain independent verification against a designated set of criteria, typically pertaining to business processes and/or environmental criteria. Verification may focus on alignment with internal or external standards or claims made by the issuer. Also, evaluation of the environmentally sustainable features of underlying assets may be termed verification and may reference external criteria. Assurance or attestation regarding an issuer’s internal tracking method for use of proceeds, allocation of funds from Green Bond proceeds, statement of environmental impact or alignment of reporting with the GBP, may also be termed verification.

- iii. **Certification:** An issuer can have its Green Bond or associated Green Bond framework or Use of Proceeds certified against a recognised external green standard or label. A standard or label defines specific criteria, and alignment with such criteria is normally tested by qualified, accredited third parties, which may verify consistency with the certification criteria.
- iv. **Green Bond Scoring/Rating:** An issuer can have its Green Bond, associated Green Bond framework or a key feature such as Use of Proceeds evaluated or assessed by qualified third parties, such as specialised research providers or rating agencies, according to an established scoring/rating methodology. The output may include a focus on environmental performance data, the process relative to the GBP, or another benchmark, such as a 2-degree climate change scenario. Such scoring/rating is distinct from credit ratings, which may nonetheless reflect material environmental risks.

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