



# Second-Party Opinion

## Micron Green Bond Framework

### Evaluation Summary

Sustainalytics is of the opinion that the Micron Green Bond Framework is credible and impactful and aligns to the four core components of the Green Bond Principles 2021. This assessment is based on the following:



**USE OF PROCEEDS** The eligible categories for the use of proceeds – Renewable Energy, Green Buildings, Energy Efficiency, Sustainable Water and Wastewater Management, Pollution Prevention and Control, and Circular Economy Adapted Products, Production Technologies and Processes – are aligned with those recognized by the Green Bond Principles. Sustainalytics considers that investments in the eligible categories will lead to positive environmental impacts and advance the UN Sustainable Development Goals (“SDGs”), specifically SDGs 6, 7, 9 and 12.



**PROJECT EVALUATION / SELECTION** Micron’s internal process in evaluating and selecting projects is overseen by its Green Bond Committee comprised of representatives from the Micron Finance, Operations, Sustainability and Legal teams. Micron’s environmental and social risk management systems are applicable for all allocation decisions in the Framework. Sustainalytics considers the risk management systems and the project selection process in line with market practice.



**MANAGEMENT OF PROCEEDS** Micron will track allocations internally and intends to fully allocate within the first 24 months after the issuance. Pending allocation, proceeds will be managed in accordance with Micron’s liquidity management practice. This is in line with market practice



**REPORTING** Micron intends to report on allocation of proceeds on its website on an annual basis until full allocation. Allocation reporting will include information on the net proceeds that are allocated by category or by project, a list of Eligible Project categories, and the balance of unallocated proceeds. In addition, Micron is committed to reporting on relevant impact metrics. Sustainalytics views Micron’s allocation and impact reporting as aligned with market practice.

**Evaluation Date** October 14, 2021

**Issuer Location** Idaho, United States

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## Introduction

Micron Technology, Inc. (“Micron”, or the “Company”) is the fourth largest semiconductor company in the world, providing memory and storage solutions and products. Established in 1978, it is headquartered in Idaho, United States. Micron currently operates in 17 countries with 43,000 employees around the world.

Micron has developed the Micron Green Bond Framework (the “Framework”) under which it intends to issue green bonds and use the proceeds to finance and/or refinance, in whole or in part, existing and/or future projects that reduce greenhouse gas (GHG) emissions, increase energy efficiency of its operations and promote the sustainable management of waste, water and natural resources. The Framework defines eligibility criteria in the following six areas:

1. Renewable Energy
2. Green Buildings
3. Energy Efficiency
4. Sustainable Water and Wastewater Management
5. Pollution Prevention and Control
6. Circular Economy Adapted Products, Production Technologies and Processes

Micron engaged Sustainalytics to review the Green Bond Framework, dated October 2021, and provide a Second-Party Opinion on the Framework’s environmental credentials and its alignment with the Green Bond Principles 2021 (GBP).<sup>1</sup> This Framework has been published in a separate document.<sup>2</sup>

### Scope of work and limitations of Sustainalytics’ Second-Party Opinion

Sustainalytics’ Second-Party Opinion reflects Sustainalytics’ independent<sup>3</sup> opinion on the alignment of the reviewed Framework with the current market standards and the extent to which the eligible project categories are credible and impactful.

As part of the Second-Party Opinion, Sustainalytics assessed the following:

- The Framework’s alignment with the Green Bond Principles 2021, as administered by ICMA;
- The credibility and anticipated positive impacts of the use of proceeds; and
- The alignment of the issuer’s sustainability strategy and performance and sustainability risk management in relation to the use of proceeds.

For the use of proceeds assessment, Sustainalytics relied on its internal taxonomy, version 1.11, which is informed by market practice and Sustainalytics’ expertise as an ESG research provider.

As part of this engagement, Sustainalytics held conversations with various members of Micron’s management team to understand the sustainability impact of their business processes and planned use of proceeds, as well as management of proceeds and reporting aspects of the Framework. Micron representatives have confirmed (1) they understand it is the sole responsibility of Micron to ensure that the information provided is complete, accurate or up to date; (2) that they have provided Sustainalytics with all relevant information and (3) that 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 Micron.

Sustainalytics’ Second-Party Opinion, while reflecting on the alignment of the Framework with market standards, is no guarantee of alignment nor warrants any alignment with future versions of relevant market standards. Furthermore, Sustainalytics’ Second-Party Opinion addresses the anticipated impacts of eligible projects expected to be financed with bond proceeds but does not measure the actual impact. The

<sup>1</sup> The Green Bond Principles are administered by the International Capital Market Association and are available at <https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/>.

<sup>2</sup> The Green Bond Framework is available on Micron Technology, Inc.’s website at: [www.micron.com/sustainability](http://www.micron.com/sustainability).

<sup>3</sup> 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.

measurement and reporting of the impact achieved through projects financed under the Framework is the responsibility of the Framework owner.

In addition, the Second-Party Opinion opines on the potential allocation of proceeds but does not guarantee the realised allocation of the bond proceeds towards eligible activities.

No information provided by Sustainalytics under the present Second-Party Opinion shall be considered as being a statement, representation, warrant or argument, either in favour or against, the truthfulness, reliability or completeness of any facts or statements and related surrounding circumstances that Micron has made available to Sustainalytics for the purpose of this Second-Party Opinion.

## Sustainalytics' Opinion

### Section 1: Sustainalytics' Opinion on the Green Bond Framework

Sustainalytics is of the opinion that the Green Bond Framework is credible and impactful, and aligns to the four core components of the GBP. Sustainalytics highlights the following elements of Micron's Green Bond Framework:

- Use of Proceeds:
  - The eligible categories – Renewable Energy, Green Buildings, Energy Efficiency, Sustainable Water and Wastewater Management, Pollution Prevention and Control, Circular Economy Adapted Products, Production Technologies and Processes – are aligned with those recognized by the GBP.
  - In addition to financing its own projects and operations, Micron may invest in start-ups that derive at least 90% of revenues from activities identified in the eligible categories ("pure-plays") Sustainalytics recognizes that the GBP prefers project-based lending and financing, and that non-project-based lending is in general less transparent. Nevertheless, Sustainalytics views the financing of pure-plays to be a commonly accepted approach which can generate positive impact.
  - Under the Renewable Energy category, Micron intends to invest in solar and wind energy, including on-site generation projects and Power Purchase Agreements (PPAs) or Virtual Power Purchase Agreements (VPPAs) that are longer than five years.<sup>4</sup> Sustainalytics considers these investments to be aligned with market practice.
    - Micron may also invest in projects or PPAs from certain hydropower facilities which comply with the criteria of Climate Bonds Initiative.<sup>5</sup> Sustainalytics considers this to be aligned with market practice.
  - The Green Building category includes investments in Micron's fabrication, assembly, and testing sites, labs, office spaces and other facilities that achieve a minimum certification level of LEED Gold. Sustainalytics considers the specified scheme to be credible and the minimum level impactful and aligned with market practice. See Appendix 1 for an overview of Sustainalytics' assessment of the certification.
    - Sustainalytics notes that the Framework limits investments in just the core and shell of the green buildings while excluding investments in equipment or process machinery. Sustainalytics views this as providing assurance that LEED certification is appropriately addressing material environmental issues.
  - Within the Energy Efficiency category, Micron may invest in projects that aim to increase energy efficiency and reduce emissions, including:
    - Energy management systems such as smart grids, smart control systems, automation and monitoring platforms, high efficiency motors, and waste heat recovery. Sustainalytics recognizes the potential of such process energy management systems to deliver energy savings, and therefore considers them to be aligned with market practice.

<sup>4</sup> Sustainalytics notes that the (V)PPAs financed under the Framework will be associated with solar, wind and eligible hydro energy projects only.

<sup>5</sup> Climate Bonds Initiative, Standard, available: <https://www.climatebonds.net/standard/hydropower>

- Energy-saving facility improvements such as LED lighting, insulation and efficient air conditioning. Sustainalytics views the installation of such energy-efficient appliances as aligned with market practice.
- Upgrades and retrofits that will increase facility energy efficiency through improved design. Sustainalytics recognizes the significant energy benefits that may be achieved through retrofit, noting as a market practice that building upgrades should target 30% improvement against current performance. Sustainalytics does not view such a threshold to be a requirement for industrial processes, and notes that the Framework commits to prioritizing upgrades that have greater energy saving potential and that Micron's may, in its impact reporting, disclose energy savings achieved.
- Within the Sustainable Water and Wastewater Management category, Micron intends to finance advanced purification technologies and facility upgrades and retrofits for water management including water treatment, wastewater reuse, wastewater recycling and water usage reduction in its facilities. Sustainalytics considers these investments to be aligned with market practice, recognizing that water use and pollution are key topics for the semiconductor industry.
- The Pollution Prevention and Control category includes investments in the following:
  - GHG abatement, namely the management of fluorinated process gases such as PFCs and HFCs, which have high global warming potential (GWP).<sup>6</sup>
    - Micron has disclosed that one potential mechanism for such abatement is the destruction of waste gases, which is recognized to lead to substantial net GHG reductions over the long term. Further, the Framework excludes the use of fossil fuels in this process, which Sustainalytics considers to be aligned with green bond market expectation. Sustainalytics considers process upgrades/alterations to avoid the use of gases with high GWP as more sustainable than gas destruction while also recognizing that investments in both gas destruction and process improvement will support Micron in achieving its climate goals.
    - Sustainalytics also notes that management of non-GHG pollutants from gas destruction is important in mitigating environmental and social risks associated with this activity. Sustainalytics recognizes that Micron's risk management policies address this issue; refer to Section 2 for further discussion.
  - Reuse of on-site chemicals from Micron's production, recycling of inorganic sludge, and transferring solvents and chemicals for reuse purposes. Sustainalytics views the recycling and/or reuse of process wastes to be aligned with market expectations.
  - GHG monitoring systems. Sustainalytics views investments in these areas to be aligned with market practice.
- Within the Circular Economy Adapted Products, Production Technologies and Processes category, Micron may invest in the "design and development of more energy and material efficient products". This includes both ensuring that products themselves make use of recycled materials and designing products which support increased energy or materials efficiency in their operational phase.
  - As it relates to material efficiency, Micron has disclosed its intent to invest the proceeds generated from the Green Bonds primarily in equipment, supply lines, capacity to make use of recovered or recycled components, and the process of material recycling; the cost to procure recycled materials or directly related to the shipment of recycling is not anticipated to be included. Sustainalytics considers such activities to be aligned with market practice.
  - As it relates to energy efficiency, Micron may invest in improving the energy efficiency of its products, including by developing low-power components and extending product lifespan, as well as in enabling improved energy performance in products using Micron components. Sustainalytics considers financing of activities expressly intended to drive such improvements as aligned with market practice.
  - Micron may include R&D expenditures in relation to improving energy and material efficiency. Sustainalytics considers R&D in these areas to be aligned with market practice, noting that it is more difficult to quantify the benefits of R&D expenditures.

<sup>6</sup> These gases make up key parts of the semiconductor manufacturing process, in particular etching and chemical vapour deposition. Refer to section 3 for further discussion of the importance of abating high-GWP gases within the semiconductor industry.

- Project Evaluation and Selection:
  - Micron's Green Bond Committee will be responsible for overseeing the evaluating and selecting process of all eligible projects under the Framework. Micron's CFO will approve allocation of eligible projects and will review the list of eligible projects periodically to ensure alignment with the Framework. The Green Bond Committee is comprised of representatives from the Micron Finance, Operations, Sustainability and Legal teams.
  - Micron has in place environmental and social risk management processes that are applicable to all allocation decisions in the Framework. Refer to section 2 for additional details.
  - Based on the clearly defined responsibility and the Issuer's risk management policies, Sustainalytics considers this process to be in line with market practice.
- Management of Proceeds:
  - The allocations to eligible projects will be tracked internally on a portfolio basis by Micron. The Governance and Sustainability Committee of Micron's Board of Directors is responsible for reviewing the Company's sustainability performance regularly.
  - For pending allocation, net proceeds will be managed in accordance with Micron's liquidity management practice. Micron intends to allocate all proceeds within the first 12 to 24 months after the issuance.
  - Based on a defined allocation timeframe and the temporary use of proceeds, Sustainalytics considers this process to be in line with market practice.
- Reporting:
  - Micron intends to publish allocation and impact reporting annually until full allocation of the net proceeds on its website.
  - Allocation reporting will include information on the net proceeds that are allocated by category or by project, a list of Eligible Project categories, and the balance of unallocated proceeds.
  - Under impact reporting, Micron intends to report on quantitative performance metrics, such as CO<sub>2</sub> emissions avoided (CO<sub>2</sub>e), committed renewable energy capacity (MW), surface area covered under certification schemes, annual energy savings (MWh or GWh), annual water savings (m<sup>3</sup>), annual waste reduction (kg or m<sup>3</sup>), etc.
  - Based on the commitment to allocation and impact reporting, Sustainalytics considers this process to be in line with market practice.

### Alignment with Green Bond Principles 2021

Sustainalytics has determined that the Green Bond Framework aligns to the four core components of the GBP. For detailed information please refer to Appendix 2: Green Bond/Green Bond Programme External Review Form.

## Section 2: Sustainability Strategy of Micron

### Contribution of framework to Micron Technology, Inc.'s sustainability strategy

Sustainalytics is of the opinion that Micron demonstrates a commitment to sustainability through its focus on three key environmental areas within its manufacturing process: (i) GHG emissions and energy, (ii) water and (iii) hazardous substances and waste. The Company has established targets in these areas and has committed to investing \$1 billion over the next five to seven years on environmental initiatives to achieve its goals. The following commitments are outlined in Micron's 2021 Sustainability Report, and goals relevant to the Framework are summarized below:<sup>7</sup>

- GHG emissions and energy – Micron recognizes two ways it can drive energy efficiency: low-power devices supporting sustainability for its customers and improving the emissions and energy-intensities of manufacturing processes. In the last year, the Company has updated both its emissions and renewable energy targets.
  - Micron aims to reduce GHG emissions intensity by 75% per unit of production by 2030, using a 2018 baseline, and has a longer-term goal of reducing absolute emissions by 40%. The Company is investing in efficient abatement methods such as point-of-use abatement at the tool level, to cut process GHGs (e.g., fluorinated GHGs) and transition to a low global-warming-potential heat transfer fluid, to cut direct emissions. To reduce indirect emissions, the Company is investing in energy-efficient facility design, smart-controlled systems and transitioning to renewable

<sup>7</sup> Micron, "Fast Forward – 2021 Sustainability Report", at: [https://media-www.micron.com/-/media/client/global/documents/general/about/micron\\_sustainability-report-fy21-final.pdf?la=en&rev=e794e4d2f941464f84e9290d5f9864c8](https://media-www.micron.com/-/media/client/global/documents/general/about/micron_sustainability-report-fy21-final.pdf?la=en&rev=e794e4d2f941464f84e9290d5f9864c8)

- electricity supply where possible. In 2020, Micron reduced GHG emissions by 36% per production unit compared to the 2018 baseline.<sup>8</sup>
- Micron set a target of achieving 100% renewable energy in its U.S. facilities by the end of 2025 and in the longer-term at all operating facilities globally. As a part of its strategy, Micron initiated negotiations to develop and procure renewable energy via contracts for its U.S. operations; is engaging with governments to encourage the development of national policies that enable the transition to a zero-carbon power system including via its membership in the Renewable Energy Buyers Alliance; and is implementing AI tools and on-site solar power projects.<sup>9</sup> The Company saved 7% in energy use cumulatively compared to a 2016 baseline.
  - The Company is also taking further steps to achieve higher levels of LEED certification during the design and construction of new buildings and upgrades of existing buildings to achieve emissions and energy goals. Micron's new buildings have achieved LEED Gold and the Company has noted that all upcoming facilities will meet or exceed this standard.<sup>10</sup>
- **Water** – Micron primarily focuses on managing water consumption and promoting conservation within the semiconductor manufacturing process. The Company established a 2030 target of reusing, recycling and restoring 100% of water used annually. Micron partners with local water authorities to gather local data that enhance water management practices catered to facilities' geographies and conducts water risk assessments using the World Resources Institute's Aqueduct tool. In terms of wastewater management, the Company has installed wastewater reclamation systems, membrane filtration and other infrastructure at sites and examines wastewater discharge to ensure local water quality standards are met. Furthermore, the Company engages in water restoration projects. Micron discharged 42.4 million cubic meters of treated wastewater to public treatment plants and had a 50% water conservation rate in 2020.<sup>11</sup>
  - **Hazardous substances and waste** – Micron's strategies focus on reducing the use of hazardous chemicals and mitigating the negative environmental impacts associated with its use within the manufacturing process. The Company aims to reuse, recycle and recover 95% of its waste by 2030 and send zero waste to the landfill long-term. Micron has implemented a rigorous chemical review process to ensure that approved chemicals are used and disposed of appropriately and chemical reduction steps are taken through process improvements and process design. Furthermore, due diligence is conducted on new waste vendors to verify compliance with legal requirements for waste disposal and identifying new segregation methods, optimizing formulae to cut chemical waste and collaborating with stakeholders on waste reduction technologies. In 2020, 84% of waste was redirected towards reuse, recycle and recovery.<sup>12</sup>

Sustainalytics is of the opinion that the Green Bond Framework is aligned with the company's overall sustainability strategy and initiatives and will further the Company's action on its key environmental priorities.

#### **Well-positioned to address common environmental and social risks associated with the projects**

While Sustainalytics recognizes that the net proceeds from the bond(s) issued under the Framework will be directed towards eligible projects that are expected to have positive environmental impact, Sustainalytics is aware that such eligible projects could also lead to negative environmental and social outcomes. Some key environmental and social risks associated with the eligible projects are those related to occupational health and safety and stakeholder participation, as well as the generation of hazardous chemicals in the production and disposal stages of the manufacturing lifecycle and the creation of emissions and pollution arising from recycling and incineration of waste.

Sustainalytics is of the opinion that Micron is able to manage and/or mitigate potential risks through implementation of the following:

- Micron has implemented the "The Micron Code of Business Conduct and Ethics", an overarching code of conduct applicable to all activities to manage business risks and operate ethically. This code of conduct establishes the Company's main policies and sets the standards and principles applied to managing business risks and ethical and legal issues.<sup>13</sup> The code of conduct is also aligned to industry standards such as the Responsible Business Alliance<sup>14</sup> to promote responsible working

<sup>8</sup> Micron, "Fast Forward – 2021 Sustainability Report", (p25-26)

<sup>9</sup> Micron has communicated to Sustainalytics that it intends to expand the implementation of solar panels at several locations in the future.

<sup>10</sup> Micron, "Fast Forward – 2021 Sustainability Report", (p25-26)

<sup>11</sup> Micron, "Fast Forward – 2021 Sustainability Report", (p25&27)

<sup>12</sup> Micron, "Fast Forward – 2021 Sustainability Report", (p25&29)

<sup>13</sup> Micron, "Fast Forward – 2021 Sustainability Report", (p12)

<sup>14</sup> Responsible Business Alliance, "About the RBA", at: <http://www.responsiblebusiness.org/about/rba/>



conditions, ethical business practices and environmental stewardship.<sup>15</sup> Additionally, the Enterprise Risk Management Committee conducts risk assessments for the business and devises mitigating and response strategies.<sup>16</sup>

- In terms of mitigating risks around occupational health and safety, Micron has established a Global Environment, Health and Safety (“EHS”) Policy to ensure pollution prevention and an incident and injury-free workplace.<sup>17</sup> Under this policy, the Company established environment, health and safety management systems including the Live Safe program. This program is a risk-management based approach towards safety, promotes a safe workplace culture for team members, suppliers, visitors and other stakeholders, establishes a formal training structure and safety practices across all facilities globally and implements technical programs. Additionally, all manufacturing facilities are certified according to ISO 14001:2015 (Environmental Management Systems)<sup>18</sup> and ISO 45001:2018 (Occupational Health and Safety Management Systems).<sup>19</sup>
- To ensure effective targeting and stakeholder relations, Micron engages directly with internal and external stakeholders to understand its priorities. The stakeholder engagement process entails ongoing dialogue and meetings, presentations and surveys. The process to engage with investors is compliant to the Global Reporting Initiative, Sustainability Accounting Standards Board (“SASB”) and the SASB semiconductor industry standards. Engagement with governments and policymakers is compliant with the local laws and regulations and to Micron’s code of conduct.<sup>20</sup>
- With regards to chemical management, Micron’s EHS Policy, product compliance and global procurement divisions ensure products and processes meet legal and customer product-compliance requirements such as the European Union directive on the Restriction of the Use of Certain Hazardous Substances and the Registration, Evaluation, Authorisation and Restriction of Chemicals (“REACH”). A team of chemical engineers within the U.S. and Asia examine the regulatory environment of certain chemicals to proactively identify emerging chemicals of concerns and omit them from processes. The code of conduct also emphasizes the expectation for employees to exercise care when handling chemical and other hazardous materials during the production process. Globally, Micron deploys teams at each facility to provide training, assess risk, mitigate hazards and respond to incidents during all stages of the manufacturing process. The teams implement a risk-based program at facilities established by the Center for Chemical Process Safety, an international organization that works with various stakeholders to develop guidelines for industry for industrial process safety.<sup>21, 22</sup> Suppliers are also subjected to Micron’s chemical-use expectations and restrictions, such as REACH, as outlined in its Supplier Requirements Standard,<sup>23</sup> and a risk assessment and audit of its chemical management processes.<sup>24</sup>
- Micron has adopted internal processes and initiatives such as improved waste stream segregation, and engagement of alternate waste disposal vendors to address the risks associated with the generation of GHG emissions from recycling and incineration activities.<sup>25</sup>

Based on these policies, standards and assessments, Sustainalytics is of the opinion that Micron is well-positioned to manage and mitigate environmental and social risks commonly associated with the eligible categories.

<sup>15</sup> Micron, “Integrity Matters – The Micron Code of Business Conduct and Ethics”, (2020), at: [https://media-www.micron.com/-/media/client/global/documents/general/about/code\\_of\\_business\\_conduct\\_and\\_ethics.pdf?la=en&rev=98a145ef80b642eab3defa109b49cfb1](https://media-www.micron.com/-/media/client/global/documents/general/about/code_of_business_conduct_and_ethics.pdf?la=en&rev=98a145ef80b642eab3defa109b49cfb1)

<sup>16</sup> Micron, “Micron 2020 Proxy Statement”, at: <https://investors.micron.com/static-files/4e804fd6-fc0f-440a-b8d4-9f0c16215aa2>

<sup>17</sup> Micron, “Global Environmental, Health and Safety Policy”, at: <https://www.micron.com/about/our-commitment/operating-thoughtfully/environment-health-and-safety-policy>

<sup>18</sup> Micron, “EHS Certifications”, at: <https://www.micron.com/about/our-commitment/operating-thoughtfully/environment-health-and-safety-policy/ehs-certifications>

<sup>19</sup> Micron, “Fast Forward – 2021 Sustainability Report”, (p46)

<sup>20</sup> Micron, “Fast Forward – 2021 Sustainability Report”, (p14)

<sup>21</sup> Center for Chemical Process Safety, “Homepage”, at: <https://www.aiche.org/ccps>

<sup>22</sup> Micron, “Fast Forward – 2021 Sustainability Report”, (p47)

<sup>23</sup> Micron, “Micron Supplier Requirements Standard (SRS)”, (2019), at: <https://media-www.micron.com/-/media/client/global/documents/general/about/supplier-requirements-standard.pdf?la=en&rev=d3473f2ede294738a16a1c78b2bfed0c>

<sup>24</sup> Micron, “Fast Forward – 2021 Sustainability Report”, (p21)

<sup>25</sup> Micron, “Micron Technology, Inc. CDP Climate Change Questionnaire 2020”, at: <https://media-www.micron.com/-/media/client/global/documents/general/about/micron-climate-change-2020.pdf?la=en&rev=9e313c374f0f49069442ddd87df012fd>

## Section 3: Impact of Use of Proceeds

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

### The Importance of reducing fluorinated gases

Fluorinated gases, such as hydrofluorocarbons ("HFCs"), perfluorocarbons and sulfur hexafluoride (collectively known as "F-gases") are GHGs that come from anthropogenic sources, including industrial processes and are used as substitutes for ozone-depleting substances.<sup>26</sup> Although F-gases only make up 3% of the U.S.' total GHG emissions, since 1990 there has been a 275% increase in emissions from F-gases.<sup>27</sup> F-gases are 23,000 times more potent than CO<sub>2</sub> and remain in the atmosphere for long periods of time, therefore worsening the effects of climate change with their high global warming potential.<sup>28</sup>

The U.S. has made commitments to reduce F-gases within the country at the international and local level. With the recent Kigali Amendment under the Montreal Protocol, 197 countries have committed to reduce the consumption and production of HFCs by over 80% in the next ten years and avoid over 80 billion metric tons of CO<sub>2</sub>e emissions by 2050.<sup>29</sup> To meet its commitments, the U.S. has limited the production, use and import of F-gases under the Clean Air Act.<sup>30</sup> The country has also introduced The American Innovation and Manufacturing Act (AIM) of 2020 directing the U.S. Environmental Protection Agency ("EPA") to: (i) phase down the production and consumption of HFCs by 85% over the next fifteen years, (ii) manage HFCs and substitutes and (iii) enable the transition to new technologies that no longer rely on HFCs.<sup>31</sup> Additionally, the Fluorinated Gas Partnership Programs were collaboratively launched between the EPA and industry groups to reduce the amount of F-gases emitted from industrial processes.

According to the EPA, with the implementation of process improvements, alternative chemicals, and technologies, up to 80% of F-gases used during various manufacturing processes can be prevented from release into the air.<sup>32</sup> Sustainalytics is of the opinion that projects, aimed at reducing GHG emissions, financed or refinanced by Micron are likely to result in the reduction of F-gases being released into the atmosphere and therefore, address the need to reduce the consumption and production of F-gases and enable the federal government to meet its international and national commitments.

### Importance of chemical waste and wastewater management in the U.S. semiconductor industry

With a market size of over USD 425 billion in 2020, the semiconductor industry is one of the largest manufacturing sectors the world. With the increasing consumption of consumer electronic devices around the world, the semiconductor industry market size is expected to grow to more than \$803 billion by 2028.<sup>33</sup> Due to the nature of the industry, large amounts of wastewater containing acids are generated during the semiconductor production process. Wastewater from semiconductor facilities contains various harmful solvent and chemical compounds including arsenic, antimony, acids, alkalis, salts, fine oxide particles, and other pure organic and inorganic compounds which pose several environmental and health risks if not properly treated.<sup>34</sup> With the increasing market size in the semiconductor industry, waste and wastewater management have become a critical concern for semiconductor manufacturing companies. The EPA has emphasized reducing, reusing and recycling of chemical waste and has developed regulations for hazardous waste management that fosters recycling and conservation of resources.<sup>35,36</sup>

<sup>26</sup> European Commission, "Fluorinated greenhouse gases", at: [https://ec.europa.eu/clima/policies/f-gas\\_en](https://ec.europa.eu/clima/policies/f-gas_en)

<sup>27</sup> United States Environmental Protection Agency, "Overview of Greenhouse Gases", at: <https://www.epa.gov/ghgemissions/overview-greenhouse-gases>

<sup>28</sup> European Commission, "Fluorinated greenhouse gases", at: [https://ec.europa.eu/clima/policies/f-gas\\_en](https://ec.europa.eu/clima/policies/f-gas_en)

<sup>29</sup> United States Environmental Protection Agency, "Recent International Developments under the Montreal Protocol", at: <https://www.epa.gov/ozone-layer-protection/recent-international-developments-under-montreal-protocol>

<sup>30</sup> U.S. Energy Information Administration, "Emissions of Greenhouse Gases in the U.S. – 5. High-GWP gases", (2011), at: [https://www.eia.gov/environment/emissions/ghg\\_report/ghg\\_gwp.php](https://www.eia.gov/environment/emissions/ghg_report/ghg_gwp.php)

<sup>31</sup> United States Environmental Protection Agency, "Overview of Greenhouse Gases", at: <https://www.epa.gov/ghgemissions/overview-greenhouse-gases>

<sup>32</sup> United States Environmental Protection Agency, "Semiconductor Industry", at: <https://www.epa.gov/f-gas-partnership-programs/semiconductor-industry>

<sup>33</sup> Fortune Business Insights, 2021, Semiconductor Market Size, Share & COVID-19 Impact Analysis, available at: <https://www.fortunebusinessinsights.com/semiconductor-market-102365>

<sup>34</sup> Shen, Chien-wen, 2018, Chemical Waste Management in the U.S. Semiconductor Industry, MDPI, <https://www.mdpi.com/2071-1050/10/5/1545>

<sup>35</sup> EPA, Sustainable Materials Management: Non-Hazardous Materials and Waste Management Hierarchy, available:

<https://www.epa.gov/smm/sustainable-materials-management-non-hazardous-materials-and-waste-management-hierarchy>

<sup>36</sup> EPA, Regulatory Exclusions and Alternative Standards for the Recycling of Materials, Solid Wastes and Hazardous Wastes, <https://www.epa.gov/hw/regulatory-exclusions-and-alternative-standards-recycling-materials-solid-wastes-and-hazardous>



Considering the above, Sustainalytics is of the opinion that the Sustainable Water and Wastewater Management, Pollution Prevention and Control categories aiming at reducing waste generated and resources used in Micron's production process are expected to generate a positive environmental outcome following the U.S. environmental management regulations.

#### Alignment with/contribution to SDGs

The Sustainable Development Goals (SDGs) were set in September 2015 by the United Nations General Assembly and form an agenda for achieving sustainable development by the year 2030. The bond(s) issued under the Green Bond Framework advances the following SDGs and targets:

Use of Proceeds Category	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
Green Buildings	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
Energy Efficiency	7. Affordable and Clean Energy 9. Industry, Innovation and Infrastructure	7.3 By 2030, double the global rate of improvement in energy efficiency 9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities
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
Pollution Prevention and Control	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 Adapted Products, Production Technologies and Processes	12. Responsible Consumption and Production	12.2 By 2030, achieve the sustainable management and efficient use of natural resources 12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

#### Conclusion

Micron has developed the Micron Green Bond Framework (the "Framework") under which it intends to issue green bonds and use the proceeds to finance and/or refinance, in whole or in part, existing and/or future projects that reduce GHG emissions, increase energy efficiency of its operations and promote the sustainable management of waste, water and natural resources.

The Micron Green Bond Framework outlines a process by which proceeds will be tracked, allocated, and managed, and commitments have been made for reporting on the allocation and impact where feasible. Furthermore, Sustainalytics believes that the Micron Green Bond Framework is aligned with the overall sustainability strategy of the company and that the green use of proceeds categories will contribute to the advancement of the UN SDG 6, 7, 9 and 12. Additionally, Sustainalytics is of the opinion that Micron has adequate measures to identify, manage and mitigate environmental and social risks commonly associated with the eligible projects funded by the proceeds.

Based on the above, Sustainalytics is confident that Micron is well-positioned to issue green bonds, and that the Micron Green Bond Framework is robust, transparent, and in alignment with the four core components of the Green Bond Principles (2021) and the Green Loan Principles (2021).

## Appendices

### Appendix 1: Overview of Referenced Green Building Certification Schemes

	LEED <sup>37</sup>
<b>Background</b>	Leadership in Energy and Environmental Design (LEED) is a US Certification System for residential and commercial buildings used worldwide. LEED was developed by the non-profit U.S. Green Building Council (USGBC) and covers the design, construction, maintenance and operation of buildings.
<b>Certification Levels</b>	<ul style="list-style-type: none"> <li>• Certified</li> <li>• Silver</li> <li>• Gold</li> <li>• Platinum</li> </ul>
<b>Areas of Assessment</b>	<ul style="list-style-type: none"> <li>• Energy and Atmosphere</li> <li>• Sustainable Sites</li> <li>• Location and Transportation</li> <li>• Materials and Resources</li> <li>• Water Efficiency</li> <li>• Indoor Environmental Quality</li> <li>• Innovation in Design</li> <li>• Regional Priority</li> </ul>
<b>Requirements</b>	<p>Prerequisites (independent of level of certification) + Credits with associated points.</p> <p>These points are then added together to obtain the LEED level of certification.</p> <p>There are several different rating systems within LEED. Each rating system is designed to apply to a specific sector (e.g. New Construction, Major Renovation, Core and Shell Development, Schools-/Retail-/Healthcare New Construction and Major Renovations, Existing Buildings: Operation and Maintenance).</p>
<b>Performance Display</b>	
<b>Accreditation</b>	<p>LEED AP BD+C</p> <p>LEED AP O+M</p>
<b>Qualitative Considerations</b>	Widely recognized internationally, and strong assurance of overall quality.

<sup>37</sup> USGBC, "LEED rating system", at: [www.usgbc.org/LEED](http://www.usgbc.org/LEED).

## Appendix 2: Green Bond / Green Bond Programme - External Review Form

### Section 1. Basic Information

Issuer name: Micron Technology, Inc.

Green Bond ISIN or Issuer Green Bond Framework Name, if applicable: Green Bond Framework

Review provider's name: Sustainalytics

Completion date of this form: October 14, 2021

Publication date of review publication:

### 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 <sup>nd</sup> 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, Green Buildings, Energy Efficiency, Sustainable Water and Wastewater Management, Pollution Prevention and Control, and Circular Economy Adapted Products, Production Technologies and Processes – are aligned with those recognized by the Green Bond Principles. Sustainalytics considers that investments in the eligible categories will lead to positive environmental impacts and advance the UN Sustainable Development Goals (“SDGs”), specifically SDGs 6, 7, 9 and 12.

**Use of proceeds categories as per GBP:**

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Renewable energy  | <input checked="" type="checkbox"/> Energy efficiency  |
| <input checked="" 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 checked="" 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):

Micron’s internal process in evaluating and selecting projects is overseen by its Green Bond Committee comprised of representatives from the Micron Finance, Operations, Sustainability and Legal teams. Sustainalytics considers the project selection process in line with market practice. Micron’s environmental and social risk management systems are applicable for all allocation decisions in the Framework. Sustainalytics considers the risk management systems and the project selection process 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 type="checkbox"/> Summary criteria for project evaluation and selection publicly available                  | <input type="checkbox"/> Other ( <i>please specify</i> ):   |

**Information on Responsibilities and Accountability**

- Evaluation / Selection criteria subject to external advice or verification       In-house assessment
- Other (please specify):

**3. MANAGEMENT OF PROCEEDS**

Overall comment on section (if applicable):

Micron will track allocations internally and intends to fully allocate within the first 24 months after the issuance. Pending allocation, proceeds will be managed in accordance with Micron's liquidity management practice. This is in line with market practice.

**Tracking of proceeds:**

- Green Bond proceeds segregated or tracked by the issuer in an appropriate manner
- Disclosure of intended types of temporary investment instruments for unallocated proceeds
- Other (please specify):

**Additional disclosure:**

- Allocations to future investments only       Allocations to both existing and future investments
- Allocation to individual disbursements       Allocation to a portfolio of disbursements
- Disclosure of portfolio balance of unallocated proceeds       Other (please specify):

**4. REPORTING**

Overall comment on section (if applicable):

Micron intends to report on allocation of proceeds on its website on an annual basis until full allocation. Allocation reporting will include information on the net proceeds that are allocated by category or by project, a list of Eligible Project categories, and the balance of unallocated proceeds. In addition, Micron is committed to reporting on relevant impact metrics. Sustainalytics views Micron's allocation and impact reporting as aligned 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):

Renewable energy capacity commitments

Annual water volumes subject to enhanced treatment

Annual waste reduction by weight or volume

Annual waste reused or recycled by weight or volume

Weight or volume of recycled or more sustainable material used

Decrease in product energy use

% of products covered by or supporting eco-certification

**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 will be available on the corporate sustainability page
- 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.)

[www.micron.com/sustainability](http://www.micron.com/sustainability)

**SPECIFY OTHER EXTERNAL REVIEWS AVAILABLE, IF APPROPRIATE**

**Type(s) of Review provided:**

- Consultancy (incl. 2<sup>nd</sup> 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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