APPLE INC.
GREEN BOND

FRAMEWORK OVERVIEW AND SECOND-PARTY OPINION BY SUSTAINALYTICS

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1. INTRODUCTION

Apple Inc. is planning to issue its second green bond (2017 Green Bond), the proceeds of which will be allocated to projects focused on renewable energy, energy and water efficiency, green buildings, creating a closed-loop supply chain, and using environmentally friendly materials in their products. The company has engaged Sustainalytics to provide a second opinion on Apple's 2017 Green Bond Framework and on the bond's environmental credentials. As part of this engagement, Sustainalytics held conversations with Apple's legal, treasury and sustainability teams to understand the use of proceeds, project selection process, management of proceeds, and reporting aspects of Apple's 2017 Green Bond, as well as its environmental strategy. Sustainalytics also reviewed relevant public and internal documents from the company. This document contains two sections: Framework Overview – a summary of Apple's 2017 Green Bond Framework; and Sustainalytics' Opinion – an opinion on Apple's 2017 Green Bond Framework.

2. OVERVIEW OF ISSUER

Apple designs, manufactures, and markets mobile communication and media devices, personal computers, and portable digital music players to consumers, small and mid-sized businesses, education, and enterprise and government customers worldwide. The company sells and delivers digital content and applications through the iTunes Store, App Store, iBooks Store, Mac App Store, and Apple Music. It also sells its products through its retail and online stores, and direct sales force, as well as through third-party cellular network carriers, wholesalers, retailers, and value-added resellers. Apple was founded in 1977 and is headquartered in Cupertino, California.

Apple is issuing its second green bond that aims to fund projects that are focused on environmental sustainability across its global business divisions and operations.

These projects will align with its three environmental priorities[1]:

1. reducing its impact on climate change by using renewable energy sources and driving energy efficiency in its facilities, products and supply chain;
2. pioneering the use of greener materials in its products and processes; and,
3. conserving resources.

The following section summarizes Apple's 2017 Green Bond framework including the use of proceeds, the management of proceeds, and reporting.

[1] 2017 Environmental Responsibility Report, covering fiscal year 2016, page 3, https://images.apple.com/environment/pdf/Apple_Environmental_Responsibility_Report_2017.pdf

3. FRAMEWORK OVERVIEW

3.1 Use of Proceeds

Apple will allocate an amount equal to the net proceeds from sales of the 2017 Green Bond to one or more projects that are eligible according to the below criteria. Any proceeds allocated to eligible projects in Apple's supply chain will represent expenditures made by Apple or any of its subsidiaries. Apple or its subsidiaries will directly invest in eligible projects in its own facilities or its suppliers' facilities.

1. **EXPENDITURES RELATED TO THE DEVELOPMENT OF NEW AND ONGOING RENEWABLE ENERGY PROJECTS TO REDUCE EMISSIONS IN APPLE'S CORPORATE FACILITIES AND SUPPLY CHAIN, INCLUDING SOLAR AND WIND PROJECTS, OR THE ASSOCIATED ENERGY STORAGE SOLUTIONS.**

Use of Proceeds: Proceeds of the 2017 Green Bond may be allocated to new and ongoing renewable energy projects, including, but not limited to, solar and wind projects. Apple will also consider projects that provide energy storage solutions for renewable energy.

Context: As one of its environmental priorities, Apple has identified renewable energy use as a key strategy to reduce its climate change impacts. The company has committed to powering all of its facilities with 100 percent renewable energy. In addition, together with its suppliers, Apple has a commitment to bring more than 4 gigawatts of new clean power online worldwide by 2020.[2] In its 2017 Environmental Responsibility Report, Apple states that, as of April 2017, between its own clean energy projects that target emissions-reduction from upstream suppliers, and those clean energy projects that its direct suppliers have embarked on, Apple already has commitments for 2 gigawatts of clean energy in Apple's supply chain.[3]

2. **EXPENDITURES RELATED TO PROJECTS THAT HAVE RECEIVED WITHIN THE LAST THREE YEARS, OR ARE EXPECTED TO RECEIVE, CERTIFICATION OF LEED GOLD OR PLATINUM OR BREEAM VERY GOOD, EXCELLENT, OR OUTSTANDING "GREEN BUILDING" STANDARDS, OR OTHER REGIONAL GREEN BUILDING STANDARDS**

***Use of Proceeds*:** Proceeds of the 2017 Green Bond may be allocated to green buildings that have or are expected to receive either LEED or BREEAM certification at the highest levels: LEED Gold or Platinum, or BREEAM Very Good, Excellent, or Outstanding. Apple expects to apply regional green building standards to eligible projects with the same level of scrutiny as the LEED and BREEAM standards. For existing buildings, certification must have been received within the last three years.

[2] 2017 Environmental Responsibility Report, covering fiscal year 2016
https://images.apple.com/environment/pdf/Apple_Environmental_Responsibility_Report_2017.pdf .
[3] 2017 Environmental Responsibility Report, covering fiscal year 2016
https://images.apple.com/environment/pdf/Apple_Environmental_Responsibility_Report_2017.pdf .

Context: Apple reports that environmental design, management and operation of facilities are a priority for the company. In its 2017 Environmental Responsibility Report, Apple confirmed that its data centers in Oregon, Nevada and North Carolina have all earned LEED Platinum certification.

3. EXPENDITURES RELATED TO THE IMPLEMENTATION OF ENVIRONMENTAL DESIGN ELEMENTS FOR NEW OR ONGOING BUILDING DEVELOPMENTS, SUCH AS HIGH PERFORMANCE MECHANICAL SYSTEMS, NATURAL VENTILATION, ON-SITE RENEWABLE ENERGY AND HIGH-PERFORMANCE LIGHTING SYSTEMS.

Use of Proceeds: Proceeds of the 2017 Green Bond may be allocated to projects that enable the implementation of environmental design elements into new or ongoing building developments, or renovations. These projects may or may not be part of LEED- or BREEAM-certified buildings or include energy efficiency projects at existing facilities. Projects that meet criterion #2 and/or #4 are excluded from this criterion in order to avoid double counting. Projects may include, but are not limited to, high-performance mechanical systems, natural ventilation, on-site renewable energy and high-performing lighting systems.

Context: Apple states that considering the environment in the design of a new building or renovations of existing facilities is a priority. The company articulates in its Environmental, Health and Safety Policy[4] a commitment to designing its facilities in a manner that promotes energy efficiency and protects the environment. For example, environmental design has been a key consideration in its new campus in Cupertino, where Apple is constructing a facility that is highly energy efficient and entirely powered by renewable energy.

4. EXPENDITURES RELATED TO ENERGY EFFICIENCY PROJECTS AND TECHNOLOGIES FOR APPLE'S CORPORATE FACILITIES, PRODUCTS, OR SUPPLY CHAIN, SUCH AS HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS UPGRADES, LIGHTING RETROFITS AND ENERGY MONITORS AND CONTROLS.

Use of Proceeds: Proceeds of the 2017 Green Bond may be allocated to energy efficiency projects and technologies, including but not limited to, heating, ventilation, and air conditioning system upgrades, lighting retrofits, and the installation of energy monitors and controls at the company's existing corporate facilities, retail offices, data centers, and supplier facilities. Proceeds may also be allocated to the research and development of energy efficient product technologies like batteries or energy audits that monitor energy usage.

Context: In its 2017 Environmental Responsibility Report, Apple states that it considers energy efficiency to be the first step in its renewable energy strategy, and the company views its own facilities, including its corporate campuses, retail offices and data centers, as an important starting point for fulfilling its environmental commitments.[5] In 2015, Apple started engaging directly with suppliers to find ways to

[4] Apple's Environmental, Health and Safety Policy Statement, **http://images.apple.com/ca/environment/pdf/Apple_Environmental_Responsibility_Report_2015.pdf**.
[5] 2017 Environmental Responsibility Report, covering fiscal year 2016 **https://images.apple.com/environment/pdf/Apple_Environmental_Responsibility_Report_2017.pdf** .

reduce their energy use. As part of this program, Apple conducted energy audits and implemented energy training programs at several supplier facilities in 2016 to reduce energy consumption in Apple's supply chain. [6]

5. **EXPENDITURES RELATED TO WATER EFFICIENCY, WATER CONSERVATION, AND WATER QUALITY PROJECTS AND TECHNOLOGIES FOR ITS CORPORATE FACILITIES, PRODUCTS, OR SUPPLY CHAIN, SUCH AS UPGRADES TO WATER EFFICIENT FIXTURES AND WATER EFFICIENT IRRIGATION AND INCREASED USE OF RECYCLED WATER.**

Use of Proceeds: Proceeds of the 2017 Green Bond may be allocated to projects and technologies that lead to greater water efficiencies at Apple's existing corporate or supplier facilities, including, but not limited to, upgrading to water efficient fixtures, implementing water efficient irrigation systems, and projects and technologies that increase the use of recycled water. Proceeds may be allocated to research and development of water efficient product technologies, like a product machining tool that requires less consumption of process water. Proceeds may also be allocated to projects like water conservation audits that monitor water use.

***Context*:** Apple states that it recognizes the importance of conserving natural resources, such as water, as one of its environmental priorities. The company seeks to conserve water by maximizing its use of recycled water, and reducing water use in manufacturing, cooling, landscaping, and sanitation. The company tracks and discloses in its 2017 Environmental Responsibility Report, its company-level water usage, as well as its water use by facility type (data centers, corporate offices, and retail stores). Apple also states that it prioritizes its water conservation efforts based on use and water risks. In 2013, Apple initiated a program to work with suppliers to reduce water use at their manufacturing facilities. [7]

6. **EXPENDITURES RELATED TO ADVANCING APPLE'S GOAL OF A CLOSED LOOP SUPPLY CHAIN THAT FOCUSES ON THE ENTIRE LIFE CYCLE OF APPLE'S PRODUCTS, SUCH AS PROJECTS THAT IMPROVE MATERIAL EFFICIENCY, INCREASE THE USE OF SUSTAINABLY SOURCED MATERIALS LIKE BIO-PLASTICS, RECYCLED ALUMINUM OR RESPONSIBLY SOURCED PAPER, CREATE NEW SOURCES OF THESE MORE SUSTAINABLE MATERIALS, AND ENHANCE MATERIAL RECOVERY FROM APPLE'S PRODUCTS AT THE END OF THEIR LIFE CYCLES.**

***Use of Proceeds**:* Proceeds of the 2017 Green Bond may be allocated to projects that enhance recycling, material recovery and reuse, including sourcing of recycled components and end-of-life product material recovery. Proceeds may also be allocated towards diversion of waste from landfills.

Context: As reflected in its 2017 Environmental Responsibility Report, Apple is committed to conserving resources, recycling materials, and waste management, both with respect to its products and its facilities. In April 2017, Apple announced its goal to create closed-loop supply chains, with the aim of ending their

6 Apple's Environmental, Health and Safety Policy Statement, **http://images.apple.com/ca/environment/pdf/Apple_Environmental_Responsibility_Report_2015.pdf**.
7 Apple's Environmental, Health and Safety Policy Statement, **http://images.apple.com/ca/environment/pdf/Apple_Environmental_Responsibility_Report_2015.pdf**.

reliance on mining altogether. This means Apple will be investigating ways to build products using only renewable resources or recycled materials, and will be pursuing ways to better recover and recycle materials from its products.

7. **EXPENDITURES RELATED TO PROJECTS THAT FACILITATE THE USE OF MATERIALS THAT ARE SAFER FOR THE ENVIRONMENT AND HUMAN HEALTH, SUCH AS CONTINUED ELIMINATION OF TOXIC SUBSTANCES COMMONLY USED IN THE INDUSTRY IN ACCORDANCE WITH ITS REGULATED SUBSTANCES SPECIFICATION (AVAILABLE AT *HTTP://WWW.APPLE.COM/ENVIRONMENT/REPORTS/*).**

***Use of Proceeds**:* Proceeds of the 2017 Green Bond may be allocated to projects that eliminate the use of toxic substances (according to its Regulated Substance Specification). Proceeds may also be allocated to projects that reduce air pollution at Apple's own facilities and supplier facilities.

Context: Using greener materials in its products is an important environmental goal reflected in the company's three environmental priorities.

All of Apple's products must comply with the restrictions listed in its Regulated Substances Specification, which describes Apple's global restrictions on the use of certain chemical substances or materials in its products, accessories, manufacturing processes, and packaging used for shipping products to customers. This Regulated Substances Specification is a comprehensive list of substances with Chemical Abstracts Service (CAS) registry numbers that identify unique substances. Apple requires its suppliers to adhere to this Regulated Substances Specification and to demonstrate compliance by providing test reports from certified labs as proof of compliance. Apple derives these restrictions from international laws or directives, agency or eco-label requirements; and its policies state that in many cases, the company must go beyond minimum legal requirements. Examples of international laws and directives focused on restricting toxic substance use include, but are not limited to:

- REACH SVHCs: EU's Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACH). Substances that may have serious and often irreversible effects on human health and the environment can be identified as substances of very high concern (SVHCs).
- Ozone depleting chemicals cited by the Montreal Protocol.
- OSPAR: OSPAR List of Chemicals for Priority Action, OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic, 2004.
- Clean Production Action (CPA): GreenScreen® for Safer Chemicals, 2014.

Eligible Projects

Any project that meets the above eligibility criteria, including the new and ongoing developments of such projects, are eligible to be funded in whole or in part by an allocation of the green bond proceeds.

Eligible projects may include projects of Apple's subsidiaries that meet the eligibility criteria. Any proceeds allocated to eligible projects in Apple's supply chain will represent expenditures made by Apple or any of its subsidiaries.

3.2 Project Selection Process

Apple's Environment, Policy and Social Initiatives (EPSI) team will:

(i) assess and determine project eligibility; and,
(ii) recommend an allocation of proceeds to eligible projects.

These projects are developed and managed by central teams, which are primarily based in Cupertino. For example, Apple has a Global Energy Team that manages all corporate renewable energy and energy efficiency projects; centralized Real Estate & Facilities teams that track and plan for all facilities worldwide, including green buildings and its new campus; and a Global Data Center team that manages the global expansion of its data centers.

Apple's finance department will track the allocation of the green bond proceeds and, together with members of Apple's EPSI, legal and treasury teams, review projects and budgets on a semi-annual basis. This review includes details for projects that have been recommended for allocation, such as a brief description of the project, the country in which the project is located, and the anticipated expenditures for the project. Apple's EPSI team will ensure that each project meets the eligibility criteria and at least one of Apple's three environmental priorities.

The company's Vice President of Environment, Policy and Social Initiatives will approve the final allocation of proceeds.

3.3 Management of Proceeds

The proceeds from the 2017 Green Bond will be managed by Apple's finance department. Pending the allocation of the green bond proceeds, the company will temporarily invest an amount equal to the balance of the proceeds in cash, cash equivalents and/or U.S. treasury securities. Payment of principal and interest on the 2017 Green Bond will be made from the company's general funds and will not be directly linked to the performance of any eligible projects.

Apple expects to spend the majority of green bond proceeds within two years of the date of issuance.

3.4 Reporting

Throughout the term of the 2017 Green Bond, until the proceeds have been fully allocated to eligible projects, Apple commits to publishing annual updates of the allocation of the proceeds and impact of projects that have received allocations. The annual allocation and expected impact evaluation will be reported as a separate green bond report (which will be available to investors within one year from the date of issuance of the 2017 Green Bond). These updates will be published on the company's website at **investor.apple.com** and will be accompanied by (1) a letter from Sustainalytics, with respect to the compliance of projects, with the eligibility criteria (see section 3.5 Compliance Review for further details), (2) assertions by management that the net proceeds of the 2017 Green Bond were allocated to eligible

projects, and (3) an annual report from an independent registered public accounting firm in respect of its examination of management's assertions conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants.

Allocation Reporting

Apple commits to detailing the aggregate allocation of the proceeds, and to the extent practicable, Apple also intends to report the allocation to eligible projects at a category level, which is consistent with the eligibility criteria, subject to confidentiality considerations.

Impact Reporting

In addition to its allocation reporting, Apple commits to publishing annual updates on the environmental impacts of the projects funded with green bond proceeds.

Where relevant, Apple will report on other Key Performance Indicators (KPIs) in aggregate for green bond projects, such as the following:

	Key Performance Indicators
Renewable Energy	• Renewable energy installed capacity (kW or MW) • Energy produced from renewable sources (kWh or MWh) • GHG emissions avoided (in CO2e tons)
Energy Efficiency	• Energy saved aggregate (kWh) • Energy saved due to building retrofits or design (kW)
Water	• Water use savings (gallons)
Waste	• Waste diverted from landfills (tons or % diversion) • Waste recycled or composted (tons)
Resource Use	• Bio-based material use (% of material in product) • Recycled content use (% material in product)

In addition, if relevant, Apple will (1) provide a list of buildings that are certified, or are expected to become certified, LEED Gold or Platinum, or BREEAM Very Good, Excellent, or Outstanding, or other regional green building standards, to which bond proceeds have been allocated (subject to confidentiality considerations), and (2) report the number and type of toxic substances removed from its products and accessories. Apple may also report on additional metrics as feasible and relevant.

Project Reporting

Subject to confidentiality considerations, Apple will provide additional descriptions of select projects funded with green bond proceeds.

3.5 Compliance review

In addition to its own annual reporting, Apple will obtain a letter from Sustainalytics, with respect to Apple's green bond projects' compliance with the eligibility criteria. Sustainalytics will review a broad sample of projects from the total allocated projects in order to determine whether they meet the use of proceeds criteria defined in the framework. Sustainalytics will provide a report of the evaluation, which Apple will disclose publicly. In an unlikely event that one or more projects do not meet the eligibility criteria, Apple will reallocate the green bond proceeds to other projects that meet one of the criteria.

4. SUSTAINALYTICS' OPINION

Section 1: Sustainability Performance of the Issuer

Contribution of the 2017 Green Bond to Apple's environmental strategy

In its 2017 Environment Responsibility Report, covering fiscal year 2016, Apple emphasises the following three environmental commitments: (i) Combat climate change – reducing carbon emissions in their facilities and their supply chains worldwide by using renewable energy and achieving energy efficiency in its products; (ii) Conserve finite resources – setting a goal to produce all products using a closed-loop supply chain, where products are built using only renewable resources or recycled material; and (iii) Prioritize greener products and services – using greener materials in its products and services.[8]

In addition to outlining these broad commitments, Apple has also set relevant targets in some of these areas. For example, Apple has a target to power its facilities worldwide with 100 percent renewable energy; in addition, together with its suppliers, Apple has a commitment to bring more than 4 gigawatts of new clean power online worldwide by 2020.[1] Finally, Apple also reports on performance with respect to these commitments and targets annually in its environmental responsibility report. For example, Apple reported that, in 2016, 96 percent of the electricity used at Apple's global facilities came from renewable energy, reducing its carbon emissions by nearly 585,000 metric tons.[9] Another example of reporting on performance is demonstrated by Apple's closed-loop supply chain commitment. In its iMac Environment Report, Apple reported that, for its 21.5-inch iMac, the stand is made with 30 percent recycled aluminum, the speaker enclosures are made with 35 percent post-consumer recycled plastic, and the fan assembly is made with 28 percent bio-based plastic.[10] Similarly, Apple reported that for its iPhone 7 product, plastics used in the internal antenna are made with 35 percent post-consumer recycled content and plastics used in the display frame are made with 28 percent bio-based content.[11]

Overall, Apple's 2017 Green Bond will contribute to these environmental priorities; each use of proceeds category supports at least one of the three commitments outlined above. Additionally, Sustainalytics is of the opinion that reporting on targets and performance is indicative of the priority the company assigns to achieving results. The alignment of the 2017 Green Bond with Apple's environmental commitments, its setting of targets and reporting on performance, in combination with the fact that Apple has not been involved in any significant environmental controversies makes Apple well positioned to issue a green bond.

[8] 2017 Environmental Responsibility Report, covering fiscal year 2016
https://images.apple.com/environment/pdf/Apple_Environmental_Responsibility_Report_2017.pdf
[9] 2017 Environmental Responsibility Report, covering fiscal year 2016
https://images.apple.com/environment/pdf/Apple_Environmental_Responsibility_Report_2017.pdf
[10] **https://images.apple.com/environment/pdf/products/desktops/21.5-inch_iMac_PER_June2017.pdf**
[11] **https://images.apple.com/environment/pdf/products/iphone/iPhone_7_PER_sept2016.pdf**

Well positioned to address common environmental and social risks associated with the projects
Given the company's business and dimension, Apple is exposed to social and environmental risks, both in its operations and in its supply chain. To address such risks, Apple has implemented several policies such as the Code of Conduct and Apple's Environmental, Health and Safety Policy. In addition, Apple has extensive Supplier Responsibility Standards[12] that set clear environmental and social expectations for suppliers. Apple is also a member of the Electronic Industry Citizenship Coalition (EICC), committing to strong supplier expectations and releasing a supplier responsibility progress report annually.

In 2016, Apple expanded its responsible sourcing requirements to a much broader set of issues, including a more explicit approach to forced and underage labor, health and safety, and environmental impacts worldwide. In order to verify compliance with the above-mentioned policies, in 2016, Apple performed 705 supplier assessments. In its 2017 Supplier Responsibility Progress Report,[13] the company discloses the results of these assessments and how it addressed situations of non-compliance.

Overall, Sustainalytics is of the opinion that Apple has policies and process in place that are comparable to other companies in its peer group to identify, address and mitigate relevant social and environmental risks associated with the projects that will be financed with green bond proceeds.

Section 2: Impact of Use of Proceeds

Apple's project eligibility criteria address specific areas for environmental impact including renewable energy; green building design, energy and water efficiency; waste management and reuse of materials through a closed-loop supply chain; and use of greener materials in its products. These use of proceeds categories are recognized by the Green Bond Principles as having a clear environmental impact.[14]

Compared to the eligibility criteria from Apple's first green bond, issued in February 2016, in the 2017 Green Bond, Apple has expanded these project eligibility criteria to apply not only to its own operations, but also to directly invest in its supply chain and its suppliers' facilities, and to its products. Sustainalytics is of the opinion that directly investing in its suppliers' facilities is extremely unusual for any company, and that using green bond proceeds to target reduction of Apple's carbon footprint across its supply chain, operations, and products ensures that the company is holistically addressing the environmental impacts of its business.

Additionally, Apple's green building eligibility criteria is based on third party certification standards of LEED and BREEAM, and the company is aligning with industry best practices by focusing on LEED Gold or Platinum, or BREEAM Very Good, Excellent, or Outstanding, levels of certification. In the offering documents related to its 2017 Green Bond, Apple has stated that it will also fund green buildings that have achieved other regional green building standards. Apple has discussed with Sustainalytics that in certain cases, municipal code requires green buildings to achieve regional green building standards, rather than LEED or BREEAM. For example, in Singapore, all green buildings are required to achieve the Green

[12] https://images.apple.com/supplier-responsibility/pdf/Apple-Supplier-Responsible-Standards.pdf

[13] https://images.apple.com/supplier-responsibility/pdf/Apple-Progress-Report-2017.pdf

[14] Reuse of materials through a closed-loop supply chain is aligned with the GBP category of Eco-efficient products, production technologies and processes

Mark certification. Apple has confirmed to Sustainalytics that in these cases, such regional green building standards will be reputable. In addition, Apple has confirmed to Sustainalytics that wherever possible, it will strive to fund regionally certified green buildings that have an overall performance that is comparable to the LEED and BREEAM levels mentioned in the framework.

With respect to elimination of toxic substances that are commonly used in the industry, Sustainalytics believes that these projects are likely to positively impact the sustainability of Apple's products, and ensure that the products do not damage the environment.

Environmental Impact of a closed-loop supply chain

The recent demands from population growth worldwide and economic expansion in developing countries have brought attention to the critical issue of depletion of natural resources. The issue can be seen not only in their impact on the environment but also in their impact on society, as mining and extraction of natural resources can cause conflicts with local communities in some developing countries. Keeping in mind the above-mentioned context, and a growing pressure from regulations and/or international guidelines such as the United Nations Sustainable Development Goals, corporations face pressure to review their procurement of resources and develop a strategic plan to mitigate these environmental and social risks involved with extraction of finite resources. This issue is especially relevant to the Electronics industry, which tends to use natural and scarce resources such as rare-earth metals in their products.

In this context, Apple's efforts to achieve a closed loop supply chain ultimately aim for the end of the company's reliance on mining through improved recycling and usage of renewable or recycled materials. According to the Ellen McArthur Foundation's report on the circular economy[15], benefits of circular business models in the electronics industry include the reduction of toxic chemicals which impair reuse, and the elimination of electronic waste through superior design. The report states that the cost of remanufacturing mobile phones could be reduced by 50 percent per device if the industry made phones easier to take apart, improved the reverse cycle, and offered incentives to return phones. On a global scale the foundation estimates major net material savings in the scenario of a shift towards circular business models by large industrial players. This net material saving would result in a shift down the cost curve for various raw materials, likely reducing demand driven volatility. In Sustainalytics' view, Apple's use of proceeds, supporting closed loop supply chains, will positively contribute to this vision, reducing pollution and waste generation in the electronics industry and greatly contributing to resource efficiency, alleviating unsustainable trends in natural resource extraction and consumption.

Furthermore, Sustainalytics' believes that the reduction of the usage of tin, tantalum, tungsten and gold, all materials that are controversial due to human rights concerns in developing countries, could bring social benefits in conflict regions where these minerals are extracted.

Overall, Sustainalytics is of the opinion that Apple's project eligibility criteria are credible and robust, and that by selecting projects based on these criteria, Apple is effectively targeting its green bond proceeds at projects that will contribute to reducing Apple's overall environmental impact.

[15] **https://www.ellenmacarthurfoundation.org/assets/downloads/publications/Ellen-MacArthur-Foundation-Towards-the-Circular-Economy-vol.1.pdf**

Alignment with the Green Bond Principles 2016

Sustainalytics has determined that the Apple Green Bond Framework aligns to the four pillars of the International Capital Markets Association (ICMA) Green Bond Principles 2016. For detailed information please refer to Annex 2: Green Bond/Green Bond Programme External Review Form.

Conclusion

Apple's green bond framework aligns with the four pillars of the Green Bond Principles 2016. The company has established clear project eligibility criteria that are recognized as environmentally impactful by the Green Bond Principles, align with its environmental priorities, and support its efforts to reduce its overall environmental impact across its supply chain, operations, and products. Sustainalytics is of the opinion that this is representative of the company's holistic efforts to address the environmental impacts of its business. Finally, the company's approach to selecting projects and managing green bond proceeds is robust, and its reporting on the use of proceeds, with KPIs that capture environmental impact, is reasonably transparent. Based on the above considerations, Sustainalytics is of the view that Apple's 2017 Green Bond is robust and credible.

APPENDICES

Green Bond External Review Form

Green Bond
External Review Form

Section 1. Basic Information

Issuer name: Apple Inc.

Green Bond ISIN or Issuer Green Bond Framework Name, if applicable*: Apple Inc. Green Bond*

Review provider's name: Sustainalytics

Completion date of this form: June 13th, 2017

Publication date of review publication: June 13th, 2017

Section 2. Review overview

SCOPE OF REVIEW

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

- ☒ Use of Proceeds
- ☒ Management of Proceeds
- ☒ Process for Project Evaluation and Selection
- ☒ Reporting

ROLE(S) OF REVIEW PROVIDER

- ☒ Consultancy (incl. 2nd opinion)
- ☐ Verification
- ☐ Other *(please specify)*:
- ☐ Certification
- ☐ Rating

EXECUTIVE SUMMARY OF REVIEW and/or LINK TO FULL REVIEW

Please refer to Green Bond Framework and Second Opinion Document above.

Section 3. Detailed review

1. USE OF PROCEEDS

Overall comment on section:

Apple's project eligibility criteria address specific areas for environmental impact including:
(i) renewable energy;
(ii) green building design, construction and retrofits;
(iii) implementation of technologies that increase energy efficiency;
(iv) water efficiency and conservation;
(v) closed loop supply chains; and
(vi) the use of materials that are safer for the environment.
These activities will focus on Apple's own operations, Apple's products or along its supply chain.

Apple's green building eligibility criteria is based on third party certification standards, such as LEED and BREEAM, and the company is aligning with industry best practices by specifying LEED Gold or Platinum, or BREEAM Very Good, Excellent, or Outstanding, levels of certification. Sustainalytics considers that the use of third party certification schemes for buildings ensures the integration of environmental considerations, and Apple's commitment to highest certification levels represents a leading practice in the green bond market. Further, after reviewing the use of proceeds criteria regarding projects and technologies that facilitate closed loop supply chains through use of renewable resources or recycled materials, as well as pursuit of safer materials. Sustainalytics believes that these projects are likely to positively impact the sustainability of Apple's products.

Overall, Sustainalytics is of the opinion that Apple's project eligibility criteria are credible and robust, and by using green bond proceeds to target reduction of Apple's carbon footprint across its supply chain, operations, and products the company is holistically addressing the environmental impacts of its business.

Use of proceeds categories as per GBP:

☒	Renewable energy	☒	Energy efficiency
☒	Pollution prevention and control	☐	Sustainable management of living natural resources
☐	Terrestrial and aquatic biodiversity conservation	☐	Clean transportation
☒	Sustainable water management	☐	Climate change adaptation
☒	Eco-efficient products, production technologies and processes	☐	Other *(please specify)*:

☐ Unknown at issuance but currently expected to conform with GBP categories, or other eligible areas not yet stated in GBPs

2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Overall comment on section:

Apple's eligible projects are evaluated and selected by the Environment, Policy and Social Initiatives (EPSI) team. This team will assess and determine project eligibility and recommend an allocation of proceeds to eligible projects. The company's Vice President of Environment, Policy and Social Initiatives will approve the final allocation of proceeds.

Green bond projects are managed by central teams, which are primarily based in Cupertino, California. For example, Apple has a Global Energy Team that manages all corporate renewable energy and energy efficiency projects; and centralized Real Estate & Facilities teams that track and plan projects for its facilities worldwide. Having a centralized accounting system, and centralized management and oversight for projects that receive an allocation of the green bond proceeds, will ensure consistency in complying with the eligibility criteria.

Sustainalytics is of the opinion that project selection processes and commitments are green bond market best practices.

Evaluation and selection

☒ Defined and transparent criteria for projects eligible for Green Bond proceeds

☒ Summary criteria for project evaluation and selection publicly available

☒ Documented process to determine that projects fit within defined categories

☐ Other *(please specify):*

Information on Responsibilities and Accountability

☒ Evaluation / Selection criteria subject to external advice or verification

☐ Other *(please specify)*:

☒ In-house assessment

3. MANAGEMENT OF PROCEEDS

Overall comment on section:

The proceeds from the green bond will be managed by Apple's finance department which will track the allocation of the proceeds and, together with members of Apple's EPSI, legal and treasury teams, review projects and budgets on a semi-annual basis. Apple has a centralized accounting and finance system that captures budgets and actual spend for all eligible projects. Pending allocation of green bond proceeds, the treasury team will temporarily invest an amount equal to the balance of such net proceeds in cash, cash equivalents and/or U.S. treasury securities which is in line with accepted practices of a green bond issuance and with Green Bond Principles 2016.

Tracking of proceeds:

- ☒ Green Bond proceeds segregated or tracked by the issuer in a systematic 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:

Apple commits to publishing annual updates on the allocation of its green bond proceeds and the estimated environmental impact of projects that have received an allocation of green bond proceeds.

Allocation Reporting
Apple intends to disclose the allocation of green bond proceeds at an aggregate category-level, consistent with the eligibility criteria. In addition, on a case-by-case basis, Apple will provide additional descriptions of selected projects that have received allocations (subject to confidentiality considerations). Apple's commitment to undertake an annual third-party compliance review and third-party use of proceeds attestation assures investors that the selected projects meet the eligibility criteria and that the proceeds are properly allocated. This is a best practice in the green bond market.

Impact Reporting

Apple commits to publishing annual updates on the environmental impacts of the projects funded with green bond proceeds. Sustainalytics believes that Apple has selected Key Performance Indicators (KPIs) that will provide a meaningful measure of the environmental benefits of its green bond.

Use of proceeds reporting:

☐ Project-by-project

☒ On a project portfolio basis

☐ Linkage to individual bond(s)

☐ Other *(please specify):*

Information reported:

☒Allocated amounts

☐ GB 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):*

Frequency:

☒Annual

☐ Semi-annual

☐ Other *(please specify):*

Information reported (expected or ex-post):

☒GHG Emissions / Savings

☒ Energy Savings

☒ Other ESG indicators *(please specify):* The company may also report on other ESG indicators, such as installed renewable energy installed (kW or MW); Energy produced from renewable sources (kWh or MWh); Water use savings (gallons); Waste diverted from landfills (tons or % diversion); Waste recycled or

composted (tons); Bio-based material use (% of material in product); Recycled content use (% material in product)

Means of Disclosure

☐ Information published in financial report
☐ Information published in sustainability report
☐ Information published in ad hoc documents
☒ Other *(please specify): Annual Green Bond Report*
☒ Reporting reviewed *(if yes, please specify which parts of the reporting are subject to external review): Allocation Reporting*

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.)*

investor.apple.com

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 REVIEW PROVIDERS AS DEFINED BY THE GBP

(i) Consultant Review: An issuer can seek advice from consultants and/or institutions with recognized expertise in environmental sustainability or other aspects of the issuance of a Green Bond, such as the establishment/review of an issuer's Green Bond framework. "Second opinions" may fall into this category.

(ii) Verification: An issuer can have its Green Bond, associated Green Bond framework, or underlying assets independently verified by qualified parties, such as auditors. In contrast to certification, verification may focus on alignment with internal standards or claims made by the issuer. Evaluation of the environmentally sustainable features of underlying assets may be termed verification and may reference external criteria.

(iii) Certification: An issuer can have its Green Bond or associated Green Bond framework or Use of Proceeds certified against an external green assessment standard. An assessment standard defines criteria, and alignment with such criteria is tested by qualified third parties / certifiers.

(iv) Rating: An issuer can have its Green Bond or associated Green Bond framework rated by qualified third parties, such as specialised research providers or rating agencies. Green Bond ratings are separate from an issuer's ESG rating as they typically apply to individual securities or Green Bond frameworks / programmes.

Disclaimer

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The client is fully responsible for certifying and ensuring its commitments` compliance, implementation and monitoring.

SUSTAINALYTICS

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