Apple

Since taking the reins as Apple's CEO, Tim Cook has made protecting the environment a prominent piece of the company's identity. Under Cook, Apple not only recognizes unequivocally that climate change is a real problem, but has publicly committed Apple to power its data centers and other operations with 100% renewable energy to address it. Apple became the first company to extend this commitment to its entire global supply chain in 2014, and has since made impressive progress, securing commitments from 14 suppliers to power their operations with enough renewable energy needed to manufacture Apple devices or components. Apple announced in April an ambitious long-term goal to transition the materials that go into its devices to come from 100% closed-loop sources, and eliminate the need to rely on the mining of new minerals. Apple's leadership in reducing the impact of it supply chain on the planet is helping redefine expectations of corporate responsibility, playing a catalytic role in driving better performance by other companies. However, Tim Cook's commitment to have Apple leave the planet "better than we found it"[1] is increasingly being undermined by his product design team. While Apple's design engineers made it the first company to eliminate many hazardous chemicals from its devices, many of Apple's latest devices are now designed in a way to make it much more difficult, if not impossible to repair or upgrade, shortening their useful life, and increasing the potential negative impacts of Apple's products on the planet. Such a design strategy may help Apple's profits in the short term, but risks jeopardizing Apple's environmental reputation and the customer loyalty that has come with it.

Renewable Energy & Climate Change	A-
TRANSPARENCY. Apple provides excellent visibility into the energy performance of its own operations, providing detail on the energy demand of its facilities and the addition of renewable energy for each to advance toward its goal of being 100% renewable.[2] However, a similar level of transparency has not been present to assess Apple's progress toward its 100% supply chain goal. The company recently took steps forward in reporting the aggregate impact of its supply chain renewable energy deals,[3] also adding some minimal context on its total carbon footprint with respect to its 4 GW renewable energy goal[4] and a high-level breakdown of its largest greenhouse gas contributors by category of supplier. Apple needs to upgrade its supply chain reporting to more closely represent its own operational reporting, as it currently does not report energy footprint by supplier, or even country or regional level carbon footprint information for its supply chain.	B
COMMITMENT. Apple was the first IT company to make a 100% RE commitment for both its own operations and its supply chain. It continues to lead the way in driving renewable energy in its supply chain, where nearly 80% of its greenhouse gas footprint currently lies. To its credit, Apple has pursued these goals with a high level of integrity, adopting additionality principles for its renewable energy procurement. Apple has set near-term goals of 4GW of renewable energy for its supply chain by 2020, 2GW in China specifically.	A

Renewable Energy & Climate Change (continued)	A-

PERFORMANCE. Apple has thus far been fairly aggressive in pursuing its 2020 goal to deploy 4GW of renewable energy in its supply chain, with Apple itself having deployed nearly 500MW of solar and wind in China, and has made significant progress with its suppliers as well. As of September, Apple has separately secured commitments from 14 of its suppliers to power the Apple-related portion of its operations with renewable energy by 2018/19.[5]	**A**
ADVOCACY. Apple's advocacy on the urgency of climate change and support for renewable energy has become more visible, particularly since the 2016 US presidential election. In addition to its efforts to engage its supply chain to switch to renewable energy through its Clean Energy Portal, Apple has also become more active in supporting state and national policies by encouraging the deployment of renewable energy, including its support of the Clean Power Plan in the US,[6] and increased access to renewable energy in Japan.[7] CEO Tim Cook also joined other tech company leaders in pushing President Trump to keep the US as a member of the Paris Climate Agreement.	**A**

Sustainable Design & Resource Reduction	C

TRANSPARENCY. Apple has made some improvements in its reporting of resources that go into its products, as well as its efforts to address environmental impacts and worker safety within its supply chain. To better align with its long-term goal to create a closed-loop supply chain, Apple eliminated the previous reporting of e-waste materials returned via its take-back program, as most of these materials were not being returned to Apple products. However, similar to its actions after the adoption of its 100% renewable energy supply chain goal, Apple's reporting on the recycled content in its products remains highly selective, limited to examples of where it has made progress. Apple needs to transition its reporting to show its progress toward its closed-loop goal, including total resource consumption and the amount of material it has thus far been able to secure from secondary materials if not from closed-loop material flows. Publication of its materials analysis and the priority materials it intends to focus upon as Fairphone has done would be an important contribution to driving faster change across the sector.	**B**
COMMITMENT. Apple's announcement of its ambitious goal to create a closed-loop supply chain for its devices, with the aim to end the company's reliance on mining,[8] sends a powerful signal to its suppliers and the secondary materials market. Such a transition to secondary materials would have not only significant environmental benefits, but could also help address potential human rights abuses in the supply chain, such as use of child labor and minerals from conflict zones. Apple should establish more specific near-term milestones that show progress toward its long-term closed-loop goal, including specific targets for high-impact materials.	**B**
PERFORMANCE: CIRCULAR PRODUCTION. Building on its commitment for a closed-loop supply chain, Apple reports to have conducted material risk assessments across 44 elements in its products, identifying aluminum, tin, and cobalt and priority materials for developing a supply of secondary sources of materials, with early success in getting secondary materials into some devices. Apple has established an extensive take-back system through its stores and local partners across countries where it sells its products, though it does not make public which recycling partners it relies upon, or where that waste is sent. However, in the US at least, Apple is reported to maintain "must shred" agreements with recyclers it works with, forcing devices to be shredded instead of repaired or refurbished.[9] Apple will need innovation in the recycling sector to achieve its closed-loop recycling goals. Apple's LIAM robot, capable of disassembling one model of its iPhone, highlights the possibility to recover higher levels of materials than is typically achieved in the whole product shredding approach commonly used in the recycling industry.[10] However, Apple's product design, including the use of proprietary screws and extensive use of adhesives, continues to make disassembly, and thus higher material recovery, more difficult.[11]	**C**

Sustainable Design & Resource Reduction (continued)   C

PERFORMANCE: PRODUCT LIFE EXTENSION. Apple's failure to design many of its products to enable its customers to easily repair and upgrade their devices risks undermining Apple's leadership on climate change and a closed-loop economy, particularly as its design decisions set the direction for many companies in the sector. While Apple has made some concessions to customers by lowering the cost of some repairs, product design decisions for its smartphones, laptops and tablets have consistently made it more difficult for customers to repair their devices, replace their batteries, or upgrade the devices so that they continue to stay in use. Apple clearly knows how to design products that are easy to maintain and upgrade, as seen by its higher-end desktop machines, but recent design changes for its latest flagship smartphones appear to have produced a product that is both more fragile and more difficult to repair. Apple does offer refurbished products for sale in several of its mature markets.	**D**
ADVOCACY. In sharp contrast to its positive leadership on climate change and renewable energy advocacy, Apple has emerged as one of the companies leading the opposition to "Right to Repair" legislation in several US states.[12] Apple has also blocked attempts to strengthen environmental electronics standards that would encourage device designs that are easier to repair, upgrade, and disassemble for recycling.[13]	**F**

Hazardous Chemical Elimination: Products & Supply Chain   B

TRANSPARENCY. Apple publishes a list of its top 200 manufacturing suppliers of companies assessed, though it lacks the detail of those published by Fairphone and Dell, which indicate which service or product each supplier is providing. Apple publishes its restricted substances list for products (PRSL),and also published a list of substances restricted for manufacturing uses (MRSL).[14] Apple also publishes the overall non-compliance findings of audits on a semi-annual basis. Apple's individual product report consistently reports which hazardous materials are in the product.	**B**
COMMITMENT. Apple was the first electronics manufacturer to commit to eliminating PVC and BFRs from its products, and since has gone beyond current Rohs standards to include additional hazardous chemicals such as beryllium, antimony trioxide, and phthalates.[15] Apple has also committed to restrict several known hazardous chemicals from all manufacturing processes (benzene, n-hexane, toluene, and chlorinated organic compounds).[16]	**B**
PERFORMANCE. Apple has eliminated additional hazardous chemicals beyond existing standards from its products, such as beryllium, antimony trioxide, and phthalates. Apple has restricted the use of benzene, n-hexane, toluene, and chlorinated organic compounds from manufacturing processes for Apple products. To help reduce worker exposure to hazardous chemicals in the factory, Apple has done chemical exposure mapping at its final assembly suppliers, and is now expanding to subcomponent manufacturing sites.[17]	**B**
ADVOCACY. Apple is part of the Clean Electronics Production Network (CEPN) with a goal to move toward zero exposure of workers to toxic chemicals in the electronics manufacturing process.[18]	**B**

ENDNOTES

1   https://www.theverge.com/2014/4/21/5636218/apple-tim-cook-narrates-environmental-sustainibility-ad-earth-day

2   https://images.apple.com/environment/pdf/Apple_Environmental_Responsibility_Report_2017.pdf
    Appendix A & B.

3   https://www.apple.com/environment/pdf/Apple_Supplier_Clean_Energy_Program_Update_April_2017.pdf

4   https://images.apple.com/environment/pdf/Apple_Environmental_Responsibility_Report_2017.pdf, p. 7.

5   https://www.apple.com/environment/pdf/Apple_Supplier_Clean_Energy_Program_Update_April_2017.pdf

6   http://www.greenpeace.org/usa/news/apple-google-microsoft-amazon-support-clean-power-plan-court-filing/

7   http://www.renewable-ei.org/images/pdf/20170422/REI_PressRelease_Realizing100RE_JP_170422_final.pdf

8   https://images.apple.com/environment/pdf/Apple_Environmental_Responsibility_Report_2017.pdf, p. 16.

9   https://motherboard.vice.com/en_us/article/yp73jw/apple-recycling-iphones-macbooks

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