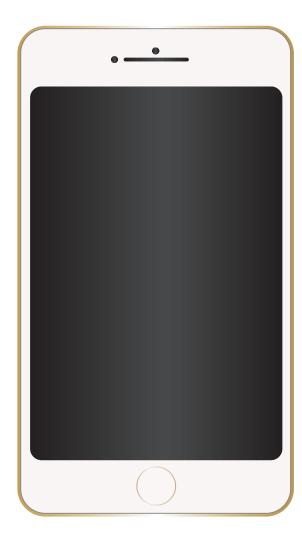


Recycling the Core Parts

## The Apple to My iPhone

Nabeela Ghaznavi and Christine Mechreki



In the modern era of technology, humanity craves continuous advancement. How-ever, these advancements come at the costly price of the environment. In this gen-eration of technology, Apple has made its mark on the earth with the ongoing manu-facturing and development of the iconic iPhone and their ecological footprint. They're now stepping towards reducing their print and building renewable products. As they state, "To ask less of the planet, we ask more of ourselves", which is why Apple has taken to various recycling and renewing approaches to ensure their products are renewable and reusable.

With their new vision, Apple has taken it upon themselves to design new technology that is safe for people to use as well as produce in terms of preserving the Earth's resources. The iPhone was originally built using unsuitable materials which were not environmentally friendly. With further research and development, they designed new products with a change in materials and the amount of materials used with each new design to make the item more renewable. In comparison to the

original iPhone, the iPhone 6 introduced in September 2015, is manufactured using aluminium, stainless steel, glass, circuit boards, plastic and other various materials. Not only were the phone materials altered for renewability, but the packaging itself had been redesigned to be 100% recyclable, created using biobased materials such as fibre-board which is '90 percent post-consumer recycled content'. By disassembling their product and redesigning it to have a new level of recyclability and renewability, their phones are becoming eco-friendly and easier to reuse.

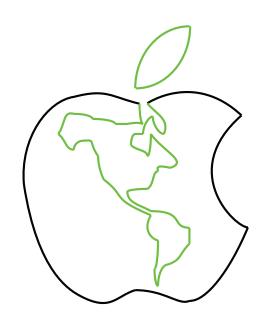
Apple's main method of preservation whilst continuing production and advance-ments, is their recycling approach. It begins with their recycling program, 'Apple Re-new'. They want to create a 'closed-supply loop chain' to ensure their products are renewable and that they can continue production without increasing their ecological footprint. With their program, Apple encourages their customers to return their old products to them directly to be reused for production. The recycling

program offers a 'free and environmentally friendly disposal of your iPod, Apple watch and mobile phone'. The process is as simple as printing off the shipping label from their website and posting your old item or directly dropping it off to any Apple store. Apple also offers a 10% discount on your next iPod purchase when returning your old one for recycling. By providing such a quick and easy service and encouraging customers, they are showing how persistent they are to maintain a 'responsible environmental citizenship' by recycling.

A further step in Apple's recycling methods had developed when project 'Liam' evolved. Liam is a new disassembling technology Apple designed to cleanly disas-semble the individual materials of the iPhone to recycle and reuse for new produc-tion. The robot was specifically designed for the iPhone 6 to further material recov-ery, expected to take apart 1.2 million iPhone units per year and sending them to end-processors to be recovered for reuse. Liam sends products to 8 different mate-rial streams targeted for material recovery. Rare earth metals

and critical materials such as that of gold, silver, tungsten, tin, copper, neodymium, and several others are now ones that can be recovered and reused due to Liam's advanced technolo-gy. Apple can now acquire a larger quantity and quality of materials to reuse that they never could before.

Apple's renewable designs and recycling procedures have helped them develop a closed loop supply chain that safeguards the Earth's remaining resources and its environment. Reviewing the efforts that the company has gone through and the precautions they have taken to reduce their environmental impact, it's safe to say that they are another step closer to being one of the most successful eco-friendly companies in the globe, pushing other companies to contribute to the recycling movement.



#### References:

Apple Inc, 2016. Iphone 6s Environmental Report. [Online] Available at: https://images.apple.com/au/environment/pdf/products/iphone/iPhone6s\_PER\_sept2015.pdf [Accessed 12 October 2017].

AppleInc, 2017. Apple Renewable Program. [Online] Available at: https://www.apple.com/au/recycling/ipod-cell-phone/ [Accessed 12 October 2017].

AppleInc, 2017. Environment. [Online] Availableat: https://www.apple.com/au/environment/resources/[Accessed12 October 2017].

AppleInc, 2017. Environment. [Online] Available at: https://www.apple.com/au/environment/resources/[Accessed 11 October 2017].

AppleInc, 2017. Environmental responsibility report. [Online] Availableat: https://images.apple.com/au/environment/pdf/Apple\_Environmental\_Responsibility\_Report\_2017.pdf [Accessed 11 October 2017].

AppleInc, 2017. Environmental Responsibility Report. [Online] Available at: https://images.apple.com/au/environment/pdf/Apple\_Environmental\_Responsibility\_Report\_2017.pdf [Accessed 11 October 2017].

Apple Inc, 2017. Recycling an Apple product is as easy as it is good for the planet. [Online] Available at: https://www.apple.com/recycling/fAccessed 11 October 20171.

Charissa Rujanavech, J. L. S. C. S. S. J. D. R. G., 2016. Liam - An Innovation Story. [Online] Available at: https://images.apple.com/au/environment/pdf/Liam\_white\_paper\_Sept2016.pdf [Accessed 12 October 2017].

EmelyRodriguez,O.C.C.L.J.L.A.Z.,2015.iGoGreen:ALifeCycleAssessmentofApple'siPhone.[Online]Availableat:https://www.ideals.illinois.edu/bitstream/handle/2142/73760/462\_ready.pdf?sequence=2&isAllowed=y[Accessed11October2017].

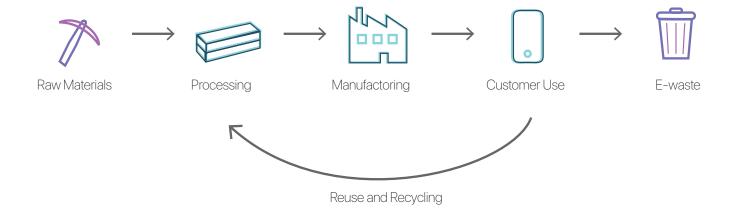
Iphoneproj2011,2011.WHATANIPHONEISACTUALLYMADEOF?.[Online]Availableat:https://iphoneproj2011.wordpress.com/2011/04/19/what-an-iphone-is-actually-made-of/ [Accessed 11 October 2017].

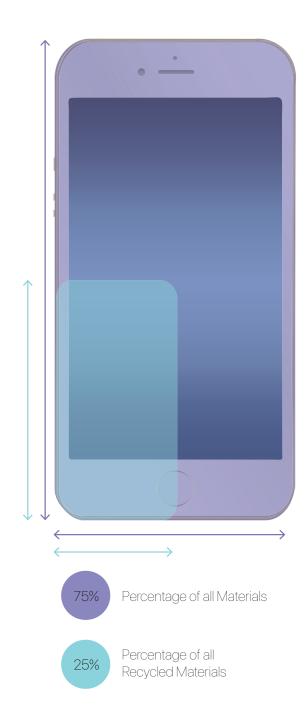
Kim, S., 2016. What Happensto Your Recycled i Phones and Other Apple Products. [Online] Available at: http://abcnews.go.com/Business/recycled-iphones-apple-products/story?id=37872881 [Accessed 12 October 2017].

### The Evolution of the iPhone



# The Recycling Process (A Closed-Loop Supply Chain)





# **Materials and Their Origins**



#### Flakey Materials (A Comparison)

