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Apple iWaste

How is e-waste effecting us and what is
Apple doing to minimise risks?

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With just a touch of a button, we can connect with anyone around the world with some devices small enough to fit into your pocket. One of the most well-known brands is Apple. Apple is famous for their simple yet elegant designs of phones, laptops, tablets, and other devices. However, unbeknownst to many consumers, these products are a big risk for our environment if not disposed of properly and can end up as toxic electronic waste known as e-waste. So, what does this mean for our environment and health? And what is Apple doing the help reduce these concerning risks?

E-waste contains a lot of toxic chemicals that can negatively affect the environment in many ways, from our air to our soil and our water. One of the most concerning emissions is carbon dioxide. It is a greenhouse gas with the "highest levels of emissions in the atmosphere" and is one of the biggest contributors to climate change. As we all are aware, climate change can cause more natural

disasters and lead to the death of many humans. E-waste is not just harmful for the environment but also for human health as it contains toxic components such as mercury, lead, cadmium, lithium, and others. This toxic waste can run down into our water systems, and when consumed can cause damaging effects on the brain, heart, liver, kidney, and even skeletal system.

As part of its business practices, Apple has stated it is committed to minimising their impact on the environment throughout all the stages of product design and manufacturing. Apple supports this commitment through selectively using materials and substances that are environmentally sustainable, reusable and reduce waste made from the manufacturing process. Apple has also introduced a product recycling program worldwide, where they offer to exchange old Apple devices for cash. Apple then fixes phones which are still viable and re-sells them as refurbished on their website.

In addition to this, Apple also claims to be carbon neutral and aims to have all their products be carbon free by 2030. To achieve this, Apple has been working with Conservation International (CI) to help naturally restore degraded savannahs in Kenya and aims to do more of this work. Apple claims with all these efforts combined we "will help sequester carbon and restore ecosystems" that will help them reach their 2030 goal of carbon neutrality. Apple does this while "seeking to generate a financial return" as they state on their website.

But, how good of a job is Apple really doing? As previously mentioned, Apple does have a recycling program where they sell refurbished products for up to 15% cheaper. However, in 2020 Apple filed a lawsuit against GEEP, a company that was contracted to dispose of their products correctly. The lawsuit was filed because GEEP saw that many products were still usable and ended up selling some of these products. This means that Apple only sells

refurbished items that are in top condition, instead of fixing them up and selling them for much cheaper. It's said that 60% of their e-waste still end up in landfills and the energy and materials to produce and restore the other products generally can't be recovered as they claim. In November 2020, Apple paid a $113 million settlement for breaching a consumer law in more than 30 states of America as they were accused of slowing down old phones whenever a new iPhone is released, forcing consumers to buy a newer version. At first Apple denied these claims, but later confirmed it stating that it's done to help protect the battery.

So, it sounds like Apple is trying to do their part for the environment while maintaining their need to return a profit. Apple does do a lot of good, but it sounds like they exaggerate their claims to look better and in hopes to make a profit from their efforts.
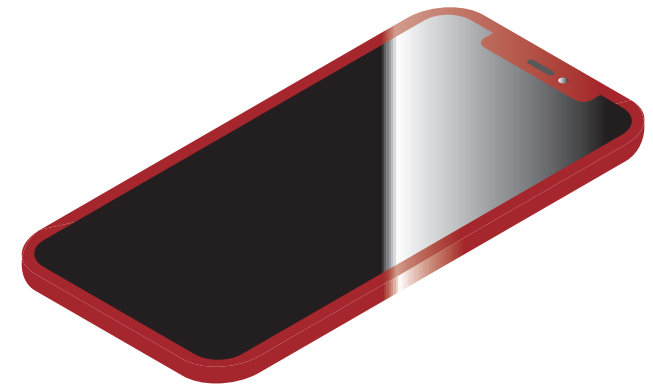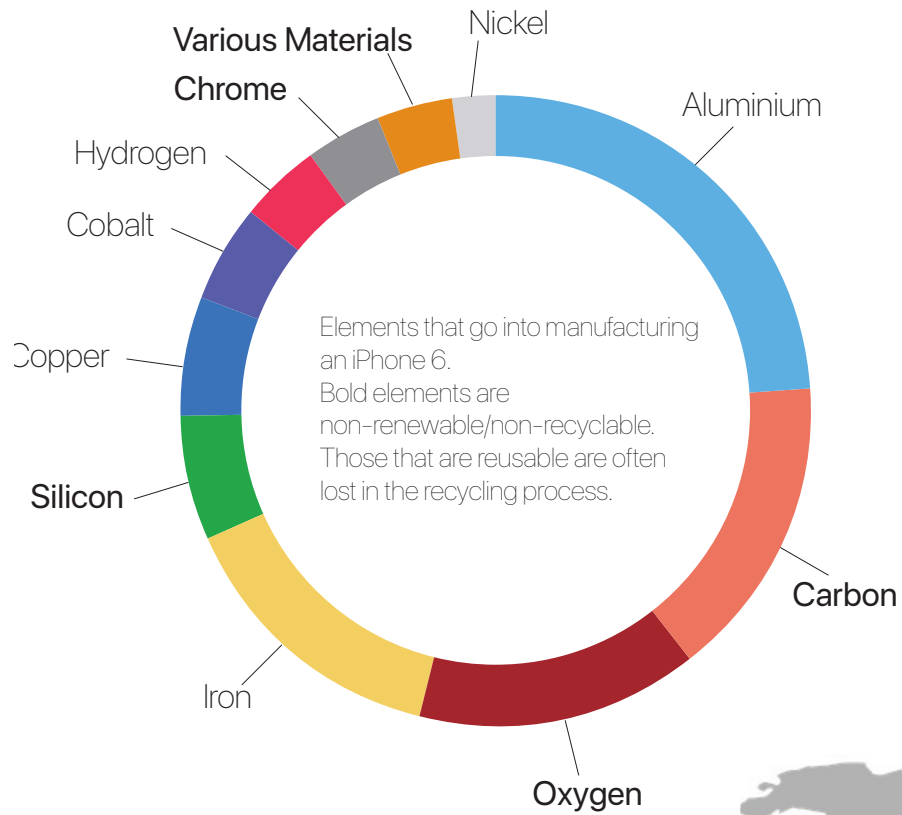
References:

Arndt, H. K., & Ewe, C. (2017). Analysis of Product Lifecycle Data to Determine the Environmental Impact of the Apple iPhone. In *Advances and new trends in environmental informatics* (pp. 3-13). Springer International Publishing.

Coates, K., Ellison, Andy, & Credo Reference , distributor. (2014). *An introduction to information design* (Enhanced Credo ed.) London, England : Laurence King Publishing, 2014.; Boston, Massachusetts : Credo Reference, 2015.
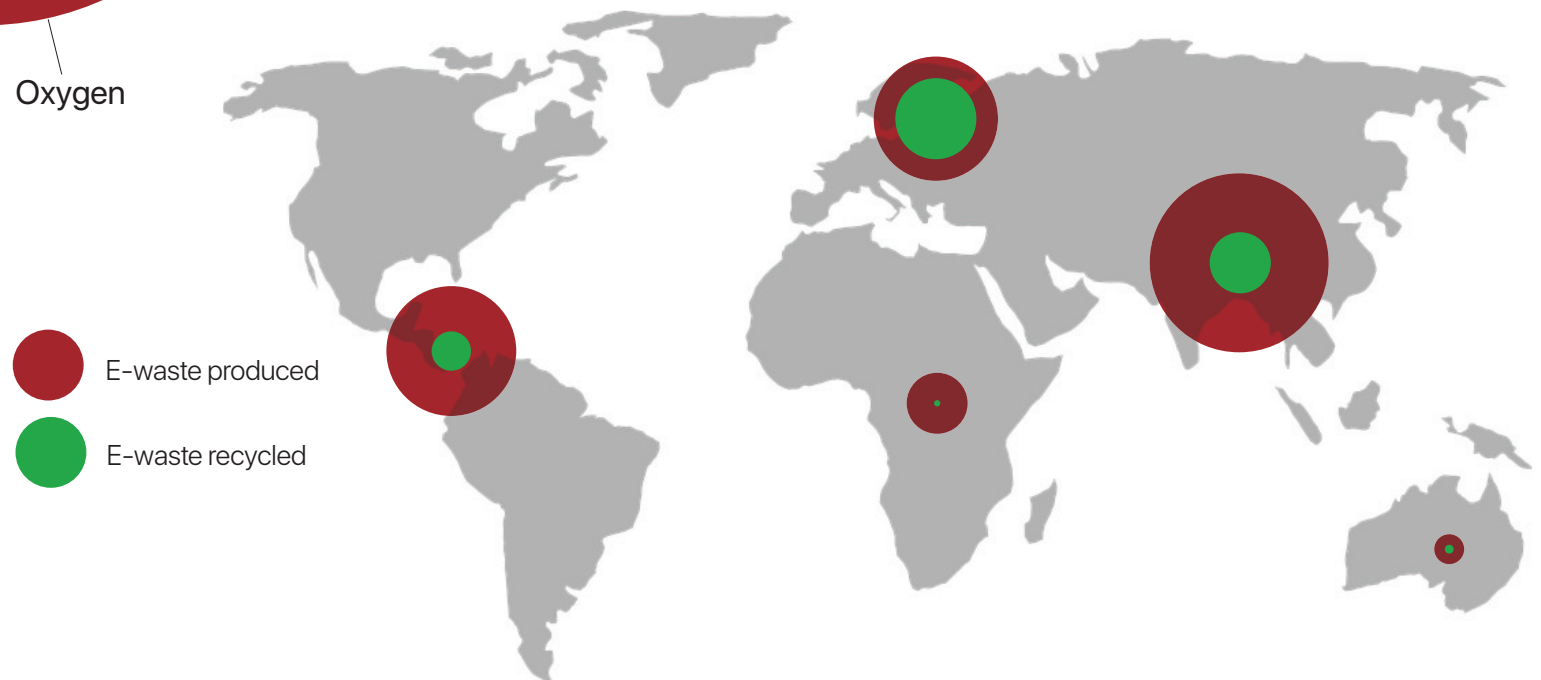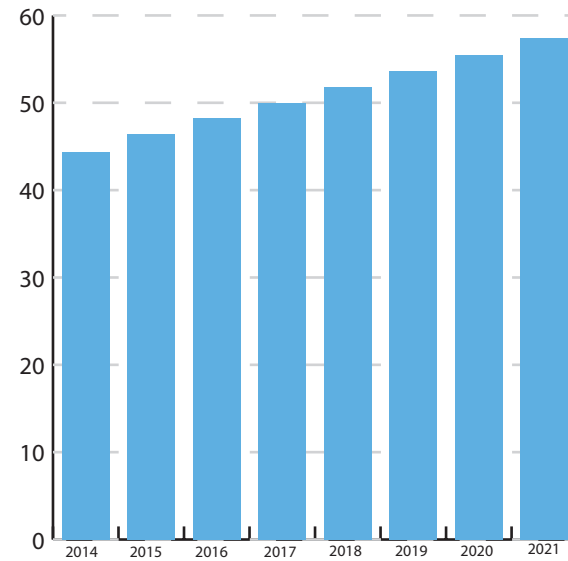
Grabham, D.(2016 September 7). *History of the iPhone 2007-2017*. Retrieved from http://www.t3.com/features/a-brief-history-of-the-iphone.

Heller, S. (2015). *The education of a graphic designe*r (3rd ed.). New York : Allworth Press.

Warren, T. (2011, September 9). *iPhone: A visual history*. Retrieved from https://www.theverge.com/2014/9/9/6125849/iphone-history-pictures.

Various Materials

Chrome

Nickel

Hydrogen

Aluminium

Cobalt

Copper

Silicon

Elements that go into manufacturing an iPhone 6.
Bold elements are non-renewable/non-recyclable.
Those that are reusable are often lost in the recycling process.

Carbon

Iron

Oxygen

E-waste produced globally per year (in metric tons)

| Year	Value
2014	~44
2015	~46
2016	~48
2017	~50
2018	~51
2019	~53
2020	~55
2021	~57

E-waste produced

E-waste recycled

The first ever iPhone had a more rounded look, and had no front facing camera. It had the classic home button and the unlock button at the top.

Apple changed up the look of the iPhone a bit by moving the unlock button to the side and adding the 'Touch ID' feature.

1

3

Earpiece

Camera
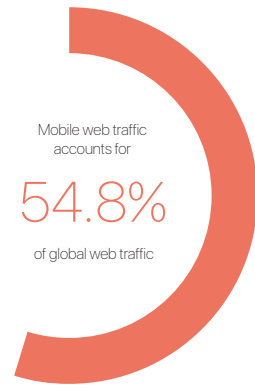
Ringer Switch

Volume

Lock/Unlock Button

2

4
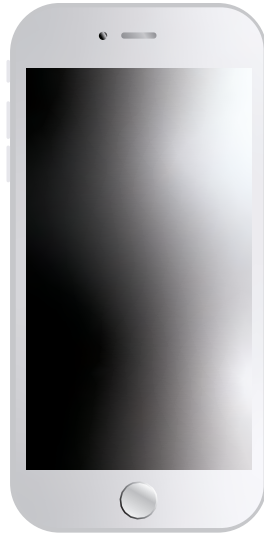
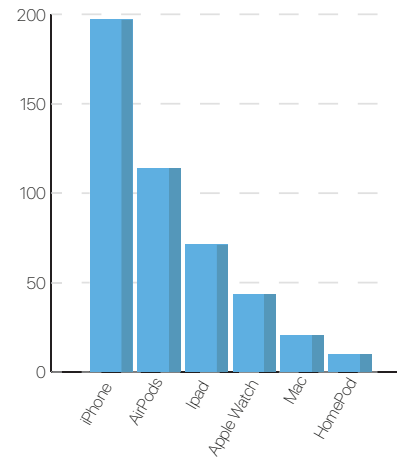Apple later added a front facing camera to the iPhone and made it more square and flat instead of rounded.

Apple eventually removed the home button and made the screen cover the whole phone. Apple introduced facial recognition as well.

iPhone 12

Mobile web traffic accounts for

54.8%

of global web traffic

Most popular Apple products by sales (by the 1000's) in Australia 2020

iPhone	200
AirPods	150
Ipad	100
Apple Watch	50
Mac	
HomePod	0

Operating System Market Share in Australia

100 %

80 %

60 %

40 %

20 %

0 %

2015　2016　2017　2018　2019　2020

■ Android　■ iOS　■ Blackberry　■ Windows　■ Other