Case study - Fairphone: Building a mobile phone that is socially and environmentally responsible, and lasts longer

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Project / Programme	Fairphone
Region / Country	The Netherlands
Website	https://www.fairphone.com/en
Circularity	Sourcing materials responsibly, extending the life of mobile phones, servitised model of use

Overview

Fairphone is a social enterprise company that aims to develop smartphones that are designed and produced with minimal environmental impact. This means that they do not contain conflict minerals (which in smartphones are typically gold, tin, tantalum and tungsten), have fair labour conditions for the workforce along the supply chain producing them, and that people can use them for longer.

The second version of the company's device is one of the first modular smartphones available for purchase, designed to be easily repaired and upgraded.

About the project

Fairphone was founded in 2013 and is based in Amsterdam, Netherlands. The social enterprise company existed as a campaign for two and a half years before designing and producing any mobile phones.

It has now released three generations of products, Fairphone 1, 2 and 3, with the last being 3+, in September 2020. Fairphone 2 was the first smartphone to get a 10/10 score[1] for repairability from the online free repair manual iFixit: "The Fairphone 3 is fully modular, repairable and robust, with a lower environmental footprint than ever before."

Fairphone has more than 70 employees from 20 countries, and has sold more than 100,000 phones.

Four areas of change

Fairphone wants to focus on four areas to create change: long-lasting design, fair materials, good working conditions and reuse/recycling.

These four areas represent key changes for circular information and communications technologies (ICTs). Design determines lifespan; for instance, modular designs may be less thin and light but are more durable, as parts can be replaced and upgraded by local businesses or even by end users. Fair materials means at least avoiding contributing to conflict and the exploitation of natural and human resources. It includes the use of secondary materials obtained from sorting reusable materials from e-waste to avoid more extraction of new minerals. Good working conditions in the manufacturing chain means we are not contributing to exploiting workers in factories. Reuse/recycling means that devices, once built, are used to the limit: they are reused until no use value is left for anyone, and then finally recycled in the best possible way. In the recycling process, as many resources as possible are reused and any waste and damage to nature and to the people involved in the recycling, whether formal or informal workers, is minimised.

In terms of funding, Fairphone has raised a total of USD 40.7 million in funding[2] over nine rounds from eight investors. ABN AMRO Fund and Dutch Good Growth Fund are the most recent investors.

Sourcing materials responsibly

Fairphone has a public map of first-tier assembly manufacturer and second-tier component suppliers. It reports that there are an average of 38 different materials in a smartphone, each with its own complex supply chain. Fairphone says it was the first smartphone company to incorporate Fairtrade gold[3] in its supply chain.

Fairphone is in the process of improving material sourcing: more responsible mining practices, plus increased use of recycled materials. It says an average of 32.75% of its eight focus materials were sustainably sourced as of the launch of the Fairphone 3.

According to Fairphone, the following can be said about the materials sourced for its phones:

Tin: From validated conflict-free mines in the Democratic Republic of Congo.

Tungsten: From East Africa, supporting the local economy and providing artisanal and small-scale mining the opportunity to transition to more responsible, semi-industrial practices.

Gold: From Fairtrade-certified artisanal mines. These mines have improved working conditions and receive a premium for the gold they produce. Fairphone is working with partners in Uganda to improve the working conditions of artisanal mine sites directly, to prevent child labour and create a transparent and traceable supply chain.

Copper: Copper is easily recyclable, and Fairphone aims to get as much recycled copper as possible into its phones, actively gathering old phones to increase the supply of recycled copper.

Cobalt: It aims to secure a responsible cobalt supply, focused on improving the income and working conditions of artisanal miners.

Neodymium (rare earth elements): It has mapped the rare earth supply chain, looking at the risks and opportunities by region (such as environmental pollution and impact on local communities).

Lithium: It has researched and analysed lithium production and possibilities for responsible sourcing.

Plastic: Modules are made with 50% post-consumer recycled plastic. Packaging material is eco-friendly and easily recycled, printed with a soy-based ink.

Prolonging the use of mobile phones

Fairphone says prolonging the use phase of a device remains a strong measure to influence the overall environmental impact of mobile phones. Among the different impact categories analysed in a life cycle assessment of Fairphone 3,[4] each phone has a global warming potential (GWP) impact of 39.5 Kg CO2e.

The company aims to help people keep their phones for up to five years. However, its battery lasts for three years, before it needs to be replaced. Software updates are crucial in helping people use their phones for longer. The company offered software support (Android) for the Fairphone 2 for over four years.

The company has also developed a Fairphone-as-a service concept,[5] not dissimilar to regular leasing and renting models. Customers pay a monthly fee to use the phone for as long as they need it, but the ownership remains in the hands of Fairphone and eventually the phones are returned to the company. Fairphone's co-founder Miquel Ballester says: "Maintaining ownership creates a further incentive for us to innovate in design. To make sure most of the resources are recoverable, a purpose that is not included in traditional lease constructions."[6]

Conclusion

There are limitations to the project. The development of a competitive mobile phone is very

complex and requires many human and financial resources, which are not always available. Fairphone's founder also acknowledged in 2017 that it was impossible to produce a 100% "fair" phone.

Nevertheless, the company has delivered three generations of increasingly fairer phones[7] with more than 100,000 users, sourcing more materials responsibly, improving working conditions, creating longer-lasting devices through innovative modular designs, and encouraging better reuse and recycling practices.

References and further reading:

Ballester, M. (2018, 8 January). From ownership to service: A new Fairphone pilot just for companies. *Fairphone*. https://www.fairphone.com/en/2018/01/08/from-ownership-to-service-new-fairphone-pilot-for-companies

Fairphone. (2018, 11 December). Fairphone surpasses investment target with €7 million from impact investors. https://www.fairphone.com/wp-content/uploads/2018/12/Investment-Round-Press-Release-1.pdf

Proske, M., Sánchez, D., Clemm, C., & Baur, S. (2020). *Life cycle assessment of the Fairphone 3.* Fraunhofer IZM. https://www.fairphone.com/wp-content/uploads/2020/07/Fairphone_3_LCA.pdf

Johnson, R. (2018, 26 July). (2018). Fairphone-as-a-service. *Project Breakthrough.* http://breakthrough.unglobalcompact.org/briefs/fairphone-as-a-service

Crunchbase: Fairphone financials overview. https://www.crunchbase.com/organization/fairphone/company_financials

Mapping the journey of your Fairphone. https://www.fairphone.com/en/impact/source-map-transparency

Fairtrade Foundation: What is Fairtrade? https://www.fairtrade.org.uk/what-is-fairtrade

iFixit. https://www.ifixit.com

From Global Information Society Watch 2020, see these related reports:

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Latin America (regional report): https://www.giswatch.org/node/6247

Footnotes

[1] Kessler, D. (2020, 4 September). Fairphone 3+: What comes after a 10/10 score? *iFixit*.
https://www.ifixit.com/News/43623/fairphone-3-plus

[2] Fairphone. (2018, 11 December). Fairphone surpasses investment target with €7 million from impact investors. https://www.fairphone.com/wp-content/uploads/2018/12/Investment-Round-Press-Release-1.pdf

[3] Fairphone. (2019, 10 September). Scaling up Fairtrade gold sourcing in our supply chain. https://www.fairphone.com/en/2019/09/10/fairtrade-gold-fairphone-3

[4] Proske, M., Sánchez, D., Clemm, C., & Baur, S. (2020). *Life cycle assessment of the Fairphone 3*. Fraunhofer IZM. https://www.fairphone.com/wp-content/uploads/2020/07/Fairphone_3_LCA.pdf

[5] Ballester, M. (2018, 8 January). From ownership to service: A new Fairphone pilot just for companies. *Fairphone*. https://www.fairphone.com/en/2018/01/08/from-ownership-to-service-new-fairphone-pilot-for-companies

[6] Johnson, R. (2018, 26 July). Fairphone-as-a-service. *Project Breakthrough*. http://breakthrough.unglobalcompact.org/briefs/fairphone-as-a-service

[7] Ibid.

Revision #5
Created 20 October 2021 03:59:28 by Cathy
Updated 10 November 2021 20:56:57 by Cathy