Mobile Device Circularity

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Key Facts and Figures for the Mobile Industry

This factsheet aims to align the industry on key facts and figures on device circularity by drawing on the latest available research.

Consumer demand for circularity

Consumers are holding onto their devices for about 3.5 years globally – up from around two years a decade ago – showing a clear trend towards longevity and a growing need for more repair services.[1, 2, 3]

Sustainability is an important factor in purchase decisions: 85% of consumers surveyed by the GSMA view sustainability as an 'important' or 'very important' factor in their next phone purchase.[4]

The main reasons consumers choose refurbished phones are cost savings and the ability to access higher-end models at lower prices.[5]

Many consumers value longer lasting and durable devices, rather than just having the latest model and features. Based on a survey by the GSMA, the top reasons consumers replace their phones are poor battery life, slower performance, and physical damage.[6, 7]

People care about the environmental impacts of their phones: 70% of consumers surveyed in the GSMA Global Consumer Survey were willing to pay a premium for a phone with features that help reduce its environmental impact.[8]

The growing market for refurbished devices and repair services – projected to exceed $150 billion globally by 2027 – offers new revenue streams for manufacturers and operators.[9, 10]

Environmental benefits of circularity

Manufacturing around 1.5 billion new mobile phones each year emits an estimated 65 million tonnes CO2e – comparable to the annual carbon emissions of Morocco or Romania.[11, 12, 13, 14]

The mining and processing of raw materials and minerals that are used in mobile phones can have significant local environmental and human health impacts, including impacts on biodiversity, land use change, and water use and pollution.[15, 16, 17, 18]

On average, around 80% of the carbon footprint of a mobile phone has been emitted even before you open the box – mainly from mining, processing, and manufacturing. By keeping the phone in use for longer with circular options like repair or refurbishment, you can help reduce the device's environmental impacts.[19, 20, 21, 22, 23, 24]

Opting for less memory saves money and reduces environmental impacts: Higher capacity phones have a bigger environmental footprint – and cost: on average, a 128GB smartphone has around one-quarter lower carbon emissions to manufacture than the same phone with 512GB of storage and costs 20-30% less.[25, 26]

Recent studies have shown that the environmental footprint of repairing or refurbishing a phone can be around 90% lower than manufacturing a new phone. For example, a study by the French Agency for the Ecological Transition (ADEME) estimates that the typical climate impact of a refurbished phone is around 10% that of a newly manufactured phone.[27, 28]

Using your phone for five years instead of three can cut its annual carbon footprint by about 30%, even after factoring in a battery replacement.[29]

Critical minerals and e-waste management

Mobile phones contain many valuable critical minerals, such as copper, gold, cobalt, lithium and rare earth elements. Mobile phones account for around 10% of global cobalt demand.[30, 31, 32]

When a phone isn't recycled, these critical minerals end up wasted. This means new minerals need to be extracted and processed again, which can cause significant local environmental and human health impacts.[30, 31, 32, 33, 34]

Globally, a record 62 million tonnes of e-waste was produced in 2022, an 80% increase since 2010. And only a fifth of small IT equipment (including mobile phones) is formally collected and recycled.[35]

The UN estimates that e-waste generates annual costs of $78 billion to both people and the environment.[36]

You can help slow down the generation of e-waste by keeping smartphones and other electronics in use for longer by choosing circular options like repair or refurbishment.

There are an estimated 10 billion dormant phones sitting unused worldwide, representing a major source of phones with potential to be reused or recycled.[37, 38]

Using recycled materials in manufacturing can help to reduce the environmental and health impacts associated with mining and processing new materials.[39, 40]

Societal benefits of circularity

There are currently around three billion people – almost 40% of the global population – living in areas covered by mobile internet but not using it. Affordability remains the greatest barrier to mobile internet adoption.[41]

By choosing to bring back your used phone, you can contribute towards making more refurbished phones available as an affordable option for those who remain unconnected.

Reducing waste and moving to a more circular economy can help create local jobs in repair, refurbishment and recycling.[42]

for more information visit gsma.com/climate

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