

# RGS-IBG School Essay Competition Winner 2022

## Extend phone lifetimes to cut environmental threat

By Pip Booth (Gordonstoun School)

### Editors' Note

*Routes* is delighted to publish the winning essay of the 2022 RGS-IBG School Essay Competition, organised in partnership with the *Financial Times*. The competition asked students to explore and explain the environmental costs of current consumer trends, behaviours, and purchasing decisions.

The competition was open to all A Level geography students (or equivalent) aged 16-18, and the judges were looking for clear essays or [ArcGIS StoryMaps](#) which were well-evidenced and reached a clear conclusion. We were delighted with the high standard of the entries received and we congratulate everyone who entered. Second place went to [William Stoodley](#) at Clifton College and third place to [Nina Aswani](#) from the London Academy of Excellence.

### Pip's Winning Essay

In 2019, the average person produced [7.3kg of electronic waste](#) including used and discarded electronic devices. This adds up to 53.6mn tonnes worldwide, an alarming quantity that will only continue to grow as global consumption increases.

The environmental cost is clear: e-waste is not disposed of properly, polluting the environment with clear ecological and human costs, and contributes a large share of the global greenhouse gas emissions which drive climate change. The problem will not be mitigated without a globally co-ordinated effort.

Much of the world's electronic waste will not be recycled, reused or even disposed of in a safe and controlled manner. Only around [17.4 per cent](#) was officially recorded as recycled in 2019 — very low relative to other types of waste such as plastics and paper. This has serious consequences for people and the environment. For progress to be made, there has to be serious investment in improving our recycling facilities.

But a flawed recycling system is not the only failure. An estimated [60 to 90 per cent](#) of e-waste was illegally traded or simply dumped outside official waste

disposal systems as recently as 2015. This imposes a substantial ecological footprint, because the waste pollutes ecosystems with microplastics and poisonous chemicals such as mercury and arsenic.

These environmental consequences of e-waste creation, while they do not originate in developing countries, affect those countries disproportionately. Most electronic products are consumed in the developed world, with the [typical North American](#) producing 20kg annually and Europeans 17.7kg, while on average Africans each produce only 1.9kg.

While the problem of e-waste is created in rich countries, its consequences are borne elsewhere. It is estimated that [1.3mn tonnes](#) are exported from western Europe illegally each year to countries mostly in eastern Europe and Africa, where they are disposed of illegally or without supervision.

Much of the waste exported to developing countries is burnt or dissolved in acid to recover valuable materials such as gold, copper, cobalt and neodymium. This process exposes workers to contaminants such as lead and mercury, which have [health effects](#) including increased risk of cancer and neurological damage.



There has to be serious investment in improving the world's recycling facilities © Geert Vanden Wijngaert/AP

Over [12.9mn women worldwide](#) work in the informal waste sector, causing both them and an unknown number of unborn children to be affected by toxic chemicals.

The responsibility to fix these growing problems has to lie with those who have caused them. The developed world must invest more in its capacity to deal with e-waste, instead of sending it — along with its consequences — overseas.

The root cause lies in consumer habits. Across the developed world, people consume electronics at an avoidably high rate. The average American smartphone **lasts only 24.7 months** before being thrown out, and 26.2 months in the EU.

The pattern is not limited to smartphones. Increasingly, many electronic devices only last a few years before being replaced, so more and more waste is being produced. By 2050, the world is expected to produce over 125mn tonnes, more than double the current total. If we simply used our electronics for longer, such a large increase would easily be avoided.

However, consumers are not the only ones at fault for the problem of device lifetimes. Tech companies including Apple and Microsoft have been accused of “planned obsolescence,” or deliberately slowing down their older devices to encourage people to buy new ones.



Many electronic devices only last a few years before being replaced © Alamy

In 2020, Apple was ordered to pay a **\$500mn settlement** to its US iPhone customers after it was sued for slowing down older models intentionally with its software updates.

There are also blockages to the repair of broken devices. Apple, as well as many of its rivals, has a system of “licensed service provision” which controls the shops authorised to carry out repairs. Devices which could be fixed are thrown out,

accelerating an already unsustainable rate of electronics consumption. Manufacturers need to make their products last longer.

While companies remain on the wrong side of the e-waste debate, governments have started to pay attention. The UK and the US have enacted “[right-to-repair](#)” legislation which seeks to ensure more parts operate in different devices, helping prolong lifetimes.

All these measures could help reduce electronics consumption and improve device recycling. For real progress to be made, designers and manufacturers need to become more committed to reducing their e-waste footprint.

Instead of engineering shortened lifespans and releasing new products so rapidly, tech groups must improve the quality and longevity of their devices without denting their commercial success. Governments can help by subsidising producers with longer device lifespans, and by improving access to spare parts with expanded legislation like the right-to-repair.

If consumers are armed with the ability to choose devices that last longer and repair those which are broken, their purchasing habits will push the world towards a more sustainable future. But for now, e-waste remain a significant obstacle to reconciling innovation and sustainability.

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