



For Immediate Release

2020 Mobile Phone E-Waste Index

Data uncovers the amount of mobile phones which could be reused or recycled for 27 countries, revealing the potential environmental savings in CO2, toxicity, and precious metals

- **Sweden has the most ‘shelved’ mobile phones per capita**, at 1.31, meaning that Swedes have more discarded phone models gathering dust in their homes than they have citizens. **Finland** takes the second spot with 1.29 phones, while the **UK, Lithuania, and Estonia** take joint third place with 1.24 shelved mobile phones per capita.
- **New Zealand has the least shelved mobile phones per capita**, at 0.54, followed by Canada and the USA, with 0.60 and 0.68 respectively.
- **The USA has the highest number of total shelved mobile phones** in the index, at 223.1 million. This is followed by Germany, at 84.7 million, and the UK at 83.1 million.
- The total number of shelved phones for all 27 countries in the index equates to a sales value of **€1.9 billion in precious metals** such as gold, silver, palladium, platinum, and copper.
- **Belgium** ranks as **#20** out of 27, with **0.85** Shelved Mobile Phones per Capita.

Berlin, Germany, January 2021 — Used electronics online shop [reBuy](#) has released a study which analyses the mobile phone e-waste in 27 countries. From helping millions to give their used tech a second life, reBuy has become increasingly aware of the sheer volume of perfectly functional but unwanted mobile phones gathering dust in the back of cupboards and drawers.

With the largest shopping period of the year approaching, reBuy decided to commission a study looking into phone e-waste in 27 countries, in order to shine a light on this important topic. In an inaugural analysis, these results allow for the first time a country-by-country comparison of estimated mobile phone e-waste, and the potential environmental and economic value of these old models. Revealing not only how many mobile phones are in use, this data also shows that some nations have more shelved phones gathering dust in their homes than they have people living in the country.

Although e-waste comes in many forms, this study focuses on mobile phones. Not only are mobiles one of the most popular forms of technology, but they have also become the most ‘disposable’. Whereas in the past, the majority of e-waste included products which had broken or become obsolete, technology trends and the pressure to have the ‘latest’ tech, particularly with mobile phones, means that a growing amount of e-waste are products which have gone ‘out of fashion’ rather than defunct.

**Please find the full table of data and complete methodology on the results page:
<https://www.rebuy.de/s/mobile-ewaste-index-en>**

Please note: For Potential Environmental Savings, the CO₂, toxicity and precious metal figures all correlate to the total number of shelved/unused mobile phones in each country. The National Recycling Rate covers all types of recycling and composting, whereas the Mobile Phone Recycling & Reuse Rate is the percentage of mobile phones which are recycled, including return-to-seller schemes and electronics collection points.

Further findings and quotes from the CEO of reBuy can be found near the bottom of the press release. Please utilise the following hyperlinks for easy navigation.

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How the study was conducted:

The study began by selecting 24 European countries with comparable and available data on e-waste, and then Canada, the USA and New Zealand were added for global context. The data collection for this analysis began by using the EU framework for calculating e-waste, which was complemented by online survey data to create a comparative dataset estimating the current mobile phone e-waste situation in these 27 countries.

First, the number of mobile phones there are in each country was determined, both those which are actively used and those which have been 'shelved', meaning models that are not in use, nor yet disposed of. Next, the analysis looked at how many of those used models were second-hand and calculated the total number of shelved mobile phones which could be recycled or resold.

The study then looked at mobile phone disposal, calculating how many handsets were regifted or resold, the amount of e-waste generated by improper disposal of mobile phones, and the recycling and reuse rate, which looks at the percentage of phones correctly disposed of in electronic recycling centres or return-to-reseller collection schemes.

This data was complemented by establishing the potential environmental savings, firstly in terms of CO₂, by calculating the total emissions that would be emitted from producing the equivalent number of shelved mobile phones. Next, by the total weight of toxicity averted in terms of lead, arsenic and mercury which can leak into the soil if electronics are improperly disposed of. Finally, the study calculated the value of

precious metals residing in shelved phones in millions USD, focusing on gold, platinum, palladium and copper.

To round off the index, the national rate of recycling was included, to highlight the overall attitude towards environmentally-friendly waste disposal in each country. By bringing attention not only to the potential value of shelved mobile phones but also the possible benefits if they were all recycled or repurposed, reBuy hopes that they can educate, inform and inspire people to think twice about how to dispose of their unwanted electronics.

Key Findings

The table below reveals the results for **Belgium**:

Results for Belgium					
Mobile Phones in Use (per Capita)	% of Second-Hand Mobile Phones (per Household*)	Shelved Mobile Phones (per Capita)	Total Shelved Mobile Phones (Million)	% of Households* Selling/Gifting Used Mobile Phones	Total E-Waste (Tonnes)
0.84	26	0.85	9.8	31	336
Mobile Phone Recycling & Reuse Rate (%)	CO2 (Tonnes)	Toxicity Averted (KG)	Sales Value of Metals Saved (Million €)	National Recycling Rate (%)	Rank out of 27
73	8.9	3335	24.7	55	20

Shelved mobile phones

The table below shows the **top 10 countries with the highest and lowest Shelved Mobile Phones (per Capita)**:

Highest			Lowest		
#	Country	Shelved Mobile Phones (per Capita)	#	Country	Shelved Mobile Phones (per Capita)
1	Sweden	1.31	1	New Zealand	0.54
2	Finland	1.29	2	Canada	0.60
3	Lithuania	1.24	3	USA	0.68
4	Estonia	1.24	4	Poland	0.76
5	UK	1.24	5	Netherlands	0.77
6	Portugal	1.19	6	Croatia	0.83
7	Denmark	1.19	7	Hungary	0.83
8	Austria	1.17	8	Belgium	0.85
9	Romania	1.13	9	Switzerland	0.86
10	Slovenia	1.10	10	Greece	0.90

This table shows a sample of the full results, which can be seen here: <https://www.rebuy.de/s/mobile-ewaste-index-en>

Second-hand mobile phone usage and selling/gifting of used phones

The table below reveals the top 10 countries with the **highest and lowest % of Second-Hand Mobile Phones** (per Household*):

Highest			Lowest		
#	Country	% of Second-Hand Mobile Phones (per Household*)	#	Country	% of Second-Hand Mobile Phones (per Household*)
1	Latvia	46%	1	Belgium	26%
2	Hungary	46%	2	Finland	27%
3	Poland	45%	3	USA	27%
4	Romania	43%	4	New Zealand	28%
5	Bulgaria	42%	5	Ireland	28%
6	Lithuania	41%	6	Austria	28%
7	Canada	39%	7	UK	29%
8	Spain	38%	8	Denmark	30%
9	Estonia	38%	9	Germany	31%
10	Greece	37%	10	Sweden	32%

The table below reveals the top 10 countries with the **highest and lowest % of Households* Selling/Gifting Used Mobile Phones**:

Highest			Lowest		
#	Country	% of Households* Selling/Gifting Used Mobile Phones	#	Country	% of Households* Selling/Gifting Used Mobile Phones
1	Denmark	49%	1	New Zealand	23%
2	France	41%	2	Latvia	28%
3	Poland	41%	3	UK	30%
4	Germany	40%	4	Portugal	30%
5	Netherlands	39%	5	Belgium	31%
6	Romania	39%	6	Ireland	31%
7	Switzerland	38%	7	Slovenia	31%
8	Hungary	38%	8	Finland	32%
9	Canada	37%	9	Sweden	32%
10	Bulgaria	36%	10	Greece	32%

Mobile phone disposal

The table below reveals the top 10 countries with the **highest and lowest Total E-Waste (Tonnes)**:

Highest			Lowest		
#	Country	Total E-Waste (Tonnes)	#	Country	Total E-Waste (Tonnes)
1	USA	7,124	1	Estonia	44
2	UK	2,695	2	Latvia	51
3	Germany	2,549	3	Slovenia	73
4	France	2,129	4	Lithuania	85
5	Italy	2,078	5	New Zealand	90
6	Spain	1,450	6	Croatia	106
7	Poland	755	7	Ireland	155
8	Canada	739	8	Bulgaria	199
9	Romania	653	9	Finland	205
10	Sweden	407	10	Denmark	220

The table below reveals the top 10 countries with the **highest and lowest Mobile Phone Recycling & Reuse Rate (%)**:

Highest			Lowest		
#	Country	Mobile Phone Recycling & Reuse Rate (%)	#	Country	Mobile Phone Recycling & Reuse Rate (%)
1	Finland	89%	1	Poland	69%
2	Spain	89%	2	Canada	70%
3	Slovenia	88%	3	Greece	71%
4	Estonia	85%	4	New Zealand	73%
5	Ireland	84%	5	Belgium	73%
6	Germany	84%	6	USA	74%
7	Latvia	83%	7	Netherlands	75%
8	Croatia	83%	8	Italy	75%
9	Switzerland	83%	9	France	76%
10	UK	83%	10	Bulgaria	78%

Environmental savings

The table below reveals the top 10 countries with the **highest and lowest CO2 (Tonnes)** in addition to the **highest and lowest levels of Toxicity Averted (KG)**. This equates to the total amount of CO2 that would be used to produce the equivalent number of shelved mobile phones in the country, and the total weight of lead, arsenic and mercury in shelved smartphones in each country, which should they be disposed of improperly, would leak into the soil:

Highest				Lowest			
#	Country	CO2 (Tonnes)	Toxicity Averted (KG)	#	Country	CO2 (Tonnes)	Toxicity Averted (KG)

1	USA	203.6	76,248	1	Estonia	1.5	559
2	Germany	77.3	28,949	2	Latvia	1.6	595
3	UK	75.9	28,402	3	Slovenia	2.1	775
4	France	66.4	24,878	4	New Zealand	2.5	926
5	Italy	57.8	21,658	5	Croatia	3.1	1,148
6	Spain	41.5	15,524	6	Lithuania	3.1	1,164
7	Poland	26.4	9,900	7	Ireland	4.5	1,689
8	Canada	20.5	7,677	8	Bulgaria	6.1	2,294
9	Romania	20.0	7,501	9	Denmark	6.3	2,375
10	Sweden	12.4	4,626	10	Finland	6.5	2,440

To put the above table into context, a typical passenger vehicle emits about 4.6 tonnes of CO₂ per year, the average German contributes 9.6 tonnes of CO₂ per year, and eating pork 3-5 times per week emits around 375kg of CO₂ annually, when you take into account transportation, production and farming.

Therefore for the environmental savings for Germany, for instance, with potential CO₂ saved at 77.3 tonnes, is equivalent to almost 17 years of CO₂ from one passenger vehicle, 8 years of an average German's annual CO₂ emissions, or 206 year's worth of CO₂ from regularly eating pork.

Precious metals

The table below reveals the top 10 countries with the **highest and lowest Sales Value of Metals Saved (Million €)**, which shows the total value of gold, silver, platinum, palladium and copper in shelved mobile phones.

Highest			Lowest		
#	Country	Sales Value of Metals Saved (Million €)	#	Country	Sales Value of Metals Saved (Million €)
1	USA	€563.9	1	Estonia	€4.1
2	Germany	€214.1	2	Latvia	€4.4
3	UK	€210.0	3	Slovenia	€5.7
4	France	€184.0	4	New Zealand	€6.8
5	Italy	€160.2	5	Croatia	€8.5
6	Spain	€114.8	6	Lithuania	€8.6
7	Poland	€73.2	7	Ireland	€12.5
8	Canada	€56.8	8	Bulgaria	€17.0
9	Romania	€55.5	9	Denmark	€17.6
10	Sweden	€34.2	10	Finland	€18.0

Further Findings

- While the average mobile phone recycling and reuse rate in the index is 80%, the average **overall recycling rate is half that, at 40%**.

- **Lithuania** is the only country in the index with **more mobile phones in use than people**, at 1.08 per capita.
- **Romania, Greece and Canada have the worst overall recycling rates**, at 11%, 19% and 24% respectively, compared to **Slovenia, Germany and Lithuania with the best**, at 75%, 67% and 59% respectively.
- The total e-waste generated by all 27 countries in the index is **23,964 tonnes**, which is **equivalent to more than 54 Boeing 747-8 airplanes** at maximum take-off weight (442 tonnes each), or **more than 138 blue whales** (173 tonnes each).

Quotes

“Globally, we generated an estimated 54 million metric tons of e-waste last year, according to Statista. Both Black Friday and Christmas are coming up, which has in the past decade proven to result in enormous sales of items such as new smartphones, e-readers, tablets and games consoles,” comments Philipp Gattner, the CEO of reBuy. “With this index, we want to educate people about e-waste and help everyone to consider buying refurbished tech products to give technology a second-life. Or if they do invest in new electronics, to make sure that they properly recycle their old items by looking up their local e-waste recycling facility, instead of throwing them onto landfill. Almost all e-waste contains some type of recyclable material such as plastic, glass and metal, and by correctly recycling electronics, you reduce the amount of dangerous toxic chemicals such as lead and chromium leaking into our soil, resulting in a healthier, safer world.”

“There are around 3 billion people on this planet who don’t own a mobile phone, yet in just these 27 countries, there are an estimated 771 million shelved phones sitting in our homes. Many of these models will function perfectly fine but simply don’t conform to the latest model or trend. For so many of us in affluent countries, we forget what a luxury and a privilege it is to be able to connect to our loved ones or have access to an infinite encyclopedia of knowledge at the touch of a button,” comments Philipp Gattner, the CEO of reBuy. “It would be amazing if this index helped to inspire people to properly recycle, donate or regift their old mobile phones so that someone else in the world could benefit from this amazing technology that many of us sadly take for granted.”

“The pandemic has made everyone take a closer look at their lives, and with increased job losses and a recession looming, many people have been re-examining their relationship with consumerism, too. The idea that we need to have brand new tech is a fallacy because when you buy refurbished second-hand items, a technician ensures they are in complete working order, just at a fraction of the original price,” says Philipp Gattner, the CEO of reBuy. “It’s time that we re-examined our relationship with being ‘cool’ and ‘on-trend’ and instead focused on making mindful purchases which take into account not only the cost but also the environmental impact of our shopping decisions.”

“Although our data clearly shows that mobile phone recycling rates are significantly higher than overall rates, which indicates that the general public is better informed about e-waste, there are still millions of tonnes of e-waste being incorrectly thrown into landfill every year. According to the World Health Organisation, there are significant health risks associated with leaking chemicals from e-waste which impacts our soil and therefore our food, our drinking water, and our local wildlife,” says Philipp Gattner, the CEO of reBuy. “Statista reported that in 2019, 96% of 18-29-year-olds in the US owned a phone, which means that the younger generation are a huge consumer group for tech. With generation Z and even younger caring far more about the environment than any age group before, it’s important that we

highlight the negative consequences of improperly disposing of unwanted phones to help gain awareness among young people.”

“Although there are strict regulations in place to make metal mining minimally disruptive to the environment, it can still cause potential disturbances to the landscape, soil, water or air contamination and can lead to public safety issues,” comments Philipp Gattner, the CEO of reBuy. “What this study illustrates is that every one of us has gold, silver, palladium, and more sitting in cupboards and old drawers, inside our unwanted old phones. The sales value of all the precious metal in shelved mobile phones in the 27 countries included in the index is €1.9 billion. If all of these phones were properly recycled at e-waste centres, then these metals could be given a second-life elsewhere, and reduce the need for more potentially harmful mining.”

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Instructions

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If you require an exclusive quote on a particular angle, then please contact us.

About reBuy: reBuy is an online shop for buying and selling used electronics and media products. Our vision is that people enjoy the benefits of consumer products while preserving resources for future generations. The company was founded as trade-a-game GmbH in 2004 and started with trading videogames. In 2009 we became reBuy, expanding our selection and becoming active in 7 countries: Germany, Austria, The Netherlands, France, Italy, Spain, and The United Kingdom. reBuy has its headquarters in Berlin, Germany, and employs around 550 employees. The company gives a second life to pre-used products and thereby contributes to an environmentally friendly way of consuming and a sustainably circular economy. To guarantee high quality reBuy developed its own refurbishment and renewal processes and gives a 36-month guarantee for all sold electronic goods. You can find further information about reBuy on www.rebuy.de.

About Sweet Spot PR: Based in Berlin, Sweet Spot PR is a team of creatives, journalists and data analysts who founded an agency in response to the growing challenges facing the media as the industry adapts to the digital world. The agency promotes fact-based, informative and compelling journalism by connecting data-driven journalists with excellent content from research agencies and industry patrons.