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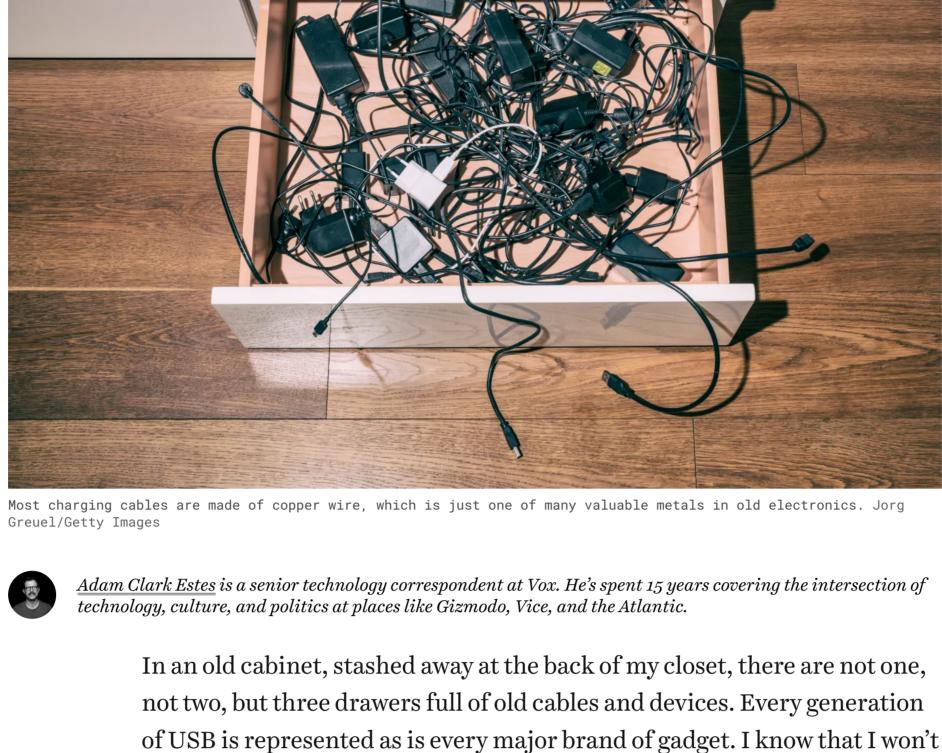
★ MEMBER EXCLUSIVE TECHNOLOGY Your drawer full of old cables is worth more than you

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by Adam Clark Estes Dec 5, 2024 at 7:00 AM EST

Recycle your old electronics. It's easy, we promise.



no excuse for not recycling them. I'm not the only one. Globally, a paltry 12 percent of small electronics get recycled, according to a 2024 UN report. The numbers don't get much

sustainability department.

electronics, commonly known as e-waste, are filled with valuable metals that end up in landfills along with dangerous chemicals that can leach into the soil and groundwater. Beyond that, there's a veritable treasure trove of critical materials that gets lost when these devices aren't recycled. "One of the things that I think that consumers don't know, and they should, is that it's way easier to recycle electronics than you might think," said Callie Babbitt, a professor in the Rochester Institute of Technology's

use these cables again, but I also know they don't belong in the trash. I have

better for larger electronics. That means billions of pounds of equipment,

from old iPods to broken TVs, gets thrown away. Those discarded

"By recycling a product, you're able to offset the energy and the materials that it would take to manufacture a new one," Babbitt added. "And that means we don't have to mine as many materials from sometimes vulnerable and ecologically sensitive parts of the world." RELATED: The model for recycling our old smartphones is actually causing massive pollution Recycling e-waste is not as straightforward as recycling aluminum cans. It's not exactly rocket science, either.

waste crisis. Humans created 137 billion pounds of e-waste in 2022, which makes e-waste one of the fastest growing solid waste streams in the world. Finding a place to put all that trash isn't the only problem. It's extremely energy intensive to mine for the critical metals needed to manufacture electronics, so reusing those components is essential in the fight against climate change. And we can all do our part to help address it.

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Many big-box stores will recycle your old electronics for you, as will a

growing list of recycling centers. But that fact won't solve the global e-

POWERED BY CONCERT **FEEDBACK** It might sound like an exaggeration to say that Americans have billions of

dollars worth of world-saving materials in their junk drawers. But it's not.

Now that the holiday season is fully upon us, consider giving those

The surprisingly complex e-waste

materials back to the world. If you just bought a new phone, for instance,

don't throw the old one in the trash. Definitely don't put it in that drawer

in the back of your closet. Someone will probably pay good money to take it

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It's actually more like \$60 billion worth of stuff.

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contain small amounts of valuable elements like copper, gold, and silver that can be extracted and reused. However, as microchips have found their way into more and more products, the definition of e-waste has expanded to include everything from light-up kids' toys to toasters. The world's e-waste problem is getting bigger, in part because we're just making and consuming more electronics, including products that can't be

repaired or were designed to have short lifecycles. (Looking at you, Apple

AirPods.) That 137 million pounds of e-waste created by humans in 2022

was formally collected and recycled. Compare that to the more than 50

percent of aluminum cans that get recycled and it's easy to see we have

• Yes, we can we grow the economy without making more useless junk

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breaks down to 17 pounds of e-waste per person. Only about 22 percent of it

The term e-waste might make you think of boxes full of old circuit boards,

and that's partially correct. Old circuit boards, cables, and screens all

Ramping up e-waste recycling would make us less reliant on the

destructive and energy-intensive mining operations around the world. In

types of metals we need to build electronics also damages local ecosystems

addition to their significant greenhouse gas emissions, mining for the

Many of the critical minerals needed for things like smartphones and

countries with records of abusive working conditions in mines. Those

capacitors that store energy), and germanium (for semiconductors like

microchips), typically aren't found in the US, so recycled electronics are a

"There is a global effort right now — almost a race, if you want to say it that

way — for countries to have access to rare earth elements," said Nena Shaw,

director of the Resource Conservation and Sustainability Division at the

Environmental Protection Agency (EPA). "And so the US wants to keep

We'll need a lot more of those critical materials in the years to come, too.

metals, which include indium (used in touchscreens), tantalum (for

key way to build up a domestic supply chain for these elements.

clean energy tech, including solar panels and EVs, also come from

Demand for cobalt, which is essential for EV batteries, will grow fivefold by 2050, according to the International Energy Association. Demand for lithium, also a key battery ingredient, could grow tenfold by 2050. You probably have some lithium in a drawer somewhere, maybe inside an old phone's battery. Throwing that phone in the trash is a bad idea, if only because lithium-ion batteries have an unfortunate tendency to catch on

fire and then set entire landfills on fire. Recycling is a better idea but only

The scramble to recapture an estimated \$62 billion worth of unclaimed

materials has created an informal e-waste recycling market with harmful

consequences. That includes the rise of urban mining, where electronics

chemicals being dumped in rivers. The UN estimates that about half the

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to toxic fumes harming local workers and residents and corrosive

world's recycled e-waste goes through informal channels.

are recycled and refined on the streets of low-income countries. This leads

So how can you make sure that phone ends up in the right place? The short

answer is to go through a big-box retailer, like Best Buy. The longer answer

is to seek out certified e-waste recyclers in your area, which requires a tiny

How to recycle anything with a power

The world of formal e-waste collection and recycling is booming. After all,

recycling old electronics is notoriously complex. Two, not enough people

Let's start with the complex bit. In order to get at the reusable parts of an

old phone or TV, recyclers have to tear the thing down to its most basic

components. That means ripping off the plastic shell, tearing out the

circuit board, and so forth. Recovering the valuable material from those

components is more difficult, as it usually involves either melting down

This process could work better, and plenty of people are trying to figure out

how. One of them is Terence Musho, an associate professor of engineering

at the West Virginia University. Musho led a DARPA-funded project to

"The holy grail of e-waste recycling is if you could shred your whole

iPhone, run it through some process, and get out select metals," Musho

One thing that would help: More people need to recycle e-waste. Figuring

All you really need to know is how to find certified e-waste recyclers. Just

look for one of these two main certification programs out there: R2 and e-

Stewards. (Click through those links to find recyclers near you.) Certified

R2 and e-Steward recyclers will know how to handle your e-waste in a safe,

environmentally friendly way, and they'll also be mindful of your data

security, since you don't want a scavenger discovering an old hard drive

the stuff being recycled is literally full of gold and other very valuable

minerals. E-waste recyclers face two big challenges, however. One,

bit of knowledge about how the industry works.

switch

recycle old electronics.

the components or bathing them in acid.

develop a modular e-waste recycling system.

told me. "We're not quite there yet."

out exactly where to go can be a challenge.

with your banking info on it. **ADVERTISEMENT**

You don't have to hunt down an e-waste specialist to recycle your old

light bulbs, and plastic bags to Home Depot. Everything else can go to

There are also plenty of ways to get rid of your old electronics and get

something back. Big-box retailers, including Best Buy and Amazon, have

trade-in programs for certain devices, as does the popular refurbished

electronics marketplace Back Market. There are also smaller sites like

refurbished ones, kind of like a used book store would for your old books.

If all else fails, there's bound to be an e-waste recycling event in your town

Decluttr and Swappa that accept old gadgets and give you credit on

or county at some point in time. The New York City Department of

have handy hyperlocal guides.

gadgets, though. You can actually drop off most old electronics at big-box

stores, including Best Buy and Staples. You can take batteries, fluorescent

certain Goodwill locations that have a partnership with Dell to recycle e-

waste. If you're still at a loss for drop-off sites, <u>Earth911</u> and <u>Call2Recycle</u>

Sanitation, for instance, <u>had one</u> at my local library last month. I regret missing it. After all, those drawers full of cords and old gadgets aren't going to recycle themselves. A version of this story was also published in the Vox Technology newsletter. Sign up here so you don't miss the next one! SEE MORE: CLIMATE EVEN BETTER LIFE TECHNOLOGY

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