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The Shocking Reality about Plastic Recycling



What do recycling marks signify



You're undoubtedly aware of the recycling symbols on plastic containers. Do you have any idea what they mean?

- Although there are almost 100 known plastic materials, there are seven main types. These are segmented based on the resins used:

#1: PET/PETE (Polyethylene Terephthalate) – typically found in water and drink bottles, this is the most recycled plastic

#2: HDPE (High Density Polyethylene) – used in milk cartons and shampoo bottles.

#3: PVC (Polyvinyl Chloride) – the plastic used in piping is also found in cleaning products and sheeting. It's possible to recycle but rarely done.

#4: LDPE (Low Density Polyethylene) - food bags and plastic films are common uses. Like PVC, it's possible to recycle, but rarely done.

#5 PP: Polypropylene – (yogurt cups, hangers...), #6 PS: Polystyrene (take-out, hard packaging, toys..), #7 Other - often a mix of plastic types (baby bottles, nylon, CDs...)

Although they are collected with other plastics, these are not generally recycled.

I think most people in the U.S. participate in some sort of recycling effort. We either have bins that our waste disposal companies collect, or, if you're like me, you go to a transfer station to rid yourself of your refuse. In this case you presort your plastic because not all plastics are alike.

“
In every facet of life, in
every region of the planet,
the presence of plastic
waste is unavoidable.
”

- Megan Jenkins, Associate Analyst

I Googled the percentage of the world population that uses plastics to see what would come up. According to “all knowing” AI, nearly 100% of the global population uses some form of plastic.

I didn’t need AI to tell me that. I was hoping for an actual estimate.

Suffice it to say that virtually all humans rely on plastic, which by the way, rely on fossil fuels to produce.

The Theory



The Theory

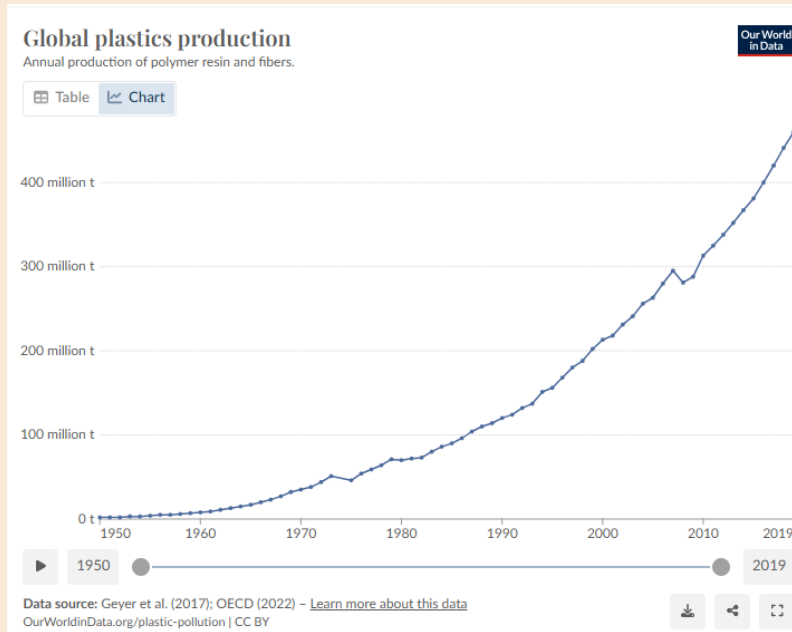
The number classifications are intended to help reduce recycling costs by identifying the type of materials for waste treatment plants.

The Reality

- # 3 and #4 plastics are rarely recycled.
- # 5 and #6 plastics could be recycled. In fact, despite #5 plastics being the second most widely used plastic (microwaveable containers, toys, hangers, water cups, fishing nets, non-woven fabrics...) less than 1% is recycled.
- #7 plastics are not currently recycled at all.

That leaves #1s and #2s (all water and many beverage bottles), I suspect most people believe these are routinely recycled.

It depends



- To put the waste problem in context – it's equivalent to filling New York's Central Park with plastic waste as high as the Empire State Building annually.
- It's also estimated that between 75 and 199 million metric tons of plastic has found its way into the world's oceans.

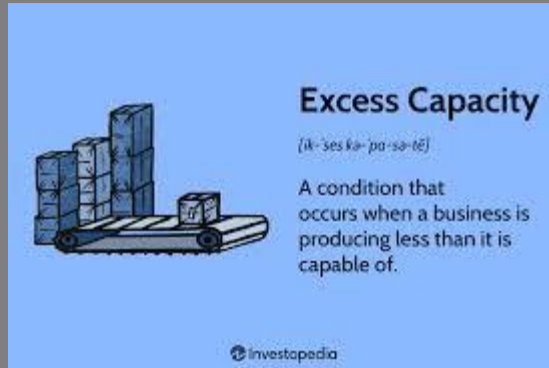
Whether plastic has any hope of being recycled depends on where you live.

- 15% of the world's population live in countries where no recycling occurs.
- By far, India is the world's biggest plastic polluter. Nigeria, Indonesia and China hold the next three spots.
- Thanks to recycling efforts, the US ranks 90th and the UK ranks 135th.

According to the UN the world produces about 400 million metric tons of plastic a year. If historic growth trends continue, that number will balloon to 1,100 million metric tons by 2050.

According to researchers at the University of Leeds in the UK, not counting what goes into landfills or is incinerated, the world produces 57 million tons of plastic pollution yearly.

Even the “best” recycling remains lacking



About 81% of the most widely used consumer packaging is comprised of either PET (#1), HDPE (#2) or PP (#5).

Collectively, in the U.S., these plastics have a 21% recycling rate.

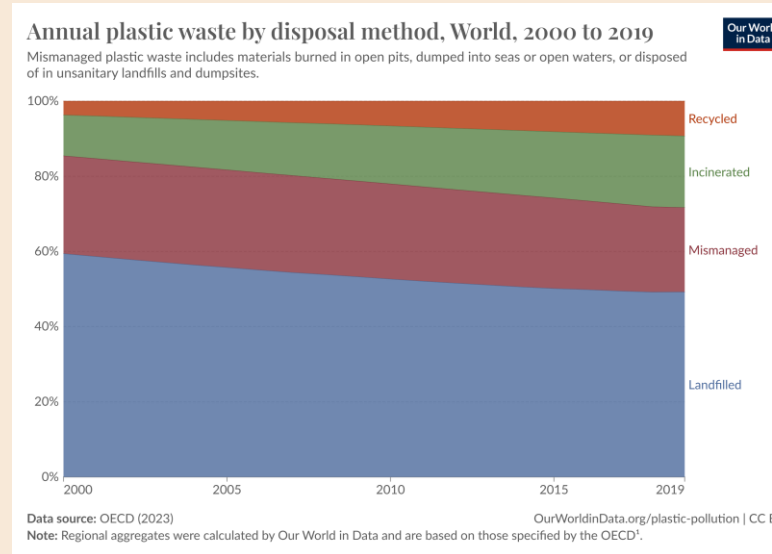
But according to the Association of Plastic Recyclers (APR), there is enough capacity to recycle 42% of these resins.



- Recycling of PET (#1) is somewhat dependent on how it's collected.
 - Estimates indicated that in the UK only 22% of PET (#1) is recycled.
 - In 2018, the U.S. only recycled an estimated 29.1% of PET (#1) bottles.
- In Europe, about 10-15% of HDPE (#2) is recycled. In 2019, research estimated recycling rates of just 2% in the U.S.
- One study into PVC recycling rates across Europe between 2000 and 2020 estimated a paltry 3% was recycled.
- Then there's PP (#5) PS (#6) and Other (#7). The recycling rates for these would be: almost never, around 3-4%, and never, respectively.
- In all, the UN estimates that only 9% of all global plastics waste is recycled.

So where does all the plastic go?

That's not good



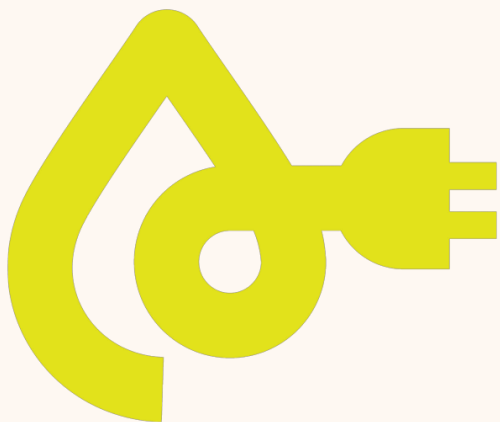
- About 50% of the plastic produced ends up in landfills.
- On a global basis, about 12% is incinerated.

The world can't depend on the UN to drive an agreement.

Consumer awareness is critical and consumers need to start pressuring manufacturers to do more to help solve the problem.

How are world leaders addressing the issue?

- A 2022 UN resolution called for a plastic treaty to be agreed to by 2024 with 175 nations participating in the process. Talks ended without agreement.
- Any agreement would be binding, but the process requires consensus versus a simple majority, making achieving a final agreement more challenging.
- Negotiators are divided into two camps:
 - The "High Ambition Coalition" includes the EU, Canada, most of Africa and South America.
 - The "Like-Minded Group" include mostly oil-producing nations.
 - The U.S. China, the UK and Brazil are described as adopting middle-ground positions.
- Talks are expected to be extended.



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Unbiased and Unfiltered

- An honest assessment of the climate change effort.
- I cover what's working – but more important - the issues/roadblocks that the industry would prefer to ignore.
- A must-read for anyone with a desire to understand what's really going on with renewable energy and climate change.



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