



Glass or Plastic: Which Is Better for the Environment?

玻璃和塑料，哪个更环保？

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Glass has sometimes been referred to as a material which can **infinitely** be recycled without it impacting its quality, purity or **durability**. Recycled glass can be crushed into glass **cullets**, which can be **melted down** and used to produce more glass. Glass used for packaging has a high recycling rate compared to other packaging materials. In Europe, the average glass recycling rate is 76%, compared to 41% for plastic packaging and 31% for wooden packaging.

玻璃有时被称为一种可以无限回收的材料，其质量、纯度或耐用性均不会受到影响。回收的玻璃可以被压成玻璃碎片，加以熔化即可生产更多的玻璃。与其他包装材料相比，玻璃包装的回收率较高。在欧洲，玻璃的平均回收率为 76%，而塑料包装的回收率为 41%，木制包装的回收率为 31%。

When glass is left in the natural environment, it is less likely to cause pollution than plastic. Unlike plastics, which **break down** into **microplastics** that can **leach** into our soils and water, glass is non-toxic. “Glass is mainly made of **silica**, which is a natural substance,” says Franziska Trautmann, the co-founder of Glass Half Full, a New Orleans-based company that recycles glass into sand that can be used for coastal restoration and disaster relief. Silica, also known as silica dioxide, makes up 59% of the Earth’s **crust**. Since it is a natural **compound**, there is no concern about leaching or environmental **degradation**.

当玻璃被丢弃到自然环境中时，它比塑料更不容易造成污染。塑料会分解成微塑料，渗入土壤和水中，而玻璃不同于塑料，它是无毒的。

596 Words

infinitely [ˈɪnfɪnətli] *adv.* 无限地，极其地 | Human beings are infinitely adaptable. 人类的适应力是无限的。

durability [ˌdʊrəˈbɪləti] *n.* 耐用性

cullet [ˈkʌlɪt] *n.* 碎玻璃

melt sth. down 将……熔化

break down 分解；损坏；关系破裂 | Food is broken down in the stomach. 食物在胃里分解。

microplastics *n.* 微塑料（直径小于 5 毫米的塑料颗粒，是一种造成污染的主要载体）

leach [li:tʃ] *v.* 过滤，渗入 | Nitrates leach from the soil into rivers. 硝酸盐由土壤渗入江河。

silica [ˈsɪlkə] *n.* 硅石，二氧化硅

crust [krʌst] *n.* 地壳；面包皮；外层，外壳

compound [ˈkɑːmpaʊnd] *n.* 化合物；复合物，混合物 *v.* 使加重，使恶化；由……构成 | Water is a compound of hydrogen and oxygen. 水是氢和氧的化合物。

degradation [ˌdeɪɡreɪʃn] *n.* （土地或环境的）退化；恶化，衰退；降解 | There are serious problems of land degradation in some arid zones. 在一些干旱地带存在严重的土地退化问题。

“玻璃主要由硅石制成,硅石是一种天然物质,”新奥尔良 Glass Half Full 公司的联合创始人弗兰兹卡·特罗德曼说。该公司回收玻璃将其转化为沙子,可用于海岸修复和救灾。硅石,也被称为二氧化硅,占地壳的 59%。由于它是一种天然化合物,所以不会造成有害物质渗出或环境退化。

Because of this, glass is often **touted** as a more sustainable alternative to plastic.

正因为如此,玻璃经常被吹捧为比塑料更可持续的替代品。

However, glass bottles have a higher **environmental footprint** than plastic and other bottled container materials including drinks **cartons** and **aluminum** cans. The **mining** of silica sand can cause significant environmental damage, ranging from land **deterioration** to the loss of **biodiversity**. Extracting sand for glass production may also have contributed to the current global sand shortage. Sand is the second most-used resource in the world after water – people use some 50 billion tonnes of “**aggregate**”, the industry term for sand and gravel, each year. Its uses range from land regeneration to **microchips**. According to the UN, sand is now used faster than it can be **replenished**.

然而,玻璃瓶比塑料瓶和其他瓶装容器材料(包括饮料盒和铝罐)的环境足迹更高。开采硅砂会造成严重的环境破坏,包括土地退化和生物多样性减少。为生产玻璃而采砂可能也是造成目前全球沙子短缺的原因之一。沙子是世界上仅次于水的第二大常用资源——人们每年使用约 500 亿吨“骨料”(沙子和砾石的行业术语)。其用途涵盖了土地再生到芯片生产。根据联合国的数据,现在沙子的消耗速度快于补充速度。

Glass requires higher temperatures than plastic and aluminum to melt and form, says Alice Brock, a PhD researcher at University of Southampton in the UK. **Raw** materials for making virgin glass also release **greenhouse gases** during the melting process, adding to its environmental footprint. According to the International Energy Agency, the container and flat-glass industries **emit** over 60 **megatonnes**

tout [taot] v. 标榜,吹捧 | The product is touted as being completely natural. 该产品被吹嘘为是全天然的。

environmental footprint 环境足迹(指人类活动对环境造成的有害影响)

carton ['ka:rtɒn] n. (装食物或饮料的)塑料盒,硬纸盒;包装箱

aluminum(=aluminium)[ə'lu:miːnəm] n. 铝

mining ['maɪnɪŋ] n. 采矿,采矿业

deterioration [di'tɪəriə'reɪʃn] n. 退化,恶化

biodiversity [ˌbaɪəʊdaɪ'vɜ:rsəti] n. 生物多样性

aggregate ['ægrɪgət] n. 骨料,集料;总数,合计 adj. 总数的,合计的 ['ægrɪget] v. 总计,合计

microchip ['maɪkrəʊtʃɪp] n. 芯片

replenish [rɪ'plenɪʃ] v. 补充,重新装满 | More vaccines are needed to replenish our stocks. 还需要更多的疫苗来补充我们的储备。

raw [rɔ:] adj. 未经加工的,天然状态的;生的 | We import raw materials and energy and export mainly industrial products. 我们进口原材料和能源,主要出口工业产品。

greenhouse gas 温室气体(主要为二氧化碳)

emit [i'mɪt] v. 发出,射出,散发(光、热、声音、气等) | The chimney emitted a cloud of smoke. 烟囱吐出一片烟雾。

megatonne ['megəʊtʌn] n. 百万吨

of CO₂ per year. It may seem surprising, but Brock's study found that plastic bottles are less environmentally damaging than glass bottles. Although plastic cannot be endlessly recycled, the manufacturing process is less **energy-intensive**, as there is a lower **melting point** for plastics compared with glass.

英国南安普顿大学的博士研究生爱丽丝·布洛克说，与塑料和铝相比，玻璃需要更高的温度才能熔化和成型。制造原始玻璃的原材料在熔化过程中也会释放温室气体，增加了环境足迹。根据国际能源署的数据，玻璃容器和平板玻璃行业每年排放超过 6000 万吨二氧化碳。这似乎有些令人惊讶，但布洛克的研究发现塑料瓶比玻璃瓶对环境的破坏更小。虽然塑料不能无限回收，但其制造过程能耗较低，因为与玻璃相比，塑料的熔点较低。

A key problem with glass recycling is that it does not **eradicate** the remelting process, which is the most energy intensive part of glass production. It **accounts for** 75% of the energy consumption during production. Even though glass containers can be reused an average of 12-20 times, glass is often treated as **single-use**. Single-use glass **disposed of** at **landfills** can take up to one million years to **decompose**.

玻璃回收的一个关键问题是无法避免重熔过程，这是玻璃生产中最耗能的部分，占生产过程中能源消耗的 75%。尽管玻璃容器平均可以重复使用 12-20 次，但它通常被当作一次性用品。仅使用过一次的玻璃被丢到垃圾填埋场，可能需要长达一百万年才能分解。

Recycled glass must be melted down twice, once into cullets and then again into a new product – which is why recycled glass might only be **fractionally** less energy-intensive than virgin glass.

回收的玻璃必须熔化两次，一次熔成碎片，然后再熔成新产品——这就是为什么回收玻璃的能源消耗可能只比原始玻璃少一点点。

There is no doubt that glass still plays an important role in many industries. Its durability and non-toxic **properties**

energy-intensive *adj.* 能源密集型的，需要消耗大量能源的

melting point 熔点

eradicate [ɪˈrædɪkeɪt] *v.* 根除，消灭，杜绝 | We are determined to eradicate racism from our sport. 我们决心要杜绝体育竞技活动中的种族歧视现象。

account for (数量或比例上) 占；导致，解释；对……负有责任 | Afro-Americans account for 12% of the US population. 非裔美国人占美国人口的 12%。

single-use *adj.* 供一次使用的

dispose of sth. 丢掉，清除，处理 | Please dispose of your litter thoughtfully. 请把废弃物仔细清理干净。

landfill [ˈlændfɪl] *n.* 垃圾填埋场；垃圾填埋

decompose [ˌdiːkəmˈpəʊz] *v.* 分解，腐烂 | As the waste materials decompose, they produce methane gas. 废物腐烂时会产生沼气。

fractionally [ˈfrækʃənəli] *adv.* 很小，很少 | He was just fractionally ahead at the finishing line. 在终点线他只是稍微领先。

property [ˈprɑːpərti] *n.* 性质，特性；财产，所有物；房地产 | The water is said to have healing properties. 那水据说具有治疗功效。

assumption [əˈsʌmpʃn] *n.* 假定，假设；(责任的) 承担，(权力的) 获得 | His actions were based on a false assumption. 他的行为基于错误的假设。

make it ideal for foods and materials which require preserving. However, the **assumption** that glass is sustainable merely because it is infinitely recyclable is **misconstrued**. Considering its entire lifecycle, glass production may be equally as **detrimental** to the environment as plastic.

毫无疑问，玻璃在许多行业中仍然发挥着重要作用。它的耐用性和无毒性使其成为保存食品和材料的理想选择。然而，仅仅因为玻璃可以无限回收，就认为它是可持续的，这种假设是错误的。考虑到它的整个生命周期，玻璃生产可能和塑料一样对环境有害。

The next time you want to **discard** a glass bottle, perhaps consider reusing it first. Glass is a **resilient**, long-lasting material that is not made to be thrown away after only being used once.

下次你想扔掉玻璃瓶的时候，也许可以考虑重复使用它。玻璃是一种经久耐用的材料，不应该用过一次就被扔掉。

想。

misconstrue [ˌmɪskənˈstruː] v. 曲解, 误解 | It is easy to misconstrue confidence as arrogance. 很容易将信心误解为傲慢。

detrimental [ˌdetri'mentl] *adj.* 有害的, 不利的 | Smoking is detrimental to your health. 吸烟有害健康。

discard [dis'kɑ:rd] v. 丢弃, 抛弃 | 10% of the data was discarded as unreliable. 10% 的数据因不可靠而被废弃。

resilient [rɪˈzɪliənt] *adj.* 有弹性（或弹力）的，能复原的；有适应力的 | Any chemical treatment will leave hair less resilient than before. 任何化学剂的使用都会使头发失去原有的弹性。

► 脉络梳理

Para. 1-3 指出玻璃可以多次回收，比塑料更不容易造成污染

Para. 4-7 转折指出玻璃的环境足迹更高，原因在于开采硅砂会造成环境破坏，生产和回收玻璃都需要高温熔化，耗能高，会释放大量温室气体

Para. 8-9 总结全文并提出建议，指出玻璃和塑料一样对环境有害，应加以重复利用减少丢弃

► 长难句拆解

主句

However, the assumption ... is misconstrued.

同位语从句，解释说明 assumption

原因状语从句

that glass is sustainable merely because it is infinitely recyclable