

# AN ALL-CONSUMING CHALLENGE

background reading | personal consumption unit

# EARTH matters

Studies For Our Global Future

***“The best things in life aren’t things.” —Art Buchwald***

With world population at about 8 billion and headed toward a projected 11 billion by the end of this century, one might ask “how many people can the Earth support?” We know that resources are finite, so it would seem that there are definite limits to consumption by the human population. Data on our use of biologically productive land and water, extraction of natural resources and the pollution these processes generate suggest that these limits are in sight. Our species currently uses more of these resources each year than can be replenished – 73 percent more as of 2017.<sup>1</sup> Yet, resource use is not only tied to the size of our population but also to the rate at which our population consumes. Growing affluence around the globe has led to a level of consumerism that intensifies our resource use, which in turn, imperils our ecosystems – the life-support systems on which we all depend.

## History of consumerism



Chevrolet advertises its 1950 Styleline De Luxe 2-Door Sedan.

Consumer spending is a central part of our national and global economy with 68 percent of U.S. **gross domestic product (GDP)** coming from consumer spending.<sup>2</sup> Consumer demand for new houses, cars and electronics fuels economic growth, raises tax revenues and creates more jobs so that more people can afford to consume more. There is a non-ending cycle of buying, using and discarding goods. The engine of this economic train got moving during the Industrial Revolution. With mechanization, we were able to produce more goods quicker than ever. In the early 20<sup>th</sup> century, an abundance of fossil fuels enabled a dramatic increase in the rate and scope of resource extraction. Once assembly lines got rolling, manufacturers were able to produce a great variety of consumer products, actually leading to a problem of **overproduction**. Production between 1860

and 1920 increased by 12-14 times in the U.S. while the population only increased three times.<sup>3</sup> Manufacturers had to find ways to increase demand for the abundance of goods they were producing.

Industrialists found their solution in advertising. The advertising industry created a demand for items that went well beyond the necessities. In the wake of the Great Depression, the National Association of Manufacturers enlisted a team of advertisers, marketers and psychologists to create a massive campaign to equate consumerism with “The American Way.” Buying items was now about more than satisfying needs and desires; it was one’s patriotic duty.<sup>4</sup> Advertisers also promoted new goods as a way of gaining social status, boosting the desire to have

the newest models of cars and appliances or the latest fashions. Economist Victor Lebow writing in the *Journal of Retailing* in 1955, described how consumerism had taken hold of the American psyche: “Our enormously productive economy demands that we make consumption our way of life, that we convert the buying and use of goods into rituals, that we seek our spiritual satisfaction and our ego satisfaction in consumption. We need things consumed, burned up, worn out, replaced, and discarded at an ever increasing rate.”<sup>5</sup>

Consumer spending was also promoted by offering credit. Before the advent of automobiles, people were accustomed to paying cash for their purchases. But since most people couldn’t afford to pay for cars outright, automobile companies established a system of credit, enabling purchasers to pay for their cars over time. Credit soon expanded to store charge cards and credit cards by the mid-20<sup>th</sup> century. Today, Americans carry over \$300 billion in credit card debt (about \$6,000 per household).<sup>6</sup>

Consumerism is far from an American phenomenon. The entire global economy is based on the consumption of an ever-increasing amount of goods. With incomes rising around the world, there is a rapidly expanding population of consumers who want to follow America’s lead. Growing GDPs in large economies such as China and India are increasing demand for luxuries, including automobiles and air travel. In fact, the number of cars worldwide is expected to double (to 2 billion) by 2040.<sup>7</sup>

## Tons of raw materials

Even as consumerism continues to rise, most ecologists agree that this trend will be physically impossible to maintain. According to a report from the United Nations, the amount of the planet’s natural resources extracted for human use has tripled in the past 40 years and may double again by 2050.<sup>8</sup> That includes nearly 90 billion metric tons of fossil fuels, biomass, minerals and metals extracted annually. “The alarming rate at which materials are now being extracted is already having a severe impact on human health and people’s quality of life,” says Alicia Barcena Ibarra, co-chair of the U.N.’s International Resource Panel.<sup>9</sup> The process of extracting resources, as well as the subsequent processing and transporting of these materials has a number of negative impacts on the environment. These include water resource depletion, soil erosion, biodiversity loss and pollution through agrochemicals, mine tailings and oil spills.<sup>10</sup> The use of these resources, especially fossil fuels, contribute to sharp rises in greenhouse gas emissions and ocean acidification.



The Kennecott Copper Mine, an open-pit mining operation southwest of Salt Lake City, Utah.

Every year the world extracts, processes and throws away over a half-trillion tons of “stuff.” Less than one percent of these materials become a product that remains a product six months after its sale. Countless policymakers, designers, engineers, marketers and distributors are involved in producing an item. By the time most things are designed – but before they are built – 80 to 90 percent of that thing’s economic and ecological costs have already become inevitable.<sup>11</sup> In other words, when you purchase a product, it’s in the last 10 percent of its life cycle, and odds are, a lot of environmental damage has already been done.

## The human footprint

A team of international researchers developed a set of metrics to measure countries’ **material footprints (MF)**, the amount of raw materials extracted per person each year in order to produce the demanded goods and energy. The top three raw materials used are metal ores (e.g. iron, copper), fossil fuels for energy, and construction materials (e.g. concrete). Australia leads the world with the highest per capita material footprint of 35 metric tons. The United States, Japan, United Kingdom and Chile follow with MFs of 25 metric tons per capita. That’s the weight of about 20 cars.<sup>12</sup> On average, the richest countries consume 10 times as much of the average available resources as the poorest countries, and twice as much as the world average.<sup>13</sup> An increase in materials extraction and use suggest growing environmental pressures and impacts ahead.

### How many Earth’s would we need if everyone lived like a resident of...?



Source: National Footprint and Biocapacity Accounts 2022  
Additional countries available at [overshootday.org/how-many-earths](https://overshootday.org/how-many-earths)

The extent of our **ecological footprint** goes beyond just the extraction of raw materials. The ecological footprint was created as a tool to quantify all human demand on nature, and nature’s capacity to meet those demands. It measures how fast we consume resources and generate waste compared to how fast nature can absorb our waste and generate new resources. **Biocapacity**, or resource supply, is what nature provides and can absorb. It varies every year with ecosystem management, agricultural practices (such as fertilizer use and irrigation), ecosystem degradation and weather. When demand (ecological footprint) is greater than the supply (biocapacity), the Earth finds itself in an ecological deficit, overshooting or exploiting an ecosystem faster than it can be renewed and leading to a build-up of waste and a depletion of natural resources.



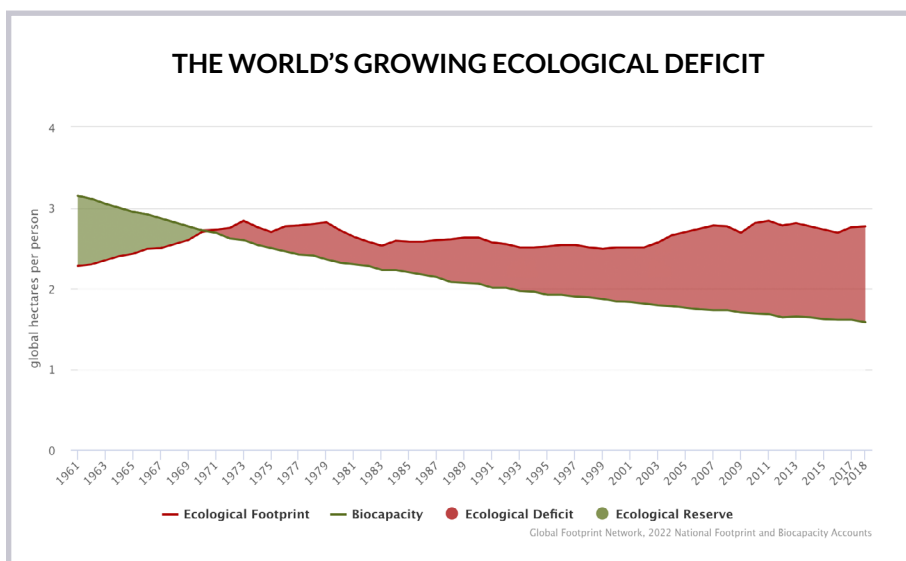
Currently, humanity's ecological footprint is 75 percent larger than what the planet can regenerate and humans have been overshooting Earth's available resources in this way every year since 1970. It now takes 1.75 years to regenerate what we use over the course of one year.<sup>14</sup> Expressed another way, it would take 1.75 Earths to meet the demands of our ecological footprint. By 2030, it is expected that we will require two Earths worth of resources.<sup>15</sup>

The United States has one of the world's largest ecological footprints at 8.1 global hectares (gha) per capita (1 gha = 2.47 acres). This footprint is 19 percent larger than Germany's (6.8 gha) and nearly twice as large as Greece's (4.7 gha). Consider that the average American consumes 50,000 pounds of raw materials annually, or 137 pounds per day.<sup>16</sup> The Global Footprint Network calculates that if all global citizens consumed at the rate of the average American, we'd need *five Earths* worth of resources to meet the demand. At the other end of the scale are the world's least developed countries, such as Mozambique, Haiti and Eritrea. Millions in these countries have footprints of less than 1 gha and, unless the amount they can consume actually increases, it is unlikely they'll be able to meet their basic needs.<sup>17</sup>

Why is there so much disparity in the size of average ecological footprints around the globe? Our individual use of resources varies depending on our lifestyles – our diets, modes of transportation, size and energy use of our homes, consumer choices and waste disposal. Even among the most developed countries, there are significant differences in resource use. The United States consumes nearly five times as much gasoline and drives nearly twice as far as other advanced democracies. Only 5 percent of Americans use public transportation compared to 32 percent in Germany and 35 percent in the United Kingdom. In a global survey of thousands of consumers in 20 countries, 61 percent of Argentinians responded that they consume beef daily or several times per week but only 32 percent in Spain said the same. Over half of Germans surveyed indicated that they always recycle their electronics, yet two-thirds drink bottled water on a daily basis.<sup>18</sup>

## Measures of progress

There are tools available to help us each assess our individual ecological footprints with suggestions on how to shrink its size and contribute to a more sustainable future. Small changes can add up if enough people reduce wasteful consumption and support environmentally-friendly products and transportation. Though given the global economy's dependence on using ever more natural resources, many may find changing consumption habits seems like swimming against the tide.



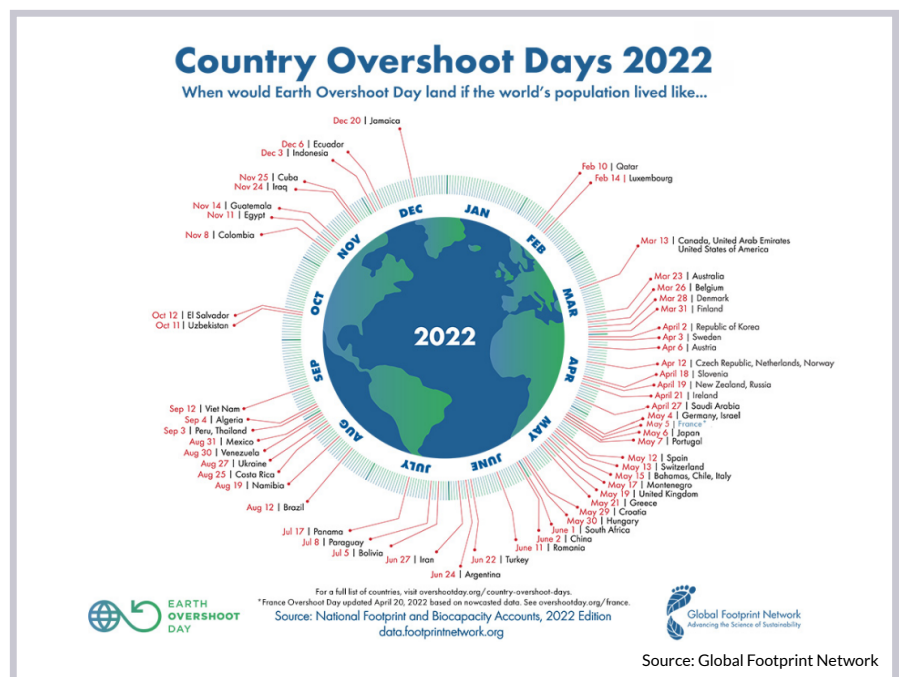
Since the mid-20<sup>th</sup> century, GDP (Gross Domestic Product) has been the most common measure of a nation's economic growth and general welfare. GDP is defined as the total value of all goods and services bought and sold in a given year. But using GDP measures has several shortcomings, especially when it comes to accounting for resource use and environmental sustainability because there is no distinction between “good” and “bad” spending. For example, pollution increases GDP not once, but twice – first when calculating the sale of products from factories that produce pollution, and second when calculating the money spent to clean up the pollution. In other words, according to GDP measures, pollution is good for the economy.

GDP measures also ignore resource depletion, counting the sale of resources as the only income. The result is that the sole economic value placed on a forest is for the harvested timber. Economic services that nature provides for people, such as clean air and water, fertile soil, habitat for wildlife and support of our recreational activities, are not accounted for under this economic measurement. Traditional economics state that if people use natural resources and convert them into man-made things, like cars or buildings, the world will be just as well off, or better off, than it was before. The new things, or **physical capital**, that are produced replace the value of the **natural capital** that was lost. An economy is sustainable as long as it does not deplete the total amount of capital. It does not matter what form the capital is in.

An alternate way of viewing the economy's relationship to the environment is through **ecological economics**. Ecological economics argues that because our natural capital is scarce, it needs to be treated as a special case. Man-made products, or physical capital, cannot fully replace the loss of our natural capital. The ecological economists claim that benefits gained from new roads or malls cannot match or outweigh the costs of pollution and resource depletion. Therefore, in order to have a sustainable economy, natural capital must remain intact. This does not purport no natural resources can be used, only that they must not be used faster than they are replaced.

Robert Costanza, Professor of Public Policy at Australian National University, puts it this way: “Standard economists don't seem to understand exponential growth. Ecological economics recognizes that the economy, like any other subsystem on the planet, cannot grow forever. And if you think of an organism as an analogy, organisms grow for a period and then they stop growing. They can still continue to improve and develop, but without physically growing, because if organisms did that you'd end up with nine-billion-ton hamsters.”<sup>19</sup>

It is thus arguable that traditional economic indicators like GDP only provide a glimpse into the well-being of a nation and its people. Human well-being is multi-dimensional and includes more than material living standards. It encompasses health, education, meaningful work, political voice and governance, social connections and



relationships, security and a healthy environment. Some organizations have developed new sets of indicators to measure a society's progress and give a broader picture of human development. The United Nations Statistical Division has been using the **Human Development Index** which ranks countries based on a series of quality of life indicators including life expectancy, literacy, education and child welfare. The Organization for Economic Cooperation and Development measures countries using its **Better Life Index**, which includes 24 indicators of well-being including housing, jobs, civic engagement, health, safety, education, work-life balance and environmental quality.<sup>20</sup>

## Living more sustainably

It may seem that we are locked into a system that encourages overconsumption, from our relentless exposure to advertising to the seemingly endless variety of goods that await us online and in stores. Even so, unsustainable consumption need not go hand-in-hand with growing global affluence. There is an emerging movement in affluent countries to simplify our lives by owning less stuff. In urban areas, this has taken the form of shared resources like cars and bikes – people pay a subscription fee to use these vehicles when they're needed rather than owning their own. Networks such as Freecycle enable neighbors to give away all sorts of personally unwanted goods that would otherwise end up in a landfill. Books on “decluttering” top the best-seller list as people seek fulfillment in ways other than accumulating things. These trends find success in offering people more than just eco-conscious behaviors by appealing to other needs, such as creating more time for enjoyable pursuits and saving money.

While conscious consumerism is important, it may not be enough to significantly shrink the human ecological footprint to a sustainable size. Buying and wasting less stuff will help but so will our efforts as conscientious citizens. Reducing our material and ecological footprint as a global society will require major shifts in how energy, food and consumer goods are produced. Donating time and money to organizations and political candidates that work to protect the environment and plan for a sustainable future can help multiply individual efforts. Population stabilization is also part of securing a sustainable future. Reducing resource consumption with nearly 8 billion people is challenge enough, let alone planning for a world of 11 billion. The question worth answering is not how many people the Earth can support, but how can we create a future that promotes human well-being in a way that can be sustained indefinitely by Earth's resources.

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<sup>1, 14, 17</sup> Global Footprint Network. National footprint accounts 2021. Retrieved from <http://data.footprintnetwork.org>.

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<sup>3</sup> Beder, S. (2009, February 21). Consumerism: an historical perspective. [blog post]. Retrieved from <http://www.culturechange.org/cms/content/view/333/65/>

<sup>4</sup> Ewan, S. (1996). *PR!: A Social History of Spin*. New York: Basic Books.

<sup>5</sup> Lebow, V. (1955, Spring). Price competition in 1955. *Journal of Retailing*.

<sup>6</sup> El Issa, Erin (2022). 2021 American household credit card debt study. Retrieved from <https://www.nerdwallet.com/blog/average-credit-card-debt-household/>

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