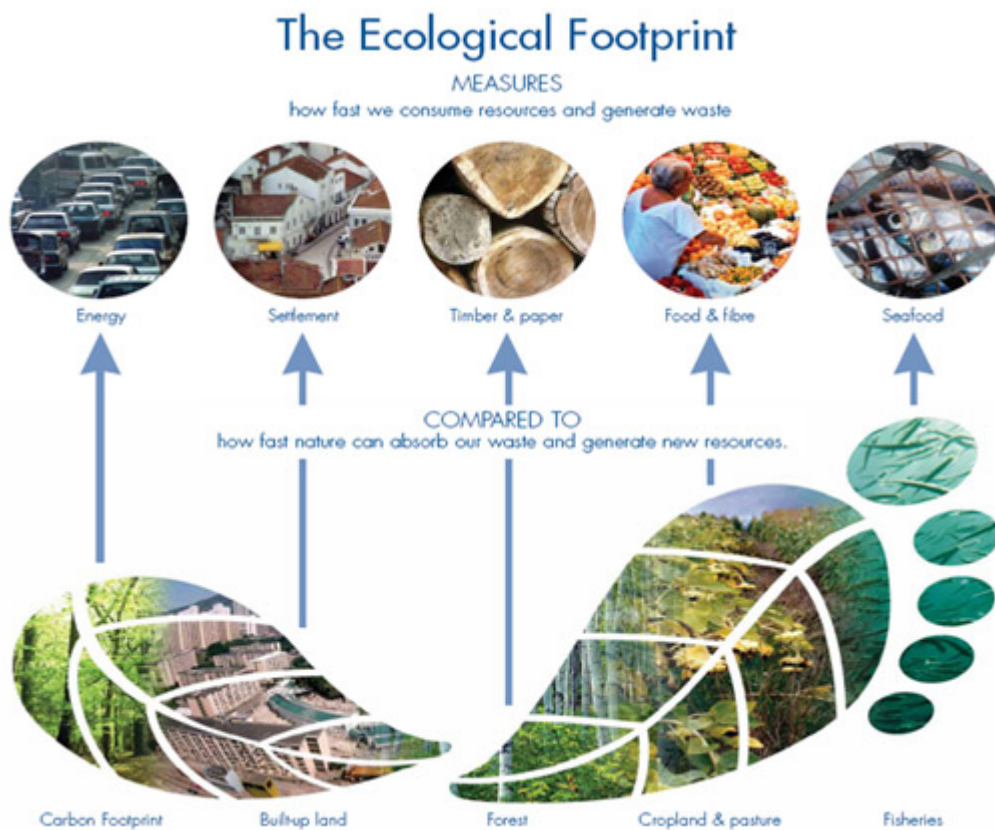


Footprint Basics - Overview

Humanity needs what nature provides, but how do we know how much we're using and how much we have to use?

The Ecological Footprint has emerged as the world's premier measure of humanity's demand on nature. It measures how much land and water area a human population requires to produce the resource it consumes and to absorb its wastes, using prevailing technology.



Our current global situation: *Since the late 1970s, humanity has been in ecological [overshoot](#) with annual demand on resources exceeding what Earth can regenerate each year.*

It now takes the Earth one year and five months to regenerate what we use in a year.

We maintain this overshoot by liquidating the Earth's resources. Overshoot is a vastly underestimated threat to [human well-being](#) and the health of the planet, and one that is not adequately addressed.

By measuring the Footprint of a population—an [individual](#), [city](#), [business](#), [nation](#), or all of [humanity](#)—we can assess our pressure on the planet, which helps us manage our ecological assets more wisely and take [personal](#) and [collective action](#) in support of a world where humanity lives within the Earth's bounds.

Conceived in 1990 by Mathis Wackernagel and William Rees at the University of British Columbia, the Ecological Footprint is now in wide use by scientists, businesses, governments, agencies, individuals, and institutions working to monitor ecological resource use and advance sustainable development.

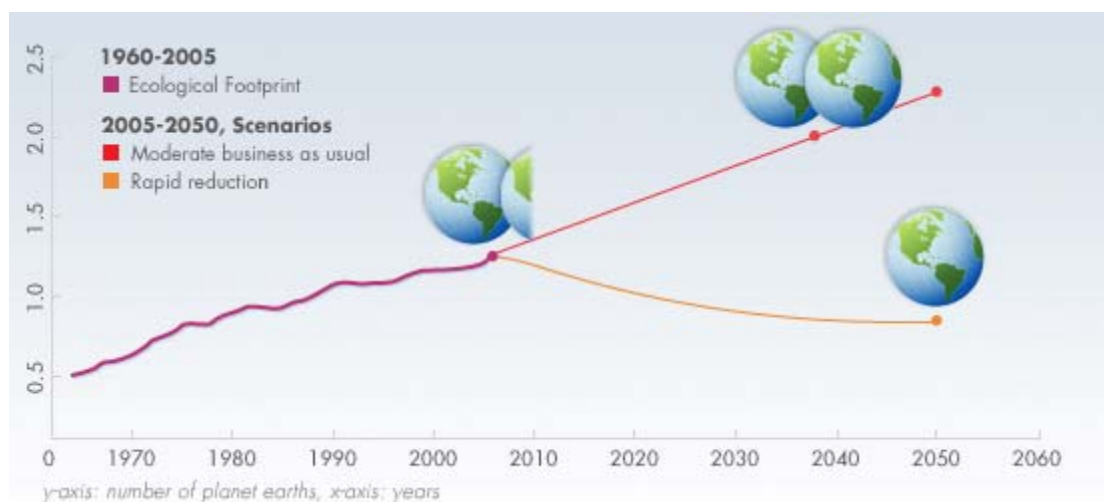
World Footprint

Do we fit on the planet?

Today humanity uses the equivalent of 1.4 planets to provide the resources we use and absorb our waste. This means it now takes the Earth one year and five months to regenerate what we use in a year.

Moderate UN scenarios suggest that if current population and consumption trends continue, by the middle of the next decade we will need the equivalent of two Earths to support us. And of course, we only have one.

Turning resources into waste faster than waste can be turned back into resources puts us in global ecological [overshoot](#), depleting the very resources on which human life and biodiversity depend.



The result is collapsing fisheries, diminishing forest cover, depletion of fresh water systems, and the build up of pollution and waste, which creates problems like global climate change. These are just a few of the most noticeable effects of overshoot.

Overshoot also contributes to resource conflicts and wars, mass migrations, famine, disease and other human tragedies—and tends to have a [disproportionate impact on the poor](#), who cannot buy their way out of the problem by getting resources from somewhere else.

Ending Overshoot

The Earth provides all that we need to live and thrive. So what will it take for humanity to live within the means of one planet?

Individuals and institutions worldwide must begin to recognize ecological limits. We must begin to make ecological limits central to our decision-making and use human ingenuity to find new ways to live, within the Earth's bounds.

This means investing in technology and infrastructure that will allow us to operate in a resource constrained world. It means taking individual action, and creating the public demand for [businesses](#) and policy makers to participate.

Using tools like the [Ecological Footprint](#) to manage our ecological assets is essential for humanity's survival and success. Knowing how much nature we have, how much we use, and who uses what is the first step, and will allow us to track our progress as we work toward our goal of sustainable, one-planet living.

*See the [Ecological Footprint Atlas 2009](#) for more information.

Footprint for Nations

In today's world, where humanity is already exceeding planetary limits, ecological assets are becoming more critical. Each country has its own ecological risk profile: Many are running ecological deficits, with Footprints larger than their own biological capacity. Others depend heavily on resources from elsewhere, which are under increasing pressure.

In some areas of the world, the implications of ecological deficits can be devastating, leading to resource loss, ecosystem collapse, debt, poverty, famine and war.

The [Ecological Footprint](#) is a resource accounting tool that helps countries understand their ecological balance sheet and gives them the data necessary to manage their resources and secure their future.

National governments using the Footprint are able to:

1. Assess the value of their country's ecological assets
2. Monitor and manage their assets
3. Identify the risks associated with ecological deficits
4. Set policy that is informed by ecological reality and makes safeguarding resources a top priority
5. Measure progress toward their goals

It is almost certainly the case that countries and regions with surplus ecological reserves—not the ones relying on continued ecological deficit spending—will emerge as the robust and sustainable economies and societies of the future.

Footprint for Cities

Why track resource consumption and natural capital?

Local governments succeed by helping all their residents live fulfilling lives, both today and in the future. The availability of natural capital, nature's ability to renew and provide resources and services, is not the only ingredient in this vision. However, without natural capital – healthy food, energy for mobility and heat, fibre for paper, clothing and shelter, fresh air and clean water – such a vision is impossible. Thus, providing current and future human well-being depends on protecting natural capital from systematic overuse; otherwise, nature will no longer be able to secure society with these basic services.*

What's in it for local governments?

Ecological Footprint accounts allow governments to track a city or region's demand on natural capital, and to compare this demand with the amount of natural capital actually available. The accounts also give governments the ability to answer more specific questions about the distribution of these demands within their economy. In other words, it gives them information about their resource metabolism.

For example, Footprint accounts reveal the ecological demand associated with residential consumption, the production of value-added products, and the generation of exports. They also help assess the ecological capacity embodied in the imports upon which a region depends. This can shed light on the region's constraints or future liabilities in comparison with other regions of the world, and identify opportunities to defend or improve the local quality of life. Footprint accounts help governments become more specific about sustainability in a number of ways. The accounts provide a common language and a clearly defined methodology that can be used to support staff training and to communicate about sustainability issues with other levels of government or with the public.

Footprint accounts add value to existing data sets on production, trade and environmental performance by providing a comprehensive way to interpret them. For instance, the accounts can help guide "environmental management systems" by offering a framework for gathering and organizing data, setting targets and tracking progress. The accounts can also serve as environmental reporting requirements, and inform strategic decision-making for regional economic development.

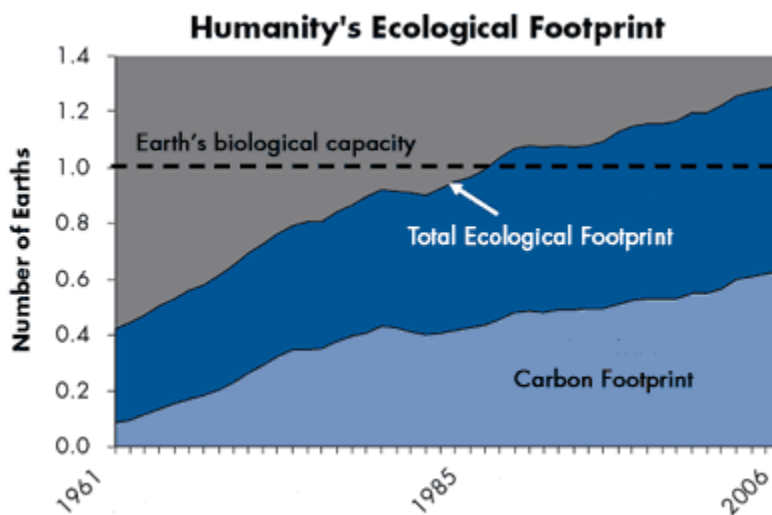
The global effort for sustainability will be won, or lost, in the world's cities, where urban design may influence over 70 percent of people's Ecological Footprint. High-Footprint cities can reduce this demand on nature greatly with existing technology. Many of these savings also cut costs and make cities more livable. Since urban infrastructure is long-lasting and influences resource needs for decades to come, infrastructure decisions make or break a city's future. Which cities are building future resource traps? Which ones are building opportunities for resource efficient and more competitive lifestyles?

Without regional resource accounting, governments can easily overlook or fail to realize the extent of these kinds of opportunities and threats. The Ecological Footprint, a comprehensive, science-based resource accounting system that compares people's use of nature with nature's ability to regenerate, helps eliminate this blind spot.

*Text from this page was written by Global Footprint Network staff and much of it has since been published. Citation: Wackernagel et al. 2006. The Ecological Footprint of cities and regions; Comparing resource availability with resource demand. *Environment and Urbanization* 18(1): 103–112.

Carbon Footprint

The carbon Footprint is 50 percent of humanity's overall Ecological Footprint and its most rapidly-growing component. Reducing humanity's carbon Footprint is the most essential step we can take to end overshoot and live within the means of our planet.



Associated Graph

Today, the term “carbon footprint” is often used as shorthand for the amount of carbon (usually in tonnes) being emitted by an activity or organization. The carbon component of the Ecological Footprint takes a slightly differing approach, translating the amount of carbon dioxide into the amount of productive land and sea area required to sequester carbon dioxide emissions. This tells us the demand on the planet that results from burning fossil fuels. Measuring it in this way offers a few key advantages.

The Footprint framework encourages us to address the problem of climate change in a way that will not simply transfer demand from one critical resource to another. It attacks the underlying causes of climate change (and of species loss, deforestation, soil erosion, water shortage and other problems) rather than the symptoms by addressing the expanding human metabolism of nature's services.

When we look at carbon in isolation, the problem appears as a “tragedy of the commons” (we pollute our collective atmosphere in order to advance our individual/national wealth.) But the picture changes when we see the carbon problem as part of an overall resource crunch – a symptom of human pressure on resources reaching a critical tipping point. The concentration of carbon in our atmosphere is the most prominent resource issue we face. But there are others as well. Access to freshwater resources, food security, forest resources, biodiversity, oil – all of these are under threat. We are entering an era of “peak everything.”

Ironically, rather than being overwhelming, the “peak everything” perspective actually makes the problem easier to solve because it presents a clear self-interest motive for unilateral government action, at country, state, and city levels.

The Ecological Footprint and Climate Change

Global climate change is one of humanity’s greatest challenges; addressing it is key to our long-term well-being and the continued vitality of our societies. As we move forward to address this urgent threat, international agreements will be crucial if we are to reverse our perilous course. Yet, it is also key that governments recognize the importance of acting decisively regardless of what others are doing.

As human pressure on resources escalates, those cities, states and countries with the least carbon-intensive, most resource-efficient economies will flourish, while those requiring cheap and plentiful access to ecological services will become extremely vulnerable and will lose out. It therefore in the interest of any city, state or country that wishes to continue to be competitive and provide for the well-being of its population to act first and act boldly.

When we view carbon within the broader context of the Footprint framework, it becomes clear: aggressive sustainability policies are not a romantic gift to Mother Nature or abstract humanity that come at the expense of citizens’ quality of life. Indeed, they are the only way a high quality of life can be secured.

Source : <http://www.footprintnetwork.org>